

Increasing Customer Innovation in SMEs with Digitalization

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1 Promoting Customer Innovation in SMEs

1.1 The Meaning of Customer Innovation and Funding Approaches

On average, SMEs are less innovative than large companies, as they have limitations due to more limited internal resources (EC, 2019a). Especially in Eastern European countries, SMEs have a very low level of innovation activity and there are large differences between SMEs and large companies. In the field of customer innovation, SMEs find it particularly difficult to innovate. Meeting real customer needs is the core factor for successful innovation management, for generating customer-oriented business ideas and innovative concepts (von Hippel, 2005).

SMEs do not have the time and resources to receive feedback and ideas from their customers. And when they do find the time, it is difficult to process the information and turn it into valuable solutions. A holistic approach to customer-centric innovation is complex and requires changes at all levels of a company. However, digitization and new media are now opening up far-reaching opportunities to make full use of customer-centric innovations in SMEs as well, thus strongly promoting innovative strength and competitiveness (Robra-Bissantz, 2017). These technologies and the opportunities they provide have been little known in SMEs and are only exploited by a small number of them. SMEs lack information, experience, knowledge and skills on instruments, methods, and procedures as well as on the use of digital technologies to acquire, process and realise customer innovations.

Against this background, the project “Digital methods, toolbox and trainings for increasing customer innovation in SMEs” (ICIinSMEs) pursues the objective of enabling and supporting SMEs to exploit their customer innovation potential and thus to strengthen the productivity and competitiveness of SMEs, to secure existing jobs and to create new ones, all of this on a broad regional basis. The following main activities were carried out to achieve the objectives.

a) An analysis and comprehensive investigation of best practices in 13 countries on how SMEs generate, process and realise customer-centric innovation approaches and which digital technologies can be used. The best practices obtained were processed,

transferred to SMEs in the context of training and consulting, and supported in their implementation in the companies.

b) Development of a toolbox with instruments, methods and procedures for the realisation of customer innovations in SMEs.

c) Through the development of two specific training and coaching programs, SMEs gain digital skills and are enabled to continuously realise comprehensive customer-centric innovations. The learning takes place mainly at the workplace and at the same time includes individual company development projects, so that digital technologies are already used, and corresponding innovations are realised during the further training.

d) Comprehensive qualification of teachers and consultants of SMEs.

The qualification, consulting and support programs were carried out by chambers, which, as central SME supporters, have direct access to SMEs and, with their training and technology centres, also have corresponding capacities. However, many teachers and consultants lack the knowledge and skills to qualify and advise SMEs and their staff in the application of digital technologies and in the acquisition, processing and realisation of customer innovations at a high-quality level. Therefore, two specific train the trainer programs for teachers and consultants were developed, these were then implemented and permanently run by 24 colleges and universities from 9 countries. These programs are:

a) strengthening and promoting the knowledge and skills of teachers and consultants on digital technologies and on the realisation of customer-centric innovations

b) constantly providing well qualified teachers and consultants on a broad regional basis.

The developed instruments, digital models, educational and support programs were tested and evaluated under different national conditions in several countries and implemented by all project partners. A continuation of the work after the end of the project with an ongoing implementation of the educational and support programs is secured, including financing.

The project was carried out by eight experienced partners (chambers, other institutions of vocational training and universities) from Denmark, Germany, Poland and Hungary with different levels of development and conditions. The transnational project

approach enables learning from each other, identification and transfer of best practices and joint development work.

All results of the project were transferred to 70 chambers, SME associations and colleges/universities from 13 countries, which received implementation advice and were involved in the project work as associated partners from the beginning of the project.

1.2 Objectives, Activities and Outputs

To achieve the overarching project goal, strengthening customer centric innovation in SMEs by increasing their digital competences, the following action objectives were pursued:

- a) develop, promote and strengthen digital competences in SMEs
- b) to continuously implement fully customer-centred innovation in SMEs, thereby
- c) to strengthen the productivity and competitiveness of SMEs, safeguard existing jobs and create new ones
- d) enabling and supporting SMEs to exploit their customer innovation potential
- e) intensive application of digital technologies in SMEs
- f) significant improvement in the qualification of Entrepreneur, specialists and managers
- g) Strengthening the competencies and qualifications of teachers and SME consultants

The main target groups of the project are owners, managers and employees of SMEs who realize customer-centric innovations through the development of specific tools and through comprehensive further training. Meeting real customer needs is the core factor for successful innovation management, for generating customer-oriented business ideas and innovative concepts. Digitalization and new media are now opening up far-reaching opportunities and allowing comprehensive use of customer-centric innovations in SMEs as well, thus emphatically promoting innovative strength and

competitiveness. For this reason, the project analyzed international best practices and comprehensively investigated how SMEs generate, process and realize customer-centric innovation approaches and which tools and technologies they can use to do so. On this basis, two SME-specific training programs were developed for the use of digital technologies and for the generation and realization of customer-centric innovations. Individual company development projects were integrated into the training courses, so that corresponding innovations were already achieved during the training courses.

The target groups are also SME consultants and teachers from chambers, associations and other vocational training institutions, most of whom do not themselves have knowledge and competencies in the areas of digital technologies as well as tools, methods and procedures to qualify SMEs and their staff in the application of digital technologies as well as use of tools, methods, etc. in connection with customer-centric innovations. Therefore, two specific train the trainer programs for teachers and consultants were developed, tested and evaluated, which will be permanently implemented by 24 colleges/universities after completion based on the evaluation results.

Output 1 Best Practice Customer-focused Innovations & Digitilization

The output comprises of:

- best practices in the use of digital technologies for the acquisition, processing and realisation of customer innovations in SMEs.
- A toolbox with already known as well as new instruments, methods and procedures for the acquisition, processing and realization of customer innovations.
- collection and processing of digital technologies that can be used to realise customer innovations.
- best practices in digital competence teaching for the realisation of customer innovations.

Activity A1 Best practices in the use of digital technologies, includes:

- a) conducting surveys and identifying best practices in 13 countries
- b) analysis and evaluation of the best practices and, if necessary, for certain selected best practices, adjustments to national conditions in the partner countries

c) a detailed description of the selected best practices, with application notes and recommendations for use by SMEs on the one hand, and consultants and teachers on the other hand

d) preparation of a report on the results

Activity A2 Toolbox with already known, as well as new instruments, methods and procedures for the acquisition, processing, and realization of customer innovations in SMEs, includes:

a) using the example of two countries (Germany and Poland) study of applied instruments, methods and procedures

b) research and development of new and additional possibilities, instruments, methods, and procedures for the realisation of customer innovations in SMEs

c) development of a toolbox of known, new and additional possibilities, instruments, methods and procedures

d) detailed description and evaluation of the tools etc. of the toolbox and development of application notes and usage recommendations for SMEs on the one hand and for consultants and teachers on the other hand

e) consultation and completion of the toolbox and preparation of a report on the results

Activity A3 Digital technologies for the realization of customer innovations, includes:

a) using studies from three countries (Germany, Denmark and Poland) as an example study of applied digital technologies

b) research and development of new and additional ways of using various digital technologies

c) detailed description and evaluation of the digital technologies with regard to their use for different fields and procedures for extraction and implementation of customer innovations

d) developing guidance and recommendations for use by SMEs, on the one hand, and consultants and teachers, on the other

e) advising on and completing the digital technology collection and producing a report on the results

Activity A4 Best practices in the transfer of skills and digital technologies for the realisation of customer innovations, includes:

- a) interviews in 13 countries and identification of best practices for training
- b) analysis and evaluation of best practices and, if necessary, for the selected best practices, adjustments to national conditions in 4 partner countries
- c) detailed description of the selected best practices with application notes and recommendations for use for chambers with their educational institutions and for others vocational training institutions
- d) preparation of a report on the results

Output 2 Digital Competence Training Programme

The output includes concept, curricula, coaching programme and teaching materials for a longer SME specific training programme for digital literacy and qualifications for the successful use of digital technologies in the acquisition, processing and implementation of customer innovations. The advanced training program consists of the following elements:

- several blocks of face-to-face teaching in the educational establishment
- between the face-to-face blocks, longer periods of on-the-job learning in the participating SMEs
- realisation of at least one development project chosen by the SME itself to initiate, attract and implement customer innovations. The implementation of the development projects in SMEs is carried out with the involvement of company employees who had not participated in face-to-face training, with the phases of learning at the workplace. This way, the different levels of the company and as many employees as possible are involved in the change and learning and implementation processes are integrated
- program for accompanying coaching by the lecturers who design the classroom teaching and by advisors of the chambers during the phases of learning on workplace and the realization of at least one development project.

Activity A1 Based on the results of Output 1 "Best practice customer-centric innovation & digitisation", development of a concept and drafts for curricula and Teaching materials for SME specific training.

Activity A2 Comparison with best practices of digital competency training for the realisation of customer innovations, integration of best practices of the use of digital technologies.

Activity A3 Development of the draft of a coaching programme for the advisory support of teachers and consultants during learning at work and the implementation of development projects for the realisation of customer-centred innovations in SMEs

Activity A4 Development of a draft of examination regulations consisting of an oral examination and evaluation of project work, namely the realized development project for the implementation of customer innovations. The participating SMEs will receive a certificate and the participants will receive a qualified confirmation of participation with a presentation of the test results.

Activity A5 Test the SME specific training and coaching programme under different national conditions (in Poland, Hungary and Denmark) with at least 15 owners, managers and professionals of at least 10 SMEs.

Activity A6 Quality assurance and evaluation of all tests and preparation of an evaluation report.

Activity A7 Based on the results of the evaluation, review and finalise the output with

- a) concept, curricula, teaching materials and examination regulations
- b) coaching programme for the advisory support of teachers and consultants
- c) reports on the experience of the trials
- d) evaluation report
- e) reports on the development projects implemented
- f) instructions for use and recommendations for use

Output 3 Training Program Consulting & Qualification Digitalization

The output includes a three- to four-day Train the Trainer programme for teachers and consultants of SMEs who want to acquire knowledge, skills, pedagogy etc. in order to:

- train employees of SMEs to successfully use digital technologies in the acquisition, processing and implementation of customer innovations.
- transfer digital technologies to SMEs and provide sound advice on implementation.

The Train the Trainer programme is based on Output 1 "Best Practice customer-centred innovation & digitisation" and includes the results of Best Practices of using digital technologies and digital technologies for the realisation of customer innovations. In addition, the Train the Trainer programme provides detailed information on the concept, curriculum, etc. of the SME specific training programme "Digital Competences" and also covers the integrated coaching aspect.

Activity A1 Based on the results of Output 1 "Best Practice customer-centric innovation & digitisation", development of a concept and curriculum design, teaching materials, etc. for a three- to four-day train-the-trainer programme for teachers and advisors on digital literacy. The Train the Trainer Programme does not include a final examination, the participants receive a qualified certificate of participation.

The Train the Trainer program includes the following elements:

- a) presentation, consulting and mediation aspects of the content of the SME specific training programme "Digital Skills"
- b) presentation, advice and mediation aspects of the various digital technologies.
- c) presentation, consulting and training of the coaching process
- d) pedagogical issues

The training programme consists of a combination of presentations, consultations and discussions in plenary, work in small groups and role-plays.

Activity A2 Inclusion of content and comparison with the SME specific training programme "Digital Skills" and integration of best practices in the use of digital technologies and digital technologies for the realization of customer innovations and consulting with experts.

Activity A3 Trial of the Train the Trainer programme with at least 15 teachers and consultants from all project partners.

Activity A4 Quality assurance as well as evaluation of the trial and preparation of an evaluation report.

Activity A5 Based on the results of the evaluation, review and finalise the output with:

- a) concept, curricula and teaching materials
- b) report on the experience of the trial
- c) evaluation report
- d) directions for use and recommendations for use

Output 4 Further training programme Realisation of customer-cantered innovations

The output includes concept, curriculum, coaching program and teaching materials for a longer SME specific training program for qualifications to gain, processing and realisation of customer innovations (inclusion of all areas, possibilities, instruments, etc., independent of the use of digital technologies).

The training programme consists of the following elements:

- several blocks of face-to-face training at the educational institution
- between the blocks of face-to-face training, longer periods of on-the-job learning in the participating SMEs
- realisation of a development project chosen by the SME itself to acquire and implement customer innovations. The implementation of the development project in the SME is linked to the phases of on-the-job learning by involving other company employees, who had not participated in the face-to-face training. This way, the different levels of the company and as many employees as possible are involved in the change, learning and implementation processes
- a programme of accompanying coaching by the teachers who organise the face-to-face teaching and by advisers from the chambers during the phases

of learning at the workplace and the realization of at least one development project

Activity A1 Based on the results of Output 1 "Best Practice customer-centric innovation & digitisation", development of a concept and drafts for curriculum and teaching materials for SME specific further training for the use of all instruments, methods etc. and the exploitation of all potentials of customer innovations

Activity A2 Integration Best Practices of the use of digital technologies and consultation with experts.

Activity A3 Development of the draft of a coaching programme for the advisory support of teachers and consultants during learning at work and the implementation of development projects for the realisation of customer-centred innovations in SMEs

Activity A4 Development of a draft of examination regulations consisting of an oral examination and evaluation of a project work, namely the realized development project for the implementation of customer innovations. The participating SMEs will receive a certificate and the participants will receive a qualified confirmation of participation with a presentation of the Exam results.

Activity A5 Trial of the SME specific training and coaching programme under different national conditions (in Poland, Hungary and Denmark) with at least 15 owners, managers and professionals of at least 10 SMEs each.

Activity A6 Quality assurance and evaluation of all tests and preparation of an evaluation report.

Activity A7 Based on the results of the evaluation, review and finalise the output with:

- a) concept, curricula, teaching materials and examination regulations
- b) coaching programme for the advisory support of teachers and consultants
- c) reports on the experience of the trials
- d) evaluation report
- e) reports on the development projects implemented
- f) instructions for use and recommendations for use

Output 5 Training Program Consulting & Qualification of Customer-Centric Innovations

The output is a three- to four-day Train the Trainer programme for teachers and consultants of SMEs, who receive knowledge, skills, pedagogy, etc. in order to:

- to qualify employees of SMEs with regard to the acquisition, processing and implementation of customer innovations, including all areas, possibilities and instruments etc.
- to transfer a toolbox of instruments, methods etc. to SMEs and to provide sound advice on implementation

The Train the Trainer programme is based on Output 1 "Best Practice customer-centred innovation & digitisation" and draws in particular on the results of the toolbox with so far already known as well as new instruments, methods and procedures for the acquisition, processing and realisation of customer innovations in SMEs.

Within the framework of the Train the Trainer programme, the concept, curricula etc. of the SME specific training programme "Realisation of Customer Centricity Innovation" are discussed in detail and intensively trained and the coaching aspect is integrated.

Activity A1 Based on the results of Output 1 "Best Practice customer-centric innovation & digitisation", development of a concept and curriculum design, teaching materials etc. for a three- to four-day train the trainer programme for teachers and consultants, enabling them to qualify and advise SMEs on acquisition, processing and realisation of customer innovations, including all areas, possibilities, instruments etc. (independent of the use of digital technologies). The Train the Trainer program does not include a final examination, the participants receive a qualified certificate of participation.

The Train the Trainer program includes the following elements:

- a) presentation, consulting and mediation aspects of the content of the SME specific training programme "Realisation of customer-centred innovations.
- b) presentation, advice and mediation aspects of the tools, methods etc. of the toolbox.
- c) presentation, consulting and training of the coaching process.

d) pedagogical issues.

The training programme consists of a combination of presentations, consultations and discussions in plenary, work in small groups and role-plays.

Activity A2 Inclusion of the contents and comparison with the SME specific further training programme "Realisation of customer-centred innovations" and integration of the toolbox with already known as well as new instruments, methods and procedures for the acquisition, processing and realization of customer innovations in SMEs and consultation with experts.

Activity A3 Trial of the Train the Trainer programme with at least 15 teachers and consultants from all project partners.

Activity A4 Quality assurance as well as evaluation of the trial and preparation of an evaluation report.

Activity A5 Based on the results of the evaluation, review and finalise the output with

- a) concept, curricula and teaching materials
- b) report on the experience of the trial
- c) evaluation report
- d) directions for use and recommendations for use

In addition to the five complex outputs, several other results were achieved in the ICIinSMEs project, such as studies on issues of digitalization and customer innovation in SMEs, online consulting for SMEs, result videos and others. In this book, individual outputs and further results are summarized. All outputs and results are published on the project website <https://ci-smes.eu/>, where they can be freely viewed without restriction and downloaded and used free of charge.

1.3 Participating Project Countries and Partners

The project was carried out by eight experienced partners from four countries. Initially, the partner countries were selected so that countries with different experiences and different levels of development are represented, so that different national

conditions are present and a high degree of learning from each other is possible. In certain SMEs, the use of digital technologies and realization of customer-centric innovations are already somewhat more advanced, particularly in Denmark and to some extent in Germany.

Further training programs for teaching relevant digital competencies in SMEs in conjunction with customer-centric innovations are common in Denmark but not in the other countries. Although Denmark also has major development needs, it is already comparably far advanced, Germany occupies more of a middle position, and Poland and Hungary have particularly large catch-up and development needs. The partners from Poland and Hungary are very interested in learning from the other partners and benefiting from their technologies and experience.

In the aforementioned countries, the selection of project partners was based on several aspects in order to meet all the requirements of successful project implementation, namely organizations with:

a) extensive experience in attracting and implementing customer-centric innovations: Hamburg Institute of International Economics, Germany, Hanseatic Institute for Support of Small and Medium Enterprises, Poland, and University of Miskolc, Hungary.

b) Extensive experience and groundwork in the use of digital technologies: International Business College, Denmark and Hamburg Institute of International Economics, Germany.

c) larger research and development capacities in the project-relevant areas: Hamburg Institute of International Economics, Germany, and University of Miskolc, Hungary.

d) differentiated knowledge in curriculum development for SME education programs: Partners Hanse-Parlament, Germany, Hanseatic Institute for Support of Small and Medium Enterprises, Poland, and University of Miskolc, Hungary.

e) differentiated knowledge of SME conditions and needs: Hanse-Parlament, Germany, Warmia and Mazury Chamber of Crafts and Small Business in Olsztyn, Poland, Lower Silesian Chamber of Craft and Small and Medium-sized Businesses, Poland, and Hungarian Association of Craftsmen's Corporations.

f) direct access to SMEs and very good educational capacities: Warmia and Mazury Chamber of Crafts and Small Business in Olsztyn, Poland, Lower Silesian

Chamber of Craft and Small and Medium-sized Businesses, Poland, International Business College, Denmark, and Hungarian Association of Craftsmen's Corporations.

g) differentiated experience in evaluation and quality assurance of educational programs: Hanseatic Institute for Support of Small and Medium Enterprises, Poland.

h) Distinct possibilities and contact potentials for dissemination and incorporation of results into political decision-making processes: Hanse-Parlament, Germany, Warmia and Mazury Chamber of Crafts and Small Business in Olsztyn, Poland, Lower Silesian Chamber of Craft and Small and Medium-sized Businesses, Poland, and Hungarian Association of Craftsmen's Corporations.

i) high potentials and experiences to involve partners from 13 countries, international transfer of results and implementation consultations: Partner Hanse-Parlament, Germany.

From Poland, two chambers were deliberately included in order to be able to convince all other Polish chambers about implementation potential on the basis of the project results in different regions, and also to be able to implement the results competently and successfully in the realization of the second stage of the Polish reform program of vocational education.

All partners have international project experience. Especially Hanse-Parlament is very experienced in the implementation and management of complex international projects with up to 40 partners from 11 countries.

The composition of the consortium ensured that all requirements and topics of the project could be covered and performed very well by the project partners.

Partner Hanse-Parlament took over the entire project management, lead the development of the Output O4 "Continuing Education Program Realization of Customer-Centric Innovations" as well as the creation of the User Manual, contributed to all other development work, involved 70 associated partners in the project implementation, bore the main burden of the results transfer and dissemination and took over all implementation consultations.

Partner Hamburg Institute of International Economics led the development of output O1 "Best Practice Customer-Centric Innovations & Digitalization", bore the

main burden of analysis work, research and development, and contributed to the creation of the other outputs.

Partners Warmia and Mazury Chamber of Crafts and Small Business in Olsztyn, Lower Silesian Chamber of Craft and Small and Medium-sized Businesses and Hungarian Association of Craftsmen's Corporations contributed the needs of SMEs, participated in the development of all outputs, undertook the practical testing of both training programs, which they implemented and offer on a permanent basis, and carried out dissemination and input of project results into policy-making processes in their countries.

Partner Hanseatic Institute for Support of Small and Medium Enterprises Contributed its extensive knowledge and groundwork in customer-centred innovation, contributed significantly to research and development, and took on the tasks of evaluations and quality assurance.

Partner International Business College contributed its extensive knowledge and groundwork in digital competencies delivery, lead the creation of Output O2 "Continuing Education Program Digital Competencies", participated in the development of all other outputs, undertook the practical testing of continuing education programs that will be implemented and offered on a permanent basis, and conducted dissemination of project results in Denmark.

Partner University of Miskolc significantly conducted investigations, research and developments, leads the creation of outputs O3 "Training Program Consulting & Qualification Digitalization" and O5 "Training Program Consulting & Qualification Customer-Centric Innovations" and participated in the development of curricula and implements all educational products.

The composition of the project consortium, the great commitment of all partners and a smooth cooperation ensured the outstanding success of the ICIinSMEs project. We sincerely thank all partners and the persons involved for the excellent cooperation.

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2 Best Practices and Toolbox

2.1 Experiences of Best Practices in the use of Digital Technologies supporting Customer Innovations by SMEs¹

The aim of the project is to strengthen the innovation capacity of SMEs in Eastern Europe. Thereby, the central problem of resource scarcity in SMEs is explicitly addressed, which causes difficulties in the integration of a customer-centric innovation approach within SMEs. To address this problem, this report provides an insight into aspects of the use of digital methods for the identification, processing, and implementation of customer-centric innovations in SMEs. In addition, selected best practices of customer-centric innovation activities are elaborated.

There is a lot of overlap between the different definitions regarding customer-centric, customer-focused, and customer-driven innovations, however, there is a big difference regarding who carries out the innovation process. In the case of customer-focused innovation programs that is the customer who makes it, while in customer-centric innovation it is done by the organization. The case is special in customer-centric innovation, while the new development comes from both the customer and the organization as cooperation.

As a starting point for this research, it is worth describing what we exactly mean by this phenomenon.

“Customer-centric innovation describes a change from innovating for customers to innovate with customers. Therefore, the customer takes an active role in innovation processes and become the primary source of ideas to initiate innovation activities. By integrating the customer-centric innovation philosophy, companies open their research

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and development activities, meaning that the innovation process happens with input from inside and outside of the company. Customers are involved in all stages of the innovation process.” (Desouza et al. 2020; Steinhoff & Breuer, 2014; Zajkowska, 2017)

If the customers are involved in the innovation process, the new product or service will better fit the market demands. There are different methods that ease to get to know the customers' ideas and feedbacks, such as:

Lead-user method based on the fact that led users' needs will be the future demand of the market.

Experiments when different groups with different demands. The groups will answer the concrete questions, and the results can be compared, and the conclusion can be drawn.

In case of Living labs, the innovation starts with the ideas and needs of customers. There is a created spaces that is similar to the customer's home.

In field test products and services will be tested in a real-life context.

Focus groups are the part of qualitative marketing research when 6-8 people take part in. There is a moderator who directs the process.

Customer group involvement helps developers to find better solutions for customer's needs and problems.

Outcome based interviews are targeted interviews, when the needs of the different customer groups can be identified, that do not reflect the demand of the market.

Questionnaire survey is the part of quantitative marketing research when representative research can be conducted in order to gather statistical information.

In diaries the consumers who test the product will make notes about the experiences.

A brief review of best practices

We have 31 best practices from 12 countries.

Country	Number of BP
Denmark	4
Estonia	1
Finland	2
Germany	5
Hungary	8
Italy	1
Lithuania	3
Norway	1
Poland	3
Sweden	1
UK	1
US	1

2.11 Examples of Products or Services co-created with Customers.

Because of the small number of cases studies the good practices cannot be compared by countries, company size, and sectors. It is not possible to draw a correct conclusion for such a small number of items. Rather, we can say that the application of customer-centric innovation can be applied successfully in many areas. It is particularly prevalent in areas where personalized (customized) products and services have higher importance.

It can also be seen from the cases that the products and sectors are very diverse. Generally, can be concluded that success can be reached in almost all areas in customer-oriented innovation, regardless of the size, scope, or location of the companies.

In the case studies examined, customer-centric innovation was applied to products such as:

- Recipes, DIY-Story cards, Calendar, Meal planner
- Beeswax wraps

- Sustainable jewellery
- Construction toys
- Customised and sustainable skin care, sustainable cosmetics, personalised skincare routine
- Fair fashion and living accessories
- Design homewares and furniture
- Image design editor
- Sustainable water bottles, personalised inscriptions and prints onto water bottles, personalised product packaging
- Platform which develops new add-ins
- Power tools and hand tools for the construction, manufacturing and wood-working industries
- Realway services, travel, logistics and rolling stock maintenance
- Postal service
- Prepare the apartments for sale and we refurbish apartments
- Payment Service
- Special wall and ceiling decoration, digital wallpaper design activities.
- Water, gas heating installation
- API platform that allows to build customized payment solutions
- A retail shop for eyes control and selling glasses. Glasses, (star) binoculars, control/eyes check, contact lenses and can offer services from an eyes-doctor.
- Informatics, software development
- Digital banking software
- Manufacture of medical devices
- Operation of hairdresser saloon

However, good examples of customer-centric innovation may not only appear at the product level. Other server processes such as sales, website, delivery can also be made simpler and more efficient by using consumer feedback. In other words, the efficiency of corporate operations and the complex process of customer service can be made more efficient through consumer feedback.

Redesign of web shop and faster delivery option

„Another example where the customers were heavily involved was the redesign of her web shop. The layout and categories were completely restructured due to customer feedback to accommodate their needs and wishes. For instance, the products were restructured according to the product type,

rather than according to collections as it had been the case prior to the redesigning process. Another change happened to the check-out process where customers can now add personalized features separately which makes the check-out process easier. The company continuously asks customers for feedback to be able to offer the best possible products and services. Due to the increasing international demand for her products, the company reached out to DHL to add another, faster delivery option especially for international customers.”

New Vintage by Kriss, a jewelry company, Estonia

Providing a high-level service in terms of efficiency

“Over the last few years laRinascente has carried out a progressive restructuring of the shops in the name of design, with the opening of new avant-garde stores and a continuous updating of the product offer.” “The customer must be given a high-level service in terms of efficiency, accessibility of the various payment methods and customer recognition.”

La Rinascente, Italy

Improving the overall customer experience and business operations

„The company made significant changes to the ways it interacts with customers to improve the overall customer experience and to help improve the business operations as a whole. Thus, it redesigned, restructured and modernized “all passenger traffic ticket sales systems and channels for both commuter and long-distance travel”.

VR Group, Finland

Technology development – finding new solutions.

„We continually face with new demands of the clients. They wish to have this technology used in places where there’s a high level of strain or even in their bathroom. This has made us find out new solutions. There are clients who wish to have certain decorations outside, on the walls of their houses. This is a new demand, and we try to find a suitable technology to satisfy it.”

IFresco, Hungary

Platform for freelancers

„The best insight comes from outside. Our mission is to facilitate a community, which works for everyone. Freelancers have access to a buzzing project bazaar, and companies can fulfill their business goals with the right people, handpicked specifically for their needs. We created a platform, where complex goals are made simple. This is a place where freelancers unite and join forces, so

businesses can experience solutions like never before. Because diverse mixes bring unique solutions.”

Briefly, <https://briefly.work/about-us-en>

2.12 Methods of Customers' Involvement in Innovation Processes

Companies can choose different methods to involve their customers in innovation processes. E.g.:

- Surveys/questionnaires
- Interviews
- Focus Groups
- Brainstorming
- Observations (customers are observed in daily life personally)
- Test Groups
- Field Test (testing products and/or services in real life circumstances)
- Simulations and visualizations
- Living Labs (Cooperation with customers in company's laboratories and workshops)
- Diary Search: (target groups are asked to write the product and/or service experiences in a pre-structured online diary)
- others

The most common method of involving customers is conducting interviews, surveys, and questionnaires, which are relatively easier to implement and better known, especially among SMEs. The companies use more of the digital communication channels used for communicating and collaborating with customers at the same time. The highest proportion was the use of e-mail, which was followed by the use of social media (Facebook, Instagram, Pinterest, Twitter, Youtube). In addition, the use of online advertising (Google ads, Instagram ads), an interactive website, and Q&R are mostly mentioned. The use of novel tools such as chatbots, support teams, or gamification tools is present, but in a rather minor proportion.

E-mail, phone

„In general, in the area of services, we contact the customers on the phone, via email, but above all in person. Based on the orders we can receive information, again electronically, about the products, spare parts, and the necessary new tools.”

Földvári, self-employed, Hungary

Social media

„In terms of social media presence, DHL is active on several platforms (e.g. Facebook, Instagram, Twitter) and shares a mix of personal stories from employees and new products and services, but also offers quick and simple customer service through a customer support account on twitter, for instance (@DHLPaket, @DHLexpress, @DHLPaket).”

DHL, Germany

„To cooperate with consumers in the field of innovation, we primarily use: Website, Facebook, You Tube, Instagram, Blog, E-mail communication.”

OMEGA, Poland

Social media and company website

„Another way of reaching out to her customers is through social media. For instance, the company often uses Instagram to receive quick and direct feedback from customers, e.g. in the form of short question and answer options on Instagram, or through short questionnaires. She encourages customers to share pictures of the jewelry and shares the stories behind certain pieces of jewelry on the company’s Instagram and her website. This way she involves her customers in the design of a product or, more recently, in the design of the company’s website. Another way in which Kriss uses social media to engage her customers in the design process is by giving the customers a few options in a product’s design and letting them vote on which one they like best or encouraging them to name a product, which is always a fun process for all involved. She also engages with customers via email and in her store.

New Vintage by Kriss, a jewelry company, Estonia

User survey

“The OmaPosti concept is based on a comprehensive user survey that interviewed over 50 users, charted their aspirations, and learned about their real needs. The service is constantly being developed and validated according to the needs of the users so that each new concept and feature will provide the best possible user experience.”

Posti, Finland

Digital guest book

„We have a digital guest book and write into it the date and the type of hairstyle we made to the customer. We have been keeping this digital guest book for years now, thus we know about each of our customer when we dyed her/his hair, what type and colour of dye we used and what was the hairstyle.

This way we become familiar with the customs of our clients; the materials used in his/her case. It is also beneficial for us because this way I can avoid buying paints and materials that nobody wants.”

Berendi Hair @ Academy, Hungary

Electronic drive interface

„When I receive a concrete order from a client, when I make and/or refurbish an apartment for a customer, I create an electronic drive interface for each of my future apartment owners where I upload the apartment layout, photos, the electricity and furniture I recommend, together with the recommended tiles, doors, windows, lamps, etc. thus the customer can choose from them. All the respective information is on a dedicated drive library specific to the property.”

PkHome Kft, Hungary

In some areas where tailor-made and personalized products are more important, or for smaller companies, in addition to online and traditional offline methods, face-to-face encounters may be the most inspiring methods in product development.

Uses customers' stories as inspiration - conversations with loyal customers.

„New Vintage by Kriss uses customers' stories as inspiration for jewelry pieces. „Each design has a story behind it, something that moved, encouraged or touched us.” The company uses customer-based innovation by having conversations with loyal customers about their wishes and expectations for new products. Kriss believes that owning a small company is an advantage for customer contact and customer-centric innovation as it makes direct contact to customers easier. She is often able to meet customers in person at her design studio or on sales trips. Being a small company means that Kriss can accommodate clients' wishes better and sometimes, for example, can add a specific symbol or engraving to her design. Often, designs come out of personal conversations with customers

and the small size means that Kriss has the time to connect to different people on a more personal level.”

New Vintage by Kriss, a jewellery company, Estonia

Varkki also designs its products with customer input. and uses personal conversations with loyal customers for their innovation process.

Varkki, a sustainable fashion design company, Estonia

In person consultation, holding events and social media

„The company makes an effort to engage with its customers through several means, both online and in person. The company regularly holds events on a variety of topics that are of interests to its customers. The store also offers personalized makeup and cosmetics consultations in their store and, due to the pandemic, also online through video calls or photos. This allows them to provide the customers with the best possible shopping experience and product choice. The company also runs an online shop and tries to adjust their collection according to customer demands. A big part of their business strategy is using social media to interact with their customers. The company is very active on Instagram and regularly does live streams where they present new products and sales and interact with their customers. They also offer services such as customized advent calendars.”

Werte Freunde, Germany

Gathering customer feedback is not in itself an innovation. Another important step is when the received consumer opinions and experiences are built into product/service development or to make operational processes more efficient.

Incorporate customers feedback into product development.

„We receive suggestions as to which products and aspects of the products are particularly important to the customers. Thanks to the direct and rapid feedback, these are actually incorporated into product development.”

mamiblock Shop, Germany

Incorporate customers feedback into product development.

„One example of a product that was innovated or rather iterated through the input of customers are the beeswax wraps. After GALA had received comments on their Instagram profile that the wraps size should be bigger repeatedly (10 comments), they actually changed the size.”

GAIA, (Trade) Germany

In the case of individual, personalized products, it is often the case that a product, proven form, design, or technical solution for a customer is later incorporated into the wider product range, using its experience.

From custom-made items to overall market

„The custom-made items often also make their way into the wider collection and are then sold as ‘regular’ products. „

New Vintage by Kriss, a jewellery company, Estonia

From custom-made items to overall market

„As for churches, we must mention the church in Ipolynyék, Slovakia. A local painter had been instructed to paint the church, so the interior decorations were made by him. But the dome seemed to be a bit more difficult. So, I modelled it on a gym ball. Here we also carried out a 200m2 ceiling design. Incidentally, this work has brought a new product to be sold in the market soon.”

IFresco, Hungary

Solutions from different fields could be standardized and synthesized into one software and sold on the market

„The companies approached us for the purpose of process development and based on the experience gained together during this time, we recognized this market need, an innovative idea. Demand process solutions from different fields could be standardized and synthesized into one software and we can sell this to other companies in the market.

Steps of the customer-driven innovation process:

- 1. Situation analysis of previous clients, identification of processes*
- 2. Defining automated processes*
- 3. Define user requirements*
- 4. Based on the user requirement, the requirement of the new IT system is created*
- 5. Software development*
- 6. Sales of software supporting standardized processes*
- 7. Software adaptation for the new customer”*

FlexInform Kft., Hungary

Getting to know consumers and their behaviours, habits, needs, and preferences, and the increasingly conscious use of information is an important element of marketing strategy. A higher level of use of information collected from customers is the use of digital methods, such as data analysis, or the use of algorithms and applications to better identify consumers and their preferences and to personalize and target marketing communication tools.

Customer community and data analysis

„Through the various channels in place for customer feedback and innovation through customers, GAIA has grown a sustainable customer community. With the help of data analysis, GAIA knows exactly who the customers are and what kind of people are reached through their online marketing strategies. GAIA has formulated a clear target group which helps them deciding on different marketing and customer strategies. Furthermore, they aim to keep their already established customers instead of focusing only on new customer acquisition.”

GAIA, Germany

Customer Solution and Innovation (CSI) system

„The company established a “Customer Solution and Innovation (CSI)” system which is both a primary contact for customers and additionally also closely analyses and monitors customers’ needs and satisfaction. On top of that, the company has three innovation centers: one in Germany, one in Singapore and in the USA (Illinois) where customers can discover new trends and innovations and engage with them, but also present their own, personal challenges and issues. It is also important to highlight, that DHL is aiming to receive feedback and customer inputs at a variety of locations to enable a diverse customer group to be involved in the innovation process.”

DHL, Germany

ICT, customer loyalty program, CRM and data analysis

„ICT supports the marketing-oriented activities that come into play when the customer is not inside the store and that are used to communicate and let him know what is happening inside our stores. This is why we are committed to carrying out a customer loyalty program, through action on the checkout, CRM and data analysis, to give the consumer an integrated and personalized communication based on his interests.”

La Rinascente, Italy

Use of an algorithm based on the skin profiles and customers' feedback.

„Nøie allows customers to subscribe to a customized skincare subscription service. Customers do the “Skin Test” and create a unique skin profile which is then analyzed and matched with the best skincare routine and products from Nøie’s range. The company has accumulated data from over 60,000 people and has created an algorithm based on the skin profiles and customers’ feedback. Customers are further able to adjust their skin profile and thus their products and skincare routine any time and have the chance to get their money back should they be unhappy with the results. The company relies on customers to continuously provide them with data which is then reflected in the offered products and services. Most of the company’s communication with its customers is done online through its website and the personal customer profiles. „

Nøie, Denmark

Skin profile through a personalized online test

„The company offers a skin test where customers can find out their specific skin type through a personalized online test. In addition to their online skin test, the company also offers personal online chats on their website and video call consultations to provide each customer with the best personalized shopping experience and best suitable product.”

Manilla, Lithuania

Insights Forum – customer community - Big Data, CRM, and social media analytics

„DEWALT launched the DEWALT Insights Forum, which offers customers the opportunity to provide feedback and to submit ideas for products. The community has over 12,000 members and is made up of its partner Vision Critical, as well as customers, partners, employees, fans, donors, and alumni. Using an Insight community, DEWALT gets rapid and ongoing feedback that allows them to make easier business decisions. More specifically, the insight community allows DEWALT to engage with customers in an ongoing dialogue that respects members individuality and their humanity, and which complements other data sources, like Big Data, CRM, and social media analytics.”

DEWALT, USA

Digitalization and modernization

„Due to the increased modernization and digitalization, the company can now continuously collect data on its customers and how they use its services which then helps with improvements and innovations.“

VR Group, Finland

Applications for learning about end-users

„Nowadays, there are plenty of suitable tools available during development to learn about end-user needs, of which perhaps the following 3 applications are what we come across often in our projects:

Zeplin is a designer tool that facilitates group work within the company between the designer and the development team, as well as common processes and communication with the customer (viewing visuals, commenting). The finished design plans can be placed in the Zeplin, which is easy to comment on, so even selected end-user groups can be easily involved in the design process.

Figma is also a designer tool whose best function is to allow live, real-time collaboration with a selected group of customer representatives and even end users, thus speeding up and facilitating the implementation of appropriate user needs and opinions during development.

Invision is the perfect tool for putting together validated design elements to build a workable MVP (Minimum Valuable Product) that allows you to initiate approval processes and test finished user interface designs for either the customer or end users without starting application development. would be.

W.UP, Hungary

There are companies that use multiple methods to engage their consumers, combining offline and online methods. Although no general conclusions can be drawn, the results of our survey show that more complex, organized solutions for customer involvement are typically used by larger (primarily large and medium-sized companies) and more mature companies. Also, an important question is whether companies categorize their customers based on their needs or expertise when involving them in the innovation process. This is an important issue because different types of feedbacks and experiences can be incorporated in the case of different customers. Different kinds of information can be obtained from lay customers and from professional users in the product development process. Both kinds of information are extremely useful.

The widest range of tools for consumer involvement has been observed in the practice of one of Norway's leading food companies. In addition to surveys, the methods of focus groups, laboratory, and home testing, among others, are used. In addition, the categorization of consumers can be observed. They differentiate between lead users and professional users from end-users in their involvement in innovation processes. It is important to emphasize that the company also realizes significant and continuous benefits through the introduction of customer-centric innovations (see later). In addition to market (domestic and international) and operational advantages, they also achieve remarkable results from a financial point of view.

More complex, organized solutions for customer involvement - combination of the methods - Categorizing consumers based on their needs and expertise.

“In an industrial enterprise like this, there are a number of fairly common methods used to obtain information about customers and markets. Surveys and focus groups are often used to get feedback from customers. Perhaps more interesting is the combination of these methods with direct involvement of users, for example:

focus groups where participants get to taste and evaluate new products, and where they can also be asked to explore new products in use in the kitchen.

taste panels in sensory laboratory for scientific testing of users' response to different product variants

survey / home testing of new products to learn how consumers use new products, and how the product fits into the consumer's cooking and eating habits.

In addition, professional and industrial partners and customers are often involved in several phases of the innovation process:

Chefs, as an important group of «leading users», from the Department of Gastronomy (now the Culinary Institute) and from various renowned restaurants, as well as experts from Matforsk and the university community at Ås, are often used for advice and participation in product development.

Industrial partners and customers, from retail chains to industrial producers of ready-made food and other foodstuffs, often participate in the formulation of new needs and in the development of new concepts, products and technical solutions.”

Data collection about customers in case a project was done in several rounds. Early in the project, the team conducted a study trip to potential market regions. Italy, Belgium, Korea, Japan, etc. were visited to learn about their food cultures, market and distribution structures, etc. Later, when

the technology was better developed, they conducted more conventional market studies, using focus groups and home testing of the product in a number of Norwegian home. Finally, a number of marketing and sales promotions provided important learning in direct interaction with potential customers.”

TINE, Norway

In addition to the practice of the Norwegian company, we can also highlight the example of a Hungarian software company and a medical device manufacturer company in terms of combining and applying the methods in many ways. An interesting moment in the case of a software company is that the head of the company highlighted as an important aspect that their own employees look at their products from the customer's point of view and use their own needs in product/service development, as they can be considered customers. They themselves use these services.

Combination of methods - working team as customers

„We use several methods to involve customers, depending on the expectations of our customers. Most often, we use UX research methods, which are performed either by our company or by the customer, otherwise by a third party. During the developments, in addition to the research, we also got our own and our acquaintances' experiences, on the basis of known user market knowledge, and on opinions available on freely available social media interfaces. Also a few examples without claiming completeness:

UX Research: Knowledge of the operation of the market, users and competitors, collection of information and adaptation of this information in the design phase. Examples of solutions used include user interviews based on online research, ethnographic research and market research methodologies, the main purpose of which is to understand the real needs and difficulties of end users during design, to understand their thinking and to be able to design a solution to them.

Service Design: Optimizing the usefulness of the service for the user by involving the customer. This optimization feeds on UX research, user reviews, and marketing research to deliver the most optimal solution for the customer. Solutions used include service scope and customer journey map.

User Experience Design: Maximize the usability of the service for the user, with the goal of achieving a perfect user experience that is mapped based on UX research. In each case, the completed sub-plans are tested with different user groups, the results of which are continuously traced back during the development process. Examples of solutions used are information architecture, user personas and usability testing.

User Interface Design: User Interface (UI) Design - Facilitate the user-friendliness of the service by using the appropriate design elements based on the above research and current trends. Solutions used include emotion design and design guideline.

In addition, it is important to highlight the use of ideas within your own team as customer needs. We are all users of such applications in our private lives, so ideas within a team are customer-side innovations, with the difference that perhaps our ideas and opinions are not typical customer opinions, as we look at these products with a slightly different eye due to our work.”

W.UP, Hungary

Combination of methods - Categorizing consumers based on their expertise.

„We conduct a direct clinical trial involving partners who use the product and services. These data are collected under the supervision of an external CRO (Clinical Research Organization). The CRO plans of what factors (complications, implant loss) we will take into consideration during the research. Then a bio-statist will determine how many people need to be involved in the process. The research leader collects the data and writes the research report. If there are any problems, we will incorporate the solution into the improvements. Doctors are approaching the company with the intention of development, they have an idea and would like us to implement these, which will happen based on the following process.

- 1. Defining user requirements*
- 2. the system requirement is created based on the user requirement (technical-engineering data)*
- 3. product design*
- 4. prototype production + verification*
- 5. series production + verification*
- 6. validation before the product goes on the market.*

Methods used to involve consumers:

focus group, in-depth Interview, brainstorming, customer satisfaction questionnaire, product lifecycle monitoring, simulation, Collaboration with external laboratories to perform tests, recording a complaint, recording unexpected events, gaining application experience, equivalence test.”

Bionika, Hungary

2.13 Difficulties in involving Customers

When implementing customer-centric innovations, companies face a number of difficulties in engaging customers. The following difficulties can be identified in identifying the needs and experiences of customers and in communicating with them: Involving consumers is time-consuming and financially resource-intensive (infrastructure, technology, IT). It is sometimes difficult to identify customers who can provide innovative ideas during the innovation process. In addition to these difficulties, companies face the problem that their customers are not motivated enough to give feedback to the company. To increase the willingness to provide feedback, it is important to encourage consumers. Such a tool could be, for example, when it builds on the emotions of consumers. (See, for example, Gaia's motto "We want to learn from you" or developing a sense of "belonging to a community"). Another way to encourage consumer feedback is to generate financial interest from consumers, for example by introducing coupons, vouchers, giveaways, idea contests, or consumer loyalty programs, or even securing a percentage of sales for the best ideas.

„We want to learn from you” – voucher.

„GALA is applying various methods to engage with their customers and to achieve customer innovation through that. They are doing a combination of offline and online strategy. Their offline strategy includes a little leaflet that is added to the customer's purchase with the call "we want to learn from you", so basically an invitation to give feedback on the shopping experience and the product. To motivate the customers to actually give feedback and reviews, they receive a voucher of 15€ for their next purchase. This strategy plays into a lesson learned by GALA – a company should not only focus on the acquisition of new customers but really invest in the relationship with the already established customers. GALA mostly works with standardized questionnaires to collect customer feedback. Another method in order to receive customer feedback for innovation is the offer to apply to become a product tester for GALA's products.”

GALIA, Germany

Loyalty program

„Customers are involved by using mainly digital tools through which the company collects customer feedback. This is done, for example, through social media and in stores. The company also has a loyalty program for its customers which they use as a means to stay in touch with their customers. Additionally, they offer the option of a personal shopper where a customer can get help with the

purchase of a product. Through these various interactions with their customers, the company collects data on the customers' needs and wishes and adapts its services and product range accordingly. „

La Rinascente, Italy

Refer a friend” option with a discount.

„Additionally, the company offers a “Refer a friend” option which allows both the exciting and the new customer a €14 discount on their next shop.”

Nøie, Denmark

Community feeling - storytelling.

„Kriss believes that the more customers are part of the creative process, the more the product becomes personal and gets a community feel. The storytelling aspect of her jewelry design connects the customers to a product and the company and creates relationships to a piece. The community feeling is also increased by the fact that customers from all over the world, from very different countries, all have similar stories and experiences which people share across cultures and borders and a piece of jewelry can connect them and can thus feel very personal. Connecting to customers during the design process also makes Kriss feel like she can give something back and does more than ‘just create a piece of jewelry’ which is incredibly rewarding.

New Vintage by Kriss, a jewelry company, Estonia

Community feeling – share tips & tricks.

„On top of that, Pixelmator has an online community, where customers can discuss the product, as well as “image editing, share tips & tricks, tutorials, and other useful resources, or just chat with other Pixelmator users”. Users can also request new features which are then taken into consideration and may be added to the editor. The company also has a strong social media presence where it interacts with its customers and regularly shares tips on how to use its editor.”

Pixelmator, Lithuania

Design contests

„Additionally, to their individual design process, the company engages with its customers through social media. The company regularly hosts design contests and allows customers to pick their favourite design from a range of choices which are then added to the collection. The company also

runs a blog on social and sustainability issues and topics and posts about these on their social media platforms, as well.”

Sould Bottles, Germany

Online community - competitions of design ideas - financial motivation for the designers

„LEGO is a leading company in the area of customer-centric innovation. The company is making the most of being able to connect to their customers online by providing them with an online community. Customers and fans can submit their own design ideas which then get voted on and if a design receives enough support, the company reviews the design and may turn it into a product. The designer receives a percentage of the sales and is heavily involved in the whole process, thus rewarded for being innovative and for sharing their ideas and design with the company. LEGO uses a mix of social media customer mechanisms, such as highlighting customers’ ideas and reposting their social media posts, offering competitions, and replying to customers in a personal matter (e.g. @LEGO_Group, @LEGOIdeas).”

LEGO, Danmark

Made Unboxed campaign – TalentLAB – design competition - Talent Award - financial motivation for the designers

„The company relies on customers to showcase its products through its Made Unboxed campaign which allows customers to share photos of a product in their home which then gets uploaded to the company’s social media and online presence. The company also has an online platform called the TalentLAB where customers can put down a deposit on an design idea they are interested in and if the design receives enough funds, the company will produce it and the customer who put down a deposit on the design will receive the finished product once it’s being produced. Additionally, the company has an annual design competition, the Made Emerging Talent Award, where anyone can submit a design idea and upload it to the TalentLAB platform. A panel of experienced designers then shortlists six products which are then voted on by the public, the customers. The design that wins the contest is produced and sold on Made.com within 12 months and the company publicizes the design, giving the designer exposure, a career boost and royalties.”

MADE.com, United Kingdom

Pleasure in creating for clients.

„Modern technology meets handcrafts, where clients will be able to paint their pictures chosen, thus, they can take pleasure in creating.”

IFresco, Hungary

2.14 Benefits from Customer-centric Innovations

More kind of benefits can be reached by companies through the introduction of customer-centric innovations. These can be divided into five major groups:

1. Financial benefits (increased sales revenue, profitability, cost reduction)
2. Growing operation effectivity (increased sales volume, product and service portfolio, productivity, product and service quality, speed and reliability of communications and transactions, positive change in business model and business practice)
3. Market benefits (increased number of customers and potential clients, market position, market share, entering of new markets, global trade, geographic expansion, business linkages, competitiveness)
4. Increasing customer satisfaction (increased understanding and response to customer needs, tailor-made/customised product development, better and faster communication with the customers)
5. Improving organizational image, reputation.

In most cases, market advantages were highlighted by companies in presenting their practices. With the involvement of consumers, the products/services offered by the company increasingly meet consumer needs, thereby increasing consumer satisfaction and brand loyalty, strengthening the company's market position, increasing the number of customers and sales volume.

Improvement of brand loyalty

„In addition, this also increases the acceptance of the products by the customers and thus sales and brand loyalty.”

mamiblock Shop, Germany

Improvement of consumer loyalty

„On top of that, engaging directly and continuously with the customers also means that customers tend to stay with the company for a long time (some since the beginning) and that showcases the good quality of a product. These customers also tend to give good and honest feedback and also speak up if something is not up to standard which helps with improving the products and services in the long run. „

New Vintage by Kriss, a jewelery company, Estonia

Increase in number of users.

„OmaPosti users increased by 50% during its first six months, and this number continues to increase.”

Posti, Finland

Increasing customer satisfaction

„The number of complaints was reduced to minimum.”

PkHome Kft, Hungary

Professional recognition

„We have gained wide professional recognition nationally and internationally.”

IFresco, Hungary

Positive feedback from other customers can in many cases motivate new customers, increasing confidence regarding the product/service and the company itself.

Putting positive feedback as reference

„The feedback GAIA receives from customers is sometimes put as a reference on their website or social media. Feedback is put public ally on website and serves as a reference. Overall, the customer innovation methods go hand in hand with marketing and outreach strategies. Furthermore, this has huge impact on the market acceptance.”

GAIA, Germany

The positive impact of social media can not only be direct, it can also have indirect benefits.

Indirect benefit of social media:

„It is interesting to point out that GALA has a lot of followers on Instagram (29.700) but only few of them actually purchase their products online. Many of them are following the GALA account for lotteries and to receive something for free. However, the social media is still highly valuable for customer feedback and market acceptance purposes, although the followers might not be the main purchasing power. When GALA reached out to collaborate with a local supermarket, they could show that they have an impressive amount of Instagram followers, for example, which was very attractive for the supermarket.”

GAIA, Germany

In addition to market benefits, a company can also increase operational efficiency by learning about and using consumer feedback.

Increase of customer satisfaction and performance

„The company has also been publishing reports on customer-centric innovation practices and has reported a huge increase of both customer satisfaction and their on-time delivery performance. „

DHL, Germany

„Thanks to the involvement of customers at every stage of the design process, we are sure that the final product will be best suited to the customer's expectations and will meet his expectations to the greatest extent.”

AJ PROJEKT MEBLE, Poland

Simplifying and rationalizing industrial production

„User involvement in TI is often about simplifying and rationalizing industrial production for the customer, but also about contributing to the customer's development of new products. The typical pattern of user involvement in TI is based on continuous dialogue with their main customers, where the customer's needs can be expressed and understood. Sometimes this becomes simpler projects that TI solves on its own, while other times it becomes a joint development run through several phases.”

TINE, Norway

Improving customer experience and efficiency

„We have faith in digitalization and new technologies in improving customer experience and efficiency as well as seeking growth through agile innovation.”

VR Group, Finland

Gaining knowledge, experience

„The advantage of W.UP also lies in the diversified experience and knowledge that our colleagues have gained over the years in the field of banking IT and customer service. Much of this knowledge is gained by actual customer feedback as well as our comprehensive market knowledge, which complements the results of the above methodologies and research.”

W.UP

Gaining knowledge, experience

„Do the customers, guest brings new ideas to us? Yes, if the requirements grow, more and more people are in search of a new type of service. For example, straightening the hair, and my colleagues learnt it. And I purchased the necessary tools. I will have more customers; I will earn more money. And the chances will be higher that my good employees will not leave me.”

Berendi Hair @ Academy, Hungary

However, the benefits in terms of market and operational efficiency are also realized in the long run in terms of financial benefits.

Increase in total turnover - maintain leading position.

„For the past 15 years, the company has included innovation as an increasingly important part of its overall strategy, both to promote a stagnant market for traditional dairy products, and to meet increasing national and international competition. Despite declining sales of milk from the 1990s until now, TINE has increased its total turnover every year, mainly due to continuous product development. TINE thinks strategically about product development and innovation at all levels in the organization. Thus, despite declining sales volumes, TINE has managed to increase its financial turnover and maintain its position as the leading (dominant) supplier of food in Norway. Internationally, TINE has had considerable success in exporting Jarlsberg cheese and has had to set up production facilities in Ireland and the USA as well.”

TINE, Norway

Better results – saving time and money.

„This together: builds better products as DEWALT better understands how its products fit and function in the lives of their customers, provides better service, and delivers better results.”

“While traditional market research can be impersonal, time consuming and expensive, the DEWALT Insights Forum creates relationships with members and saves the company time and

money. The company saved more than \$1 million in research costs in 2016 and almost \$6 million since establishing the Insight community. DEWALT can now use one resource for the entire lifespan of a project and once products have launched, they can follow up easily with satisfaction and quality surveys (Dewalt, 2016)."

DEWALT, USA

More income and more investment into development

„Thanks to digitalization, my company can use the time available for work much better, can provide the services for more customers simultaneously, thus has more income and thus invest more into development."

Földvári, self-employed, Hungary

More orders from clients - increase in consumer confidence - increase in revenue

„One of our large clients worked with an external UX company on the projects, but as the workshops saw that our team understands the problems of the users better than the team they employ, they terminated the contract and we continued to do so. This change meant approximately a 5-10% increase in revenue over projects depending on the exact scope of the project.

For our other important customer, UX was not considered in an implementation project. We stressed the importance of this throughout the project and dripped them down from our expertise in this direction. For the customer, these ideas proved to be so good that UX elements were already ordered in the following projects in all cases, which also meant a 5-10% increase in revenue, depending on the exact scope of the projects."

W.UP, Hungary

Reduction in resource need and costs – faster processes

„Benefits for the company: administrative costs have been significantly reduced, labour savings were realized, faster process turnaround time, there are no administrative errors."

Bionika, Hungary

It is important to mention that the benefits of customer-centric innovations also apply to customers, as the products better meet their needs, and they are tailor-made.

Benefits also at the partners of the company

„Benefits for the company: Revenue growth, market expansion, entering new markets, new customers. Benefits at our partners: administrative costs have been significantly reduced, efficient

processes, utilization of the workforce's knowledge in other areas, faster turnaround times, fewer errors, more efficient use of working time."

FlexInform Kft., Hungary

2.15 Conclusions and Recommendation Notes

Based on the questionnaire survey and the results of the best practices, we can conclude that small and medium-sized enterprises operating in different fields use very different ways to involve customers in customer-centric innovation. Relatively simpler engagement methods are common, such as questionnaires, surveys, group or in-depth interviews, product career tracking, social media tools, various loyalty programs, or community-based experience gatherings. This is supported by the fact that both in the questionnaire survey and in the collection of best practices, more than fifty percent of the responding companies use these methods. While more serious customer involvement methods used for customer innovation, such as simulation, living labs, diary studies, are used by only a few companies, where the scope of activity is also based on more advanced technology.

		Survey	Best practices
	Total respondents (SMEs)	37	31
1	Surveys, questionnaires	19	15
2	Interviews	21	20
3	Focus groups	3	11
4	Brainstorming	10	4
5	Observations (of customers in daily life)	16	12
6	Test groups	7	5
7	Field test (testing products and/or services in real life circumstances)	10	12
8	Simulation, visualizations	2	3
9	Living labs (workshops with customers in company's laboratories)	4	4

10	Diary studies (target groups write about product and/or service experiences in a pre-structured online diary)	1	2
11	Social media tools		16
12	Loyalty program, building community		15

We also tried to draw conclusions whether a difference can be found in the customer engagement methods based on the scope of activities of the companies. We were able to identify five main groups of best practices among small and medium enterprises such as construction, IT services, manufacturing industry, services, trade. But there is no significant difference in the field of customer involvement methods used. In each area of activity, the methods used for customer involvement appear in different forms and mixed. There were about 6 SMEs in the field of IT services, manufacturing industry, services, where more serious methods also occur than in Observations (of customers in daily life), Field test (testing products and/or services in real life circumstances), Living labs (workshops with customers in company's laboratories), Simulations, visualizations.

Field of activity	Main used methods for involving customers
Construction industry	Interviews, loyalty program, building community
IT services	Surveys, questionnaires Interviews, Focus groups, Observations (of customers in daily life), Field test (testing products and/or services in real life circumstances), Living labs (workshops with customers in company's laboratories)
Manufacturing industry	Surveys, questionnaires Interviews, Focus groups, Observations (of customers in daily life), Simulations, visualizations, living labs (workshops with customers in company's laboratories) Diary studies (target groups write about product and/or service experiences in a pre-structured online diary) social media tools, loyalty program, building community
Services	Field test (testing products and/or services in real life circumstances), Surveys, questionnaires, Interviews, Focus groups, Observations (of customers in daily life), Simulations, visualizations, living labs (workshops with customers in company's laboratories), Diary studies

	(target groups write about product and/or service experiences in a pre-structured online diary), social media tools, loyalty program, building community
Trade	Interviews, Field test (testing products and/or services in real life circumstances) social media tools, loyalty program, building community

- Customer-centric innovation can be applied for companies independently from size. There are many ways to involve customers in innovation processes, from simple to more complex, more expensive solutions. Even the smallest companies can find the right and accessible methods.
- Customer-centric innovation can be successfully applied in almost any field. From manufacturing companies to service providers, we have found many examples of customer engagement and successful innovation. In high-tech sectors, or in areas where there is greater importance of tailor-made products, customer-driven innovation can be created easily.
- There are several options for mapping customer opinions/experiences/needs. The use of digital solutions, social media platforms, and data analysis tools greatly facilitates the collection and processing of customer feedback.
- Consciously learning about customer feedback and accurately identifying customers and their needs is helpful in developing a marketing strategy and product innovations.
- Getting to know customer feedback is not a customer-centric innovation. The knowledge and experience gained in this way must be integrated into the process of product development to be able to talk about innovation.
- The lack of motivation and interest of customers in the field of feedback makes it difficult to create customer-centric innovations. It is advisable to increase the willingness of customers to provide feedback and to create motivation. This could be, for example, the creation of a "sense of community", the impact on customers' emotions, or the creation of customers' financial interest, for example with coupons, discounts, loyalty programs, and idea competitions.

- Through customer-oriented innovations, companies can realize several benefits, that comes directly from the market position and operational efficiency, which also provide financial benefits to companies in the longer term.
- SMEs have little or no knowledge at all regarding customer-centric innovation and the digital opportunities that support it. Based on this, there is a great need for training that develops the knowledge and skills of SMEs in this field.
- From a management point of view, there is less bureaucracy for SMEs, quick decision-making and risk-taking due to entrepreneurial management, and an organic leadership style. At the same time, entrepreneurs often do not have formal management expertise, in which trainings like ours can be the solution.
- SMEs are fast and efficient in communication, have good informal contacts, but may lack time and resources, which may prevent them from developing an appropriate science and technology network. The creation and development of these types of networks and the involvement of SMEs can go a long way in overcoming time and resource problems.
- SMEs can respond quickly to the changing market requirements, they can effectively fill market gaps close to their activities through their innovations, while at the same time facing barriers to starting a foreign business due to high costs. The solution for this problem could be the development of (European) level support system for foreign market entry.
- The innovation advantage of SMEs is that they can employ technical staff in several company departments, but at the same time they have often lack of core technical expertise (it may be necessary to use external technical specialists) and miss the benefits of diversification of research and development.
- From the financial perspective, lower innovation costs and higher R&D efficiency are possible for SMEs. At the same time, they face the risk of not being able to spread the high financial risks of innovation over several areas of activity, the difficulty of accessing external capital and the high risk of the cost of capital.
- SMEs can boldly take advantage of the sub-strategy (growth strategy based on specialization) (within a differentiation strategy), but growth can mean a difficulty by the use of external capital and entrepreneurs are often unable to manage growth properly.

- A major advantage for SMEs is that the regulations that apply to them are often less strict, but nevertheless, they are often unable to cope with the complexity of regulation, high adaptation and patenting costs mean difficulty.
- Many government programs support the innovation activities of small and medium-sized enterprises, although access to government programs and access to information can often be difficult. Due to the high costs, they may also have difficulties with cooperation programs.
- One of the key innovation benefits of SMEs is their ability to learn quickly, adapt and develop routines.
- The generally simple and centralized, organic form of SMEs should also be considered among the innovation benefits.
- SMEs can be attractive partners for innovation-oriented joint ventures/strategic alliances, especially if they are at the forefront of technology. However, the scarce management experience and subordinate position of power in cooperation with large companies are disadvantages in this respect.

2.2 Applied Instruments, Methods and Procedures for the Integration of Customer-based Innovation in SMEs²

The central problem of resource scarcity in SMEs is explicitly addressed, which causes difficulties in the integration of a customer-centric innovation approach within SMEs. To address this problem, this report provides an insight into aspects of the use of digital methods for the identification, processing, and implementation of customer-centric innovations in SMEs. In addition, selected best practices of customer-centric innovation activities are elaborated. Based on this research, a survey will be developed to determine the status quo of customer-centric innovation activities in the 13 associated project countries included in the project and to derive teaching needs and enable a curriculum for the implementation of targeted trainings.

² Prepared by Monika Zajkowska, Hanseatic Institute and Melanie Mesloh, Hamburg Institute of International Economics

2.21 Customer-centric Innovation

In a changing and uncertain world, the alignment of innovation with the current and potential customers' needs is necessary. To meet these challenges and to remain competitive, especially small and medium-sized enterprises (SMEs) must constantly innovate to add value. In other words, they must design, develop and deploy new product and service offerings that meet the needs of the marketplace. In order to do this, they must become customer driven (Griffin, 2004; Zahay and Griffin, 2004).

Customer-centric innovation is very different from customer-focused innovation and customer-driven innovation. In customer-centric innovation programs, innovation is done with customers – organizations and customers create innovation together. In customer-focused innovation programs, innovation is done by the organization. In customer-driven innovation programs, the customer is the key player – innovation is done by customers, with minimum involvement by the organization. Customers are the primary source of ideas and the customers of new products and services. They can offer ideas without geographic, and time constraints, and the organization must be able to apply those ideas quickly to the development of new products and services. Without the tools to support such dynamic interaction, it risks losing its customer to competitors.

The type of innovation represents the nature of customers' engagement. In customer-centric innovation programs, the engagement can be described as "open innovation" (Zajkowska, 2017); that is, the innovation program is open to customers, and they are allowed to be involved with the process, usually at specific points in time with specific processes. In customer-focused innovation programs, customer engagement can be called "closed innovation"; that is, the innovation process is seen as a black box and customers are not directly involved with the innovation process. In customer-driven innovation programs, in contrast, the customer's engagement is dynamic, providing ideas anytime and anywhere. Customers and organizations interact frequently, sometimes in unstructured ways, and organizations need to serve customers' dynamic needs.

Table 1. Customer-centric Innovation compared to other consumer-engaging innovations.

	Customer-driven Innovation	Customer-centric Innovation	Customer-focused Innovation
Central entity	Customer	Customer and organization	Organization
Degree of customer involvement	Innovation by customers	Innovation with customers	Innovation for customers
Role of organization	Coordinator	Communicator	Innovator
Type of innovation	Dynamic innovation	Open innovation	Closed innovation
Degree of control	Impossible to control	Difficult to control	Easy to control
Degree of coordination	Emergent coordination	Difficult to coordinate	Easy to coordinate
Critical innovation stage	Commercialization (Ideas are over-generated and developed, but difficult to commercialize)	Idea development (Ideas are abundant, but difficult to develop)	Idea generation (Ideas are scarce)
Types of innovation to focus on	Products and services, output interaction with products and services	Communication with customers; customer interaction with organization	Customer segmentation and customer analysis
Critical issues with innovation types	“Sticky” and tacit knowledge transfer requires high levels of human interaction Customer must be segmented for proper analysis	Investment in infrastructure High-quality communication needed Risk of copycats	Analysis must be ongoing Systems must be integrated Information overload possible

Source: K. C. Desouza, Y. Awazu, S. Iha, C. Dombrowski, S. Papagari, P. Baloh, J. Y. Kim, Customer-driven Innovation, Research Technology Management, Taylor & Francis 2008, pp. 35-44.

In customer-centric innovation organizations can control the innovation process, coordination is done by organization and is quite complex, with multiple stakeholders involved. In customer-centric innovation programs, idea development, screening and refinement are central.

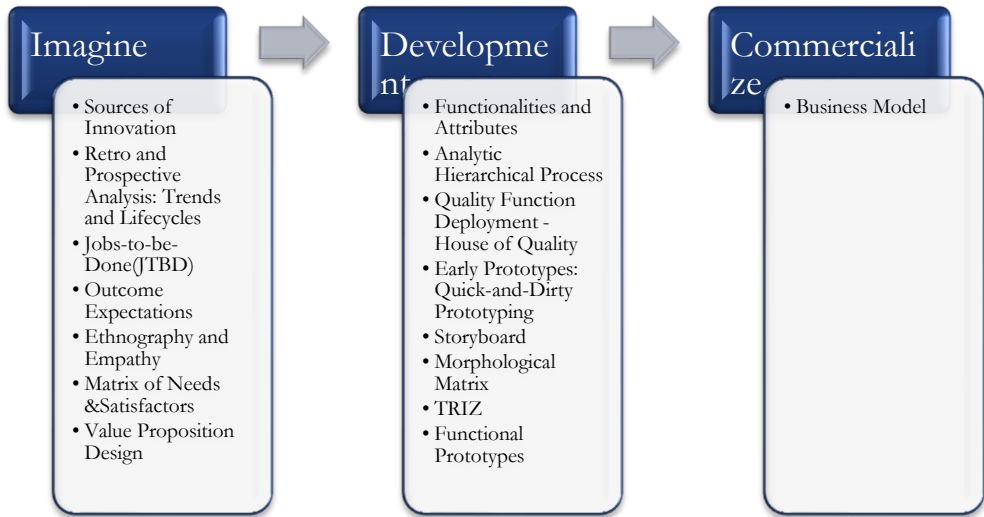
With reference to the presented analysis and considering the objectives of this project, the following definition of Customer-centric innovation was adopted for further analysis in this report:

“Customer-centric innovation describes a change from innovating for customers to innovate with customers. Therefore, the customer takes an active role in innovation processes and become the primary source of ideas to initiate innovation activities. By integrating the customer-centric innovation philosophy, companies open their research and development activities, meaning that the innovation process happens with input from inside and outside of the company. Customers are involved in all stages of the innovation process.” (Desouza et al. 2020; Steinhoff & Breuer, 2014; Zajkowska, 2017)

Customer-centric innovation revolves around customers’ needs with the goal of designing a new product or service that delivers on these needs and expectations. Customer-centric New Product Development (CC-NPD) can be defined as a multidisciplinary innovation process that puts customer’s needs and expectations at the heart of the new product development process (Romero and Molina, 2016). Authors’ innovation process puts the customer at the centre of the creative (imagine) development and (early) commercialization stages.

Customer-centric innovation can also be considered from the point of view of the business customer. In this meaning customer-centric innovation is an innovation able to provide a potential and real value for business customers that is not exhausted with the technological potential already incorporated in, but it can still meet the current and future applications of business customers (Martinelli, 2019). This innovation has significant implications for many companies in any sector, even the most traditional ones in SMEs. Customer-centric innovations are unavoidable for technology providers operating in a business environment characterized by unprecedented turbulence, volatility, and dynamism (Christopher, 2016).

Figure 1. Customer-centric Innovation Process



Source: own study based on D. Romero, A. Molina, A Multidisciplinary Framework and Toolkit to Innovate Customer-Centric New Product Development, Proceedings: 21th International ICE-Conference on Engineering, Technology and Innovation – June 2015, www.ice-conference.org, available 19.02.2021

Customer-centric innovation raise a range of critical issues that organizations must consider as they utilize customer innovation. The development of organizational processes around customer innovation demands a new lens through which to assess both innovative processes and organizational mission.

Table 2. Critical Issues, Concerns and Checkpoints of Customer Innovation

Type of Customer Innovation	Critical Issue	Checkpoints
Customer segmentation	Customers and categories are dynamic. Staff must be trained and understand purpose. Right types of innovation must guide	Are types of customer information prioritized? Are there customer protection guidelines?

	segmentation to avoid discrimination.	
Customer analysis	Information overload, particularly from automated systems. Systems must be integrated (i.e., form all types of customer interactions). Privacy and security of customer data must be protected.	Can analyses be traced back to specific customers? Are all systems connected?
Customer communication	Complex problems and valuable clients require in-person interaction. High-quality communication must be paramount. Many channels and options for communication must exist for “anytime, anywhere” service.	If outsourced, does customer service still understand customers?
Customer interaction with organization	Investment must be made in infrastructure for agility in adapting to environment. Risks with established relationships whenever communication channels changed. Copycats may rapidly duplicate ideas.	Can the organization’s structure morph? Has groundwork for change been laid with established suppliers, vendors, customers, etc.?
Customer interaction with products and services	Customers and technicians need a common language. Novice and expert customers need to be handled differently.	Are customers segmented by need and expertise? Do technicians interact regularly with customers?

	Channels of communication need to be varied and flexible.	
Products and services outputs	Requires rich, human-to-human interaction. “Sticky” or tacit knowledge can be difficult to articulate. Feasibility must be carefully analysed and customer needs, not specific products, should be identified.	Are there protocols for eliciting knowledge from customers? Are there metrics to evaluate the marketability of ideas?

Source: K. C. Desouza, Y. Awazu, S. Iha, C. Dombrowski, S. Papagari, P. Baloh, J. Y. Kim, Customer-driven Innovation, Research Technology Management, Taylor & Francis 2008, pp. 35-44.

Innovation in the form of final products and services in an implementation of knowledge from the customer defined as the insights, ideas, thoughts, and information the organization receives from its customer. An organization must therefore actively seek out such knowledge in order to be better prepared to implement product enhancements and innovations.

2.22 Digitalization

Digitalization represents one of the key challenges of our time and is associated with numerous consequences for today's economic players. In addition to the provision of a suitable infrastructure at the macro level, the use of technology for the implementation of innovative business models, entrepreneurial processes, and the shortened communication channels in the context of digitalization poses a challenge for many companies (Breuer, 2019). A growing digitalization results in the constant availability of countless pieces of information (data), which must be collected, classified, and used efficiently and in a targeted manner according to individual interests. Furthermore, digitalization is also ensuring that spatial distances lose their relevance, which is rapidly

increasing international competitive pressure for SMEs. Regional companies increasingly find themselves in competition with international monopolies (Breuer, 2019), leading to calls for innovation and individualization of products. The ability to incorporate digital tools into daily work means that entrepreneurial innovations are often initiated or implemented with the help of digital technologies (Accenture, 2015). To provide insight into a selection of existing methods, this report will revisit this topic in the next chapters.

To connect digital technologies and customer-centric innovation, it can be stated that a globally connected world by digital technologies has changed the role of customers radically over the past decades (Schaubmair, 2017; Steinhoff & Breuer, 2014). Customers have gone from a passive, receiving role to a more active, demanding one in which they are “an active co-designer” (Steinhoff & Breuer, 2014). Eric von Hippel was one of the firsts to realise that companies’ profits’ increase dramatically compared to their competitors when they engage in more customer-centric innovation activities (Schaubmair, 2017). Not only does customer-centric innovation improve customer satisfaction, but also it also improves the “product quality, [reduces] risk, and [increases] market acceptance” (Zajkowska, 2017a). Innovation itself is about collaborative learning and working to create something (Edgeman & Eskildsen, 2012).

To further define the term, customer-centric innovation is part of the open innovation philosophy, meaning that the innovation process happens with input from inside and outside of the company to develop new products or services. Research has shown that it is vital to involve the customer at all stages of the innovation process (e.g. Steinhoff & Breuer, 2014; Zajkowska, 2017). In order to do this properly, the company has to know its customers well and gather as much knowledge on their lives, work processes, value chains and value systems, in other words the culture they are involved in (Edgeman, 2012; Schaumair, 2017).

Furthermore, customer-oriented innovations increase both customer benefits and customer loyalty. Because customers are actively involved in the design of products and services and have them shaped according to their needs, the likelihood that these customers will remain loyal to the company in the long-term increases. Trust relationships are thus strengthened, and relationships are built (Hofbauer, 2013).

This report aims to provide SMEs with an overview of the possibilities offered by digital tools for integrating consumer-based innovations into their business models. To

this end, the digital tools presented in the literature and publicly available sources are analysed with regard to their applicability against the background of customer-centric innovations in SMEs. To test these findings, a survey will complement the research to identify the practical application of digital tools. The survey results will be analysed to identify best-practices in the use of digital tools for customer-centric innovation and to supplement the toolbox with methods that have not yet been identified. Finally, tools are examined for their applicability in SMEs and recommendations for application are given.

2.23 Framework Conditions

The level of analysis considered in this report is small and medium-sized enterprises (SMEs) in the 13 associated project partner countries. According to the official EU definition, SMEs can be identified based on staff headcount and turnover or balance sheet total (European Commission, 2021). Table 3 below provides an overview of the characteristics used to determine the size of an enterprise.

Table 3. SME definition

Company category	Staff headcount	Turnover	Balance sheet total
Micro enterprise	< 10	Less or equal 2 million Euro	Less or equal € 2 million
Small enterprise	< 50	Less or equal 10 million Euro	Less or equal 10 million Euro
Medium-sized enterprise	< 250	Less or equal 50 million €	Less or equal 43 million €

Source: European Commission, 2021

2.23.1 Benefits and Barriers of using Digital Tools to integrate Customer-centric Innovation in SMEs.

The diffusion of new digital technologies in innovative activities can become a driving force for the development of new ideas. The very characteristic of innovation in accordance with the Oslo Manual indicates many benefits, which, by improving the efficiency of the company's operations, lead to gaining a competitive advantage by shifting the demand curve for the company's products, e.g. increasing the quality of products, offering new products or gaining new markets or customer groups, or the company's cost curve e.g. reducing unit costs of production, purchasing, distribution or transactions, or relating to the company's innovative capacity, e.g. increasing the ability to develop new products or processes or to acquire and create new knowledge (OECD, no date).

The key benefits of applying new technologies to customer-centric innovation are data collection. The benefit of efficient and comprehensive data analysis and collection in innovative activities is related to the acquisition of knowledge resulting from data transformed into information. According to the Report "Measuring the Business Impacts of Effective Data" (Measuring the Business Impacts of Effective Data, no date), increasing the efficiency of data processing by just 10% can increase productivity by up to 49% in retail sales and by 39% in consulting services. In other sectors, growth of up to 20% can be expected.

Effective data analysis allows you to get to know your customers better, their needs, purchasing habits and preferences in the first place. Thanks to the use of modern cloud solutions and data storage, it is possible to store large collections, which allows constant access to a comprehensive history of customer relationships and analysis of their purchasing behaviour. Enterprises see the advantages of data analysis in terms of customer segmentation and matching strategies to deal with each of them. Thanks to this, it is possible to reveal patterns of behaviour and dependencies that are visible only after creating a full picture that combines, for example, the customer's activity on social media with his place of residence (geolocation) and a promotional campaign at a given time for a specific product.

Another benefit of using digital technologies is the ability to immediately react in real time and communicate with the customer, e.g., when making a purchase decision

and launching an automatic search of internal resources about previous customer behaviours to check if they already have a purchase history or use external sources to supplement his profile.

Effective use of digital tools will allow you to identify the real demand for new products and services on the market, get to know the opinion of consumers about different versions of one article or improve its functionality. As a result, it will translate into an increase in the level of customer satisfaction, improvement of the opinion about the brand and an increase in the level of sales, which according to McKinsey report may increase margin by up to 60% (J. Manyika, M. Chui, B. Brown, J. Bughin, R. Dobbs, Ch. Roxburgh, 2011). For entrepreneurs during galloping changes, the speed of reaction is a source of building an advantage over their competitors.

Enterprises undergoing digital transformation may have concerns about applying new technologies to their innovation activities. As outlined by Bank Gospodarstwa Krajowego et al. (2019), SMEs often face a number of obstacles that hinder digitalization projects. These include, in particular, IT security issues, as well as insufficient digital skills. In addition, SMEs report that poorly developed infrastructure and associated slow internet connections hinder the implementation of digital methods in their value creation.

Skills to manage digital tools for customer-centric innovation vary from classical ICT skills (Cesaroni & Consoli, 2015; Demary et al., 2016). Therefore, targeted skills need to be developed within SMEs to efficiently introduce customer-centric innovation. In addition, unclear responsibilities to manage the collected information hinder innovative activities (Demary et al., 2016). A failure in capturing and processing the collected customer information may lead to incomplete pictures of customer needs, which results in additional effort to introduce customer innovation (Schaubmair, 2017).

Besides required IT skills, companies often face the hurdle of uncertain legal environments with respect to competition and property laws as well as liability regulations when collecting customer data. Especially the collection of personal data and varying regulations in the international context represent obstacles (Demary et al., 2016).

High investment and training costs appear to be one of the key concerns in the implementation of digital solutions in innovation activities. The transition to digital solutions involves costs for the purchase of both new IT infrastructure and software.

This often exceeds the development capacity of enterprises, especially smaller ones with limited financial resources. In addition, the introduction of new solutions in the functioning of the enterprise is associated with the change of processes, in particular the need for employees to switch to new tools for the functioning of the organization. This means training employees in new tools and how to use them. It is also possible to employ new specialists with specific competences necessary for the proper functioning of new functionalities or the entire equipment. In the calculation of switching to new operating methods, infrastructure maintenance costs should also be added. As a result, the overall cost of transforming an enterprise may exceed the company's financial capacity. This risk also entails the need for additional equipment (Zajkowska, 2021).

Another barrier is related to the potential misuse of data and manipulation. Enterprises realize, which has repeatedly appeared in the results of this study, that information is currently the greatest value in business. Effective information management starts with establishing an appropriate methodology for its collection. Data can come from many sources - both from inside the organization and from outside.

The inclusion of intelligent technology in the production processes leads to the gradual replacement of the natural strength and abilities of humans with robots. As a consequence, it means the loss of some jobs previously occupied by people.

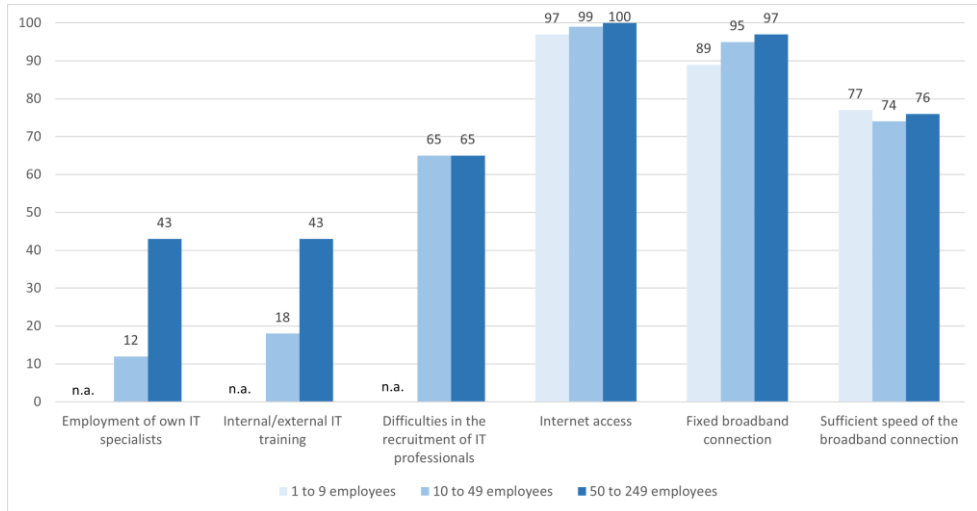
However, the risk may be the increased dependence of employees on technological support, which makes the company vulnerable to technological failures. In addition, the efficiency savings from digital manufacturing require high initial investment and training costs as complex technical equipment and a high level of expertise are required. Likewise, technological limitations in terms of size and production speed must be taken into account, for example the quality of 3D printed products, in particular surface properties, is in constant need of improvement. In addition, digital manufacturing processes can also become targets for abuse and manipulation.

2.23.2 Framework Conditions for the Implementation of Digital Customer-based Innovation: Case studies – Germany

When looking at the digital infrastructure in Germany, it can be noted that almost all SMEs in Germany have access to the internet. Only among microenterprises have 3 percent of SMEs and 1 percent of those with 10 to 49 employees stated that they do not have internet access. This means that the biggest external barrier to the realisation of customer innovation via digital tools has been passed (see figure 1). A similar result can be seen for the availability of a fixed broadband connection. Here, too, the proportion of micro enterprises is lowest at 89 percent, followed by the medium size category at 95 percent. 97 percent of SMEs with 50 to 249 employees have a fixed broadband connection. However, SMEs' assessments of the quality of the digital infrastructure point to potential for improvement. For example, the available speed of the broadband connection for the activities of microenterprises is most satisfactory (77 percent rate the speed as sufficient).

Furthermore, the examination of the framework conditions also shows that less than half of the SMEs employ their own IT specialists. There are clear differences between the company size categories. While 43 percent of large SMEs state that they employ IT specialists, this is the case for only 12 percent of SMEs with 10 to 49 employees. The shortage of skilled workers often discussed in the literature is confirmed by SMEs irrespective of employment size classes. 65 percent of SMEs stated that they had experienced difficulties in hiring IT specialists in 2020. While 43 percent of large SMEs were able to compensate for this skills shortage through internal and/or external IT training, only 18 percent of SMEs with 10 to 49 employees had this opportunity to bring the required expertise into the company. Different continuing education formats can serve as a sustainable way to acquire basic knowledge.

Figure 1 Framework conditions for digital customer-based innovation in Germany, 2020, in %



Source: Federal Statistical Office (2021) ICT indicators for companies: Germany, years, employment size classes

2.24 Derivation of a Digital Toolbox

The following chapter intends to provide insights into existing digital technologies and tools to realize customer-based innovation. As mentioned, SMEs often face resource scarcity and therefore may be confronted by a shortage of specific digital skills. While some companies are already familiar with certain digital solutions, this technology may be new territory for other companies (International Chamber of Commerce Argentina, 2020). Moreover, digital technologies cannot be confined to a firmly defined area. Rather, they are embedded in countless processes, marketing or organizational methods and can be individually adapted or expanded to meet the specific SME's needs (Nepelski, 2019). Due to these facts, a broad range of digital tools will be assessed. The following subchapter will provide a thematic introduction to the digital transformation and the new technologies that have emerged as a result. Digital tools that companies

can use within the framework of the technologies described to initiate customer-centric innovations are then presented to derive a digital toolbox.

2.24.1 Digital Transformation – New Technological Trends

The digital revolution, leading to a radical reduction in the costs of storing, processing, and transmitting information, changes the way the economy functions, especially for SMEs. The environment in which SMEs operate in EU countries is constantly changing. Customer expectations are constantly growing, and the future is becoming harder and harder to determine. This means the necessity to constantly monitor and analyse the conditions of business and competition on the market. In addition to focusing on development in the long term, flexibility, speed of action and adaptation to the expectations of buyers, as well as competing in quality are the elements that distinguish digital companies from those with an analogy profile. Their market success results from the ability to define ambitious goals and their efficient implementation. Next step for SMEs is to adapt to the ongoing digital transformation and use the right digital tools.

Gartner ('Top 10 strategic technology trends for 2018', 2017) identified three overarching current technology theme trends as the foundation for successful business activities in the digital era: intelligent, digital and mesh. It argues that, in order to achieve competitive advantage, firms must search for opportunities along this 'intelligent digital mesh'.

The first technology trend theme, intelligent, addresses the emergence and spread of artificial intelligence (AI) and its applications in analytics and intelligent things. Artificial intelligence (AI) refers to the growing ability of computers to perform activities that previously required the involvement of human intelligence (A. Agrawal, J.S. Gans, 2017). Artificial intelligence can process large amounts of data in less time than the human brain allows (Hoffman, 2016). Opportunities in this topic include the replacement, extension and improvement of activities and efficiency previously performed by human resources.

This topic also covers the possibilities of so-called smart things that combine the Internet of Things (IoT) with AI-based analytics. IoT technologies refer to information and communication networks or environments where objects are equipped with sensors that allow them to interact with each other and potentially operate autonomously. As a result of increasing levels of connectivity and interaction provided by IoT technologies, large amounts of data have become available. This gives great opportunities for enterprises, including those less technologically advanced, to carry out Big Data analyses in order to use them effectively (Picot and Loebbecke, 2015).

Another technological area is the digital trend, which refers to connecting the real and virtual worlds to create a digitally enhanced environment. It covers all forms of integrating digital technologies into manufacturing processes and workflows. Digital manufacturing refers to computer-controlled manufacturing processes such as additive manufacturing and the use of digital twins in the manufacturing process. Additive manufacturing, i.e. 3D printing (R. Jiang, R. Kleer, 2017), consists in combining materials layer by layer with a solid based on a digital 3D model. The materials used for 3D printing cover a wide range of substances from steel, plastic, cement and even wooden parts. Digital twins are virtual replicas of physical objects during the manufacturing process that can help predict key variables and enable fast and inexpensive digital experiments.

In addition, experiences created with the use of augmented reality (AR) technology (M.E. Porter, no date) play an increasingly important role in the field of digital technology trends. Augmented reality is about enriching the real world with digital functions in order to provide new forms of perception of the environment. AR technologies also enable users to interact with digital technologies in new forms.

The third technological area relates to the networking trend of connecting people, organizations, and technologies to generate and deliver digital results. Key to this area is Blockchain technology (D. Tapscott, 2017), which refers to a peer-to-peer network that enables and records transactions based on an open, distributed ledger. Its potential underlying business impact ranges from its original use as the foundation of the Bitcoin cryptocurrency to the overall digitization of transactions. Another type of networking technology is digital platforms (M.W. van Alstyne, G.G. Parker, 2016) that aim to create a network of connections. They represent the technological foundations enabling direct communication and interactions between different groups of actors. The platform

owner usually controls the operation of the platform and enables interactions and transactions between the manufacturers who make up the platform's offer and the consumers who buy or use these products and services. Platforms have indirect network effects because the more users on the producer or consumer side, the more attractive the platform is to the other side. In addition, a critical mass of actors on each side is critical to the platform's potential success. In the light of the presented considerations, a wide range of digital technologies can be noticed that can be used in innovative activities of enterprises. However, economic practice shows that not all the opportunities offered by new technological trends are used, and the level of their implementation in individual types of innovation varies.

2.24.2 Digital Tools for Customer-centric Innovation

The following subchapter will describe a selection of digital tools to realize customer-centric innovation covered by the literature. As mentioned, the following tools are applicable to be implemented in different stages of the customer-centric innovation process to collect needed customer information.

To begin with, a basic digital tool is the company website. A clearly structured website helps customers to get an idea of the company and its products. By providing a direct contact person, their email address or a clearly accessible contact form, questions and requests from customers or interested parties can be efficiently recorded and processed. The assignment of clear internal responsibilities and the establishment of internal customer management processes, e.g., via customer relationship management tools, support the processing of incoming customer inquiries and helps to capture customer needs on the demand side (Cesaroni & Consoli, 2015; Liang & Tanniru, 2007). Closely related to the website is the use of emails. Emails serve as another basic tool to enable general communication with customers. With the help of emails, customer inquiries as well as newsletters can be used to build a digital network (idid.).

To successfully integrate customer requests that may lead to customer-based innovations the establishment of suitable communication channels is of particular interest. It is important to ensure that the tools used are easy to use for both customers and SMEs. A generally widespread method of integrating consumers into operational

processes is the use of social media platforms (e.g. Facebook, Instagram, LinkedIn). The rapid exchange of information taking place in these platforms can both promote collaboration between customers and companies and expand entrepreneurial innovation networks (Deloitte, n.d.). In additions, social media provides access to a new, fast, innovative way of communicating with customers, creating new ways of collaboration, thought sharing and co-creation. Furthermore, products or services can be co-designed, co-produced and enhanced by interaction between companies and customers. Therefore, with the social media revolution, consumers have expanded their role from passive to active consumers (Cesaroni & Consoli, 2015).

It is important for SMEs to be authentic and personal on social media. It is also important for companies to actively use their social media and to engage with both already established and potential new customers through competitions, quick responses or by sharing user-generated content. This can be a photo of a product, an opinion or feedback, or simple open questions to engage with customers and show them that you value their opinion on potential new developments and products (Carter 2019; George 2019). Nevertheless, SMEs can also use social media without a major strain put on their (financial) resources due to its accessibility and little or no monetary investment needed.

Besides the before mentioned channels, social media also offers the opportunity to use forums, blogs or other social media platforms to further establish relationships with customers. These relationships can be used to collecting first-hand information of customers (Cesaroni & Consoli, 2015). In addition, companies can collect data from customers visiting their website and social media presence which can be used to generate more customer-centric innovation. Digitalisation therefore enables companies to perform better in the long run because these companies are usually more connected to their customers and the markets they operate in (Columbus, 2020).

A further integration of digital tools for the realization of customer-centric innovation lies in the use of the web 2.0 in SMEs (Liang & Tanniru, 2006). Web 2.0 describes a socio-technological change in the usage of the internet, from a traditional information sharing and e-commerce to a participation of the web users to generate additional benefits. Therefore, the internet is transformed into a productive platform. The focus lies in gathering different kind of data that is available on the world wide web. As examples of web 2.0 tools, Wikis and social tagging can be named. While wikis enable users to publish information on a specific topic online (so-called crowd sourcing), social tagging

describes the collection of meaningful, intuitive and high-quality keywords that enable context indexing of information objects and implemented to improve or refine search results (e.g. on a corporate webpage) (Siepermann, 2021).

It can be summarized that the described technological tools can foster the knowledge acquisition, transfer and elaboration for customer-centralized innovation. Customer data can be collected in various ways such as through customer feedback, during transitions or by using cookies and web-server logs (Castagna et al., 2020). Furthermore, the authors emphasize that relational tools such as email, blogs or content management systems enhance communication between companies and customers, while collaborative tools such as social media improve knowledge sharing and relationship building. With respect to a company's marketing activities, digital tools such as mobile and banner advertising or direct email marketing (e.g. newsletter) help to gather customer data and share knowledge.

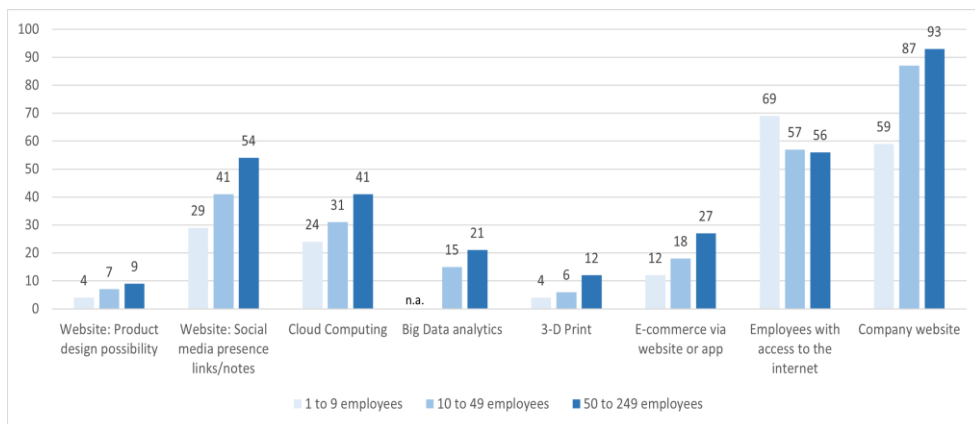
2.25 Applied Instruments, Methods and Procedures to Customer-centric Innovation in SMEs

The quantitative study of ICT indicators by the German Federal Statistical Office shows that more than half of SMEs had an internet presence in the form of a company website in 2020 (see Figure 2). SMEs with 50 to 249 employees occupy a pioneering position here with a share of 93 percent, followed by 87 percent of SMEs with 10 to 49 employees. The taillight is the microenterprises, 59 percent of which operate a website. On a positive note, 69 percent of employees in microenterprises have access to the internet. This is true for 57 percent of SMEs in the medium employment size category. SMEs with 49 to 250 employees bring up the rear with a share of 56 percent.

A further, closer look at the use of corporate websites in SMEs shows that large SMEs especially (54 percent) use this opportunity to draw customers' attention to the company's social media channels. This tool offers further opportunities to establish direct contact with customers. This connection is also used by 41 percent of SMEs with 10 to 49 employees and 29 percent of SMEs with 1 to 9 employees. Direct opportunities for customers to configure the desired products according to their own ideas are

not yet widespread in German SMEs. Only 4 percent of small SMEs, 7 percent of medium-sized SMEs and 9 percent of large SMEs offer this option in 2020.

Figure 2. Applied instruments, methods, and procedures to customer-centric innovation in Germany, 2020, in %



Source: Federal Statistical Office (2021) ICT indicators for companies: Germany, years, employment size classes

When considering the use of technologically and time more demanding digital tools, it can be observed that SMEs in the higher employment size categories are more advanced in their use of these than microenterprises. For example, just under a quarter of microenterprises use cloud computing applications to make areas of internal data processing and exchanges with customers more efficient e. g. by using cloud emailing. These digital solutions are integrated in 31 percent of companies with 10 to 49 employees and in 41 percent of SMEs with 50 to 249 employees.

Due to a shortage of data for microenterprises, it is not possible to provide insight into the integration of Big Data analytics methods for these companies. However, it can be seen that the integration of this technology is already taking place in medium-sized SMEs (15 percent) and large SMEs (21 percent). This offers great potential for evaluating the diversity of existing customer data in a targeted manner for the development of products and services.

On the contrary, strong differences can be seen in the use of additive manufacturing technologies in the area of 3-D printing processes. Above all, SMEs with more than 50

employees are using the possibilities of 3-D printing as part of their business activities in 2020. With a share of 12 percent, this digital method is applied two times more frequently in large SMEs than in medium-sized SMEs (6 percent). 4 percent of microenterprises state that they use this technology.

The benefits of e-commerce, such as rapid customer identification and communication, were used by 12 percent of microenterprises in Germany in 2020. With a share of 18 percent of SMEs with 10 to 49 employees, the influence of company size on the digital integration of e-commerce solutions based on sales via a website or app is not very pronounced. For 27 percent of SMEs with 50 to 249 employees, the use of e-commerce is already part of the business model.

2.26 Digital Technologies for the Realization of Customer Innovations – Application Notes

The following chapter will derive application notes for the described tools and technologies to initiate and to perform customer-centric innovation activities in SMEs. To do so, a comprehensive table will be developed, displaying the technologies and tools described and an assignment to technology types will be made (table 4). Furthermore, the technologies and tools will be matched with a selection of innovation stages in the process of customer-centric innovation activities (table 5). Then, obstacles and benefits of these tools will be assigned (table 5), followed by recommendations for application of customer-centric innovation projects. In general, it needs to be emphasized that this overview of application notes is not final and needs to be enhanced as new tools and technologies develop. Also, the table is not to be interpreted as a ranking of tools or technologies applicable for SMEs, but as a general overview. Since individual SMEs have individual technological or human preconditions, wishes, and aims for the realization of customer-centric innovation, each SME may make use of the technology or tool that fits their needs best and therefore also experiences individual benefits or challenges that might occur along this process.

Table 4. Tools for customer-centric innovation by technology type

Tool	Type		
	Analog	Digital	Mesh
E-Mail		x	
Newsletter		x	
Company website		x	
Chatbot		x	
Mobile & banner advertising		x	
Online advertising		x	
Social Media (passive e. g. forums, blogs)		x	
Social Media (active e. g. LinkedIn, Facebook, Instagram)		x	
Q&A		x	
Customer support			x
Computer-controlled manufacturing		x	
3-D printing		x	
Internet 2.0 (e. g. Wikis, Social tagging, crowdsourcing)		x	
Content marketing		x	
Survey, questionnaires, interviews			x
Focus groups	x		
Brainstorming			x
Observations			x

Test groups			x
Field tests	x		
Simulations			x
Visualizations			x
Living labs	x		
Diary Search	x		

Table 5. Tools and technologies for customer-centric innovation by innovation stage

Innovation stage	Applicable tools & technologies
Market research / Exploration	<p><i>Tools:</i></p> <ul style="list-style-type: none"> • Forums, blogs, E-Mail, Social Media (active), Social Media (passive), Interviews, Surveys, Observations, Test groups, Living labs, Diary Search, Crowdsourcing <p><i>Technologies</i></p> <ul style="list-style-type: none"> • Web2.0, Knowledge management systems, Enterprise resource planning, Artificial intelligence, Big data, customer relationship management, Digital platforms
Idea creation	<p><i>Tools:</i></p> <ul style="list-style-type: none"> • Simulations, Visualizations, Living labs, Support Team, Social Media (active), Social Media (passive), E-Mail, Test groups, interactive company website, Q&A <p><i>Technologies:</i></p> <ul style="list-style-type: none"> • Big data, Artificial intelligence, cloud computing, customer relationship management, digital manufacturing, digital platforms, internet, knowledge management, Web 2.0

<p>Prototype development</p>	<p><i>Tools:</i></p> <ul style="list-style-type: none"> • Living labs <p><i>Technologies:</i></p> <ul style="list-style-type: none"> • Internet of things, Augmented reality, Big data, Digital manufacturing, Digital Twins, Internet of Things
<p>Prototype testing</p>	<p><i>Tools:</i></p> <ul style="list-style-type: none"> • Simulations, Visualizations, Social Media (active), Focus Groups, Interviews, Observations, Test Groups, <p><i>Technologies:</i></p> <ul style="list-style-type: none"> • Virtual reality, digital twins, Augmented reality, Internet
<p>Product and service development</p>	<p><i>Tools:</i></p> <ul style="list-style-type: none"> • Chat bots, Support team, Social Media (active), Social Media (passive), Interviews, <p><i>Technologies:</i></p> <ul style="list-style-type: none"> • Internet of things, Artificial intelligence
<p>Commercialization</p>	<p><i>Tools:</i></p> <ul style="list-style-type: none"> • Company website, Social Media (active), online advertisement, Field tests, Newsletter, Blogs, Forums, Content marketing, <p><i>Technologies:</i></p> <ul style="list-style-type: none"> • Internet, Digital platforms, Cloud computing, Web 2.0

2.27 Recommendations for the Implementation of Customer-centric Innovation

- Develop protocols to elicit knowledge.
- Develop metrics to evaluate marketability of ideas.
- Targeted segmentation of customer's involved in innovation process.
- Think broad- is your customer private/corporate or a public actor?
- Targeted segmentation of personnel involved.
- Prioritization of customer information.
- Understand the 'story' of your target customers (e. g. value chains, culture).
- Customers are dynamic, specific training needed to capture desirable information.
- Tools should be easy to use by personnel and customers.
- Regular interaction with customers.
- Align organization structure to fully match needs to customer-centric innovation in all fields.
- Development of customer protection guidelines.
- Active outreach for external knowledge by the company.
- Development of a common language between company and customers.
- Lack of general skills for customer-centric innovation might have a negative impact on customer-centric innovation process.
- Matching company strategies to meet customer preferences.
- Human-to-human interaction fosters the transfer of sticky knowledge.
- In-person interaction helps to minimize communication issues.

3 Two SME-specific Further Training Programs

In the ICIinSMEs project, two SME-specific further training programs

- Digital competence training programs and
- Customer-centred Innovation training program

were developed, tested and evaluated under different national conditions, revised and finalized on the basis of the evaluation results and implemented. In the following chapter, concepts, curricula as well as summaries and recommendations of the evaluations and implementations are summarized for both trainings. The detailed results including teaching materials, examination regulations, implementation and evaluation reports can be found with free access on the project website <https://ci-smes.eu/>.

3.1 Digital Competence Training Program

3.11 Introduction

During the era of computers, digitalization has changed the world piece by piece. We are talking about Industry 4.0, generation Z, mega trends. A huge opportunity to sell products and services all over the world - Globalization. Doing business is nowadays mostly communication with and via digital systems. Some people say that digitalization makes the world smaller.

Digitalization can give some advantages and disadvantages in relation to having a company. The advantages; companies can sell products all over the world and disadvantages that your customers can buy products from other suppliers - all over the world and often cheaper. A countermeasure to this trend is to invite your customers and bring them closer to you and your organization - your products and services. Perhaps by involving them. Involve and give the customers a good and easy opportunity to be a part in an innovative process. We call it “*customer-centric innovation*”.

Basically, we need to rethink the way companies do business and behaviors and the way we think about customers. New tools have been and will be developed. Terms like Big Data, Artificial Intelligence, machine learning and data analytics have already become known in many sectors of business management, like marketing, engineering and designing. Unfortunately, we nearly only see this in big companies. SMEs, especially in eastern Europe countries, are behind and are more conservative when adopting the new technology, looking for new markets and ready to engage their existing customers.

However, the complete benefits of new possibilities can be gained only if the entrepreneurs and managers of companies have an overall view of technology, methods and opportunities they offer.

The aim of this course is to enable target groups to have such an overall view that they understand opportunities, benefits, and risks of digitalization, including the ethical aspects.

3.12 Course

This course has been designed to fulfill the needs described above. The training, which contains both theoretical lectures, group works, and practical training will be set to EQF- levels 4 or 5.

The target groups of this training are:

- founders,
- owners,
- managers,
- employees and
- company consultants / advisers.

of and for SME companies.

The learning objectives of this course are set to serve SMEs in digitalization and innovation as well as possible. The concrete learning goal is that after attending the

course the trainee has at least a sense of what innovative behavior, digitalization and digital tools can bring to his / her own business.

The learning objectives are:

- Trainees understands the importance of digitalization in a globally world.
- Trainees understand what “*digital customer-centric innovation*” is
- Trainees understand the importance for a company, why and how to involve customers.
- Trainees knows two analyze tools for internally use, maturity of innovation and IT.
- Trainees knows the contemporary basic concepts of digitalization – the relevance of topics in this area should be ensured before each training session / course.
- Trainees knows the basic about digital international payment and transactions.
- Trainees knows tools that a SME can utilize when digitalizing their innovative process.
- Trainees has applied the tool during his / her practice period.

This course is divided into three parts. The training begins with a 1.5 – 2 days theoretical part, during which the basic issues of each topic will be clarified by presentations and group work. This part will be followed by 12 – 18 weeks practice period in the company, during which the participant gets acquainted with the topics of the course in point of view of this company. During the practice period the participant will also prepare a presentation concerning the findings and ideas he or she gained during that period in the company. After the practice period is completed, a seminary of 1.5 – 2 days will be hold. In this seminary the participants will present their findings, discuss their experiences and ideas, and finally, everything will be concluded with a lecture / course / seminary.

1. Leading training
2. Practices in companies
3. Concluding seminary

3.13 Part I: First Workshop

Goals and tasks of the first workshop are to enable knowledge transfer regarding digital customer-centric innovation,

- create a common basis of knowledge among the training participants concerning global and international market opportunities.
- create a common basis of knowledge concerning digital innovation.
- create knowledge concerning international digital payment systems.
- create knowledge regarding the customers of tomorrow – generation Z.

During this 1.5 to 2-days workshop the participants get to know (usually science-based) and digital pilot-models (prototype) and instruments from project-related research for structuring and solving problems and learn to apply them (mentally). This is intended to create a common conceptual basis for the further procedure in the training.

The models, digital tools and instruments presented as examples and design recommendations for practical use, ideally form a common framework in which, in particular, the existing experiences of the participants are to be integrated in order to pursue the training objectives. The experience of the participants should serve to supplement or modify the proposals for structuring and solving problems given by the research.

Thus, at an early stage of the training, a necessary adaptation of the proposed models and instruments to the individual needs and characteristics of the participants on site, usually with different frameworks and conditions, should take place.

Before the first workshop, a trainer / consultant designing the course should select and modify the models, instruments and other material applicable to just this country, area, branch and companies in question. The material presented in this curriculum consists of common examples and works as models and stimulus for trainers.

It is a task of the trainers / consultants to take into account the individual needs and particularities of the participants on site in a face-to-face training. This requires a high degree of knowledge and experience with the use of interactive and participant-centered didactic methods on the part of the trainers. A further focus of the first part of the training is to introduce the participants with the planning, implementation and

critical evaluation of their own project work they are involved in the second part of the training. Thus, another central goal of this part of the training is to give the participants important impulses for the implementation of the presented models and instruments in their own project. The application and implementation of the presented models and instruments by the participants "at home" is, so to speak, the focus of the second part of the training concept.

First day

Note: The material presented below is examples and stimulus, which should be applied and modified according to the country, area, culture, background, level and needs of trainees, and also according to knowledge areas of trainer. The times are suggestions and may vary depending to the weighting of topics (see above).

	Time	What?	Materials
1	8:00	Welcome and presentation. Perhaps an icebreaker?	Evt. Name tag - Challenge
2	8:15	Theme 1; The world as "local" market	
	10:00	Short Break	
3	10:15	Theme 2; Internally analyzes	
	12:00	Lunch	
4	12:30	Theme 3; Extern analyzes	
	14:00	Coffee and tea	
5	14:15	Theme 4; Innovation strategy	
	15:30	End day 1	

Second day

	Time	What?	Materials
6	8:00	Welcome following up on that we discuss yesterday	9 dots - Challenge
7	8:15	Theme 5; Practice digital innovation tool	
	10:00	Short break	
8	10:15	Theme 6; International payment	
	12:00	Lunch	
9	12:30	Theme 7; How to handle data	
	14:00	Coffee and tea	
10	14:15	Theme 8; From analyze to action	
	15:30	End – next step	

3.14 Part II: Learning at the Workplace and Project Work

(12 - 18 weeks self-study and practice in company)

During the company specific practice students compile the assessments given during the training phase in the point of view of each company (general maturity of innovation and IT, answering to the questions presented above describing the contemporary situation, what should be done, how, are there barriers and / or enablers, how to evaluate. The results will be briefly presented in the concluding seminary, separate or together with the project work presentation.

The goals and tasks of the self-study-phase are:

1. Accompaniment and support of change processes in enterprises, from the formulation of objectives, description of measures, conception of implementation to impact analysis by training and process-oriented, if necessary, also technical consulting,
2. Application and transfer of knowledge into the individual practice of the participants on site

In this part, the participants have the task of applying the knowledge acquired in the first part and the knowledge of how to shape their own practice in the sense of the training idea in their companies / organizations. For sustainable learning, it is necessary that they plan, implement, evaluate, critically reflect and document their own project or activities to improve a situation on site under their individual framework conditions in the "here and now".

This phase with the duration of approx. 12 – 18-weeks is accompanied and supported by professional advice and support given by the trainers / consultants. In principle, the participants should apply and implement the knowledge they have acquired in Part 1 themselves. As a rule, however, advice and support are often required in order to apply the process of adapting the knowledge acquired in Part 1 of the training appropriately under the real conditions on site and to lead one's own project to success.

The support given by the trainers can vary from a rather simple general consultation in the sense of passing on relevant information to an intensive accompaniment in the sense of coaching. In individual cases, it is usually necessary to find out, what kind of support it is needed to enable the individual participant to pursue his or her individual project goals.

In this phase, it is quite possible and even usual, that, when applying the models and instruments presented in the first phase in practice, the individual project proceeds differently than initially thought and planned by the participant. Even in such situations, the trainers of the project team can provide valuable support in pursuing the "actual" project goals.

This second part of the training enables in particular the very welcome didactic aspect of working on concrete improvements in one's own company / at one's own workplace, which is associated with a high motivation to learn. In this learning process, the company management and other employees are usually intensively involved in what is actually done at the workplace, thus achieving joint learning and strong multiplication effects in the training.

Further advantages, i.e. what has been learnt, is directly implemented in everyday business life, or the innovations associated with project work are in the interest of company's management, quickly become visible and motivate managers to promote further training for the workforce and to use it as a strategic instrument of company management. The advantages also respond to the particular needs of small and medium-sized enterprises, which are constantly suffering from a lack of time as the biggest obstacle to training.

3.15 Part III: Conclusion Workshop

(1,5 – 2 days seminar – 15 hours)

Goals and tasks of the conclusion workshop are to

- reflect (evaluate) on the successes in the dimensions of individual, operational and structural changes and change processes,
- identify supportive and obstructive conditions of change processes and
- derive “lessons learned” for further change processes.

In the third part of the training, the participants will present and discuss the experiences and the insights gained as well as their individual projects. Both the participants and the trainers have as their particular task to review the projects and to reflect on whether, or respectively what, contribution they make to the sustainable pursuit of the overarching training idea to strengthen the capacity and ability for innovation-policy and workplace innovation. The exchange between the participants can provide them with very valuable impulses on how to make their own project even more successful.

In this context, an important goal can also be to show which major obstacles are responsible for "not-yet-successes" in order to work on this in the future.

The role of the trainers/consultants is to

- Enable constructive exchange between the participants,
- Focus on the common basis for the pursuit of (general) training objectives, and
- Moderate an instructional discussion on the identification of supportive and obstructive conditions of change processes and present contributions for a possible reduction of resistance in the tracking of individual projects.

Note: Two shorter pauses (with coffee) and one longer pause (lunch) will be held during each day.

First day

- 1) Welcome, registration and material, 0,5 hour
- 2) Presentations of students, discussion and the feedback of the trainers – continues, if needed, in the second day.

Second day

- 3) Customer-centric and innovation – Concluding lecture including:
 - Concept of Human capital
 - How the digitalization can help daily work
 - How the digitalization can help sales force
 - How the digitalization and innovation can help management
 - How the digitalization can help strategy planning
 - How the trainees can / should continue with their own project / company / business
 - Length 2-4 hours, depending to the time allocated for student's presentations.

End of the course, diplomas, etc.

3.16 Internal Analyses Tools

A screening process to measure the maturity of innovation.

The following questions are guideline for a semi structured interview so you, as a teacher/consultant, have a better knowledge about the company. Important to higher the validity in the interview is getting answers from several employees (minimum 8-10) in the company.

Do you give bonus for innovative ideas?

Do you have a culture that it is OK to do mistake in the company?

Do you disseminate your innovative projects?

Do you know who your customers of tomorrow are? Yes / No

Is it normal in your business area to innovate? Yes / No

Do you have an Innovation strategy in your company? Yes / No

Do you have innovation financial statements? Yes / No

Do you have KPIs to measure Innovation in your company? Yes / No

Do you involve employees in innovation projects? Yes / No

Do you have project managers to manage innovative ideas? Yes / No

Do you guide your employees for Innovation Courses? Yes / No

Do you use innovative software in relation to customers? Yes/ No

Scale under-
standing.

0 = Non

5 = medium

10 = All ways

How much is innovation a part of your culture in your company? Scale 0-10

How much do you (as a company) normally involve your customers in an innovation process? Scale 0-10

How much do you (as a company) normally involve your suppliers in an innovation process? Scale 0-10

How good are you (as a company) to share knowledge/ideas with customers or suppliers? Scale 0-10

How often do you do living labs? Scale 0-10

How often do you do field tests? Scale 0-10

How fast will you say you can improve new ideas in your own company? Scale 0-10

After you have done the interview, you have a good opportunity to coach the company in a more innovative direction and ask yourself; does this company have a 1)

inhibitory innovation culture 2) normal innovation culture or 3) developing innovation culture.

A screening process to measure the maturity of the company – IT

Digital Readiness/maturity level questions	Company		Customers	
	YES	NO	YES	NO
Do you have personal emails?				
Do you have a website?				
Do you have a web-shop?				
Do you have a digital order system?				
Does your website have a chat function?				
Does your website have a FAQ section?				
Do you use e-Banking?				
Do you confirm online automatically?				
Do you have a CRM-system?				
Do you send out digital invoices?				
Do you save your documents in a sky?				
Do you save your documents locally on your computer?				
Does your company have social media (Facebook, LinkedIn etc.) presence?				
Do you have a chatbot?				
Do you do online training?				
Do you have e-digital support?				
Do you work with big/right data?				
Do you utilize online meeting systems, i.e. Zoom, Teams etc.?				
Do you ever receive digital feedback from customers?				
Do you have an it-employee in the company?				
Do you buy it-guidance/help externally?				
Do you have a e-marketing budget?				

Do you have a e-marketing employee (content marketing)?				
Do you have customers living + 50 kilometers away from you?				

3.17 Links

- <https://ci-smes.eu/>
- https://ec.europa.eu/growth/smes_en
- <https://www.tuni.fi/en/study-with-us/computational-big-data-analytics>
- <https://www.aalto.pro.fi/en/aalto-leaders-insight/2018/excellent-discussions-on-digitalization-and-the-ethics-of-ai>
- <https://www.nationalgeographic.org/encyclopedia/globalization/>
- https://www.researchgate.net/publication/275133520_The_digital_generation
- <https://www.pwc.co.uk/issues/megatrends.html>
- <https://www.quora.com/What-is-an-innovation-What-are-some-of-the-modern-innovations>
- <https://www.walkme.com/glossary/digital-innovation/>
- <https://www.sciencedirect.com/science/article/abs/pii/S1471772718300757>
- <https://kvanto.com/>
- <https://razorpay.com/learn/digital-payments-india-definition-methods-importance/>
- <https://analytics.google.com/analytics/web/provision/#/provision>
- <https://www.mentimeter.com/>

3.18 Main Findings and Conclusions

Implementations in Olsztyn

Participants were very satisfied; they not only took theoretical knowledge from the training but also practical skills. Many of the trainees expressed a desire to participate in similar trainings and see a very great need for further training in the subject of digitalization and innovation. Therefore, we plan to continue training in this area.

During the course there was a huge opportunity to have dialogues, reflections, and a beautiful space to learn new digital skills.

Implementations in Kolding:

A good course with good and eager to learn. Interesting and exceptional good learning environment. Perfect materiel, exercises and presentations. Good food. The participants were “hungry” for more learning.

The training was perfect, and the participants were satisfied with the course, material and teacher.

The training was too short. Beside this, it could be interesting to have a digital process only with one company (and their employees) and then some customers to this one company. And then in combination with the innovation course. It could be interesting to see what the output would be?!

The course was a success. All the participants evaluated themselves to have received, learned and trained their digital skills and competences.

The strengths were that there were participants from many different companies. But this was also the challenge. An ideal wish is to design a scoop only for one company and their customers to come closer to “digital customer-centric Innovation”-idea.

A funny course with good and eager to learn participants. Interesting and exceptional good learning environment. Perfect materiel, exercises and presentations. Good food. The participants were “hungry” for more learning, but also realise that they have huge challenges back in their own companies. Because how can they improve those innovative thoughts in their own SMEs and is the company/organization ready to think and act innovative?

The strengths were that there were participants from many different companies. But this was also the challenge. My wish is to design a scoop only for one company and their customers to come closer to “digital customer-centric Innovation”.

The training will be continued by the partner in the future for managers and leaders in SMEs.

Implementations in Budapest

Based on the completed evaluation forms, it can be concluded that the participants were largely satisfied with the training. The training was rated as useful what encouraged them for further development plans.

According to the assessment, one of the peculiarities and not a weakness of the training was that it was attended by the smallest enterprises. In this way, we were able to get to know their reactions and test the training at their level of development. It is likely that in companies with more employees, the training could provide many other experiences. We were glad that such small businesses took part in the training, because in Hungary businesses without employees and those with very few employees make up the largest part of businesses. The use of offline and online digital marketing processes at the same time in the case of such small businesses usually exceeds their financial capabilities, although it is clear that the simultaneous use of both can be really effective. There is still a need for many more similar trainings offering industry-specific solutions in order to convince the masses of micro-enterprises. For this, it would be very important to start state support programs in this area as well.

We have already summarized certain conclusions in the points above. In addition, we must emphasize once again that much more projects, support, information, persuasion and services are needed in order to speed up the catching up of the micro business sector in this area. Our very important comment is that this is extremely necessary, because there is a growing labour shortage in repair and installation work, especially in the field of new technologies that are already digitized.

The strength of the training, in our opinion, is exactly what we explained earlier, that we managed to attract companies working in the most diverse professions to the training and this helped that the general digital elements could be better defined during the training and coaching process. Another strength of the training was that we were able to do this taking into account the experiences of the Danish project partner.

In our opinion, it would be a great step forward in training if we could strengthen this knowledge even with an online service period and thus reach a significantly wider circle of entrepreneurs. Of course, we continuously deliver these results to the entire membership of our more than 160 industry associations.

We recommend writing a project that could facilitate the operation of such an online service for organizations like ours. Organizations that include family, micro and small businesses do not have a team of experts that can provide specialized services, so we have to use these experts on a contract basis from the outside.

We also recommend thinking in the direction of how the generally proven digital procedures could be effectively supplemented with the special needs of larger professional sectors.

What we were able to do in this project was to create the opportunity for our entire base of industry associations to carry out similar training in their own region or profession, and we can also provide specialists and topics for this. The extraordinary advantage of our industry associations is that they usually have the necessary premises and infrastructure for such trainings and their network is nationwide.

Implementations in Wrocław

In our opinion, a key aspect within the ICIinSME project is the compatibility with the implementation of the fourth industrial revolution programme, the so-called Industry 4.0, related to the digitalisation of the economy, in particular industry. The widespread digitisation and digitalisation of customer-facing solutions is the result of the creation of innovative solutions by market leaders and the diffusion of these innovations not only in the sectors from which they originate. Ubiquity simultaneously means accessibility in terms of place, time and cost. It also refers to the ubiquity of technologies that change the needs and expectations of customers and the rules of supplier markets. Thus, digitalisation creates the economic environment of modern companies, and it can also be a valuable resource and knowledge of the potential of technology a unique value for small and medium-sized enterprises. In principle, there is no escape from the digitalisation and digitisation of enterprises - changes in business models, the way market relations are shaped, or the offer built. Nor is there much of an alternative to it. The old, legacy ways of acquiring customers in the age of ubiquitous social media

are insufficient and ineffective. Certainly, however, the digitalisation of business is a long-term process, one might even say an evolutionary one, and the incorporation of individual solutions-technologies should take place in stages. Therefore, the sooner entrepreneurs are able to define the configuration of a wide range of different digital technologies (or, in fact, their potential) in relation to the adopted market strategy, the easier it will be for them to respond to customer expectations in the near future.

The initial diagnosis of innovativeness carried out during the training makes it possible to conclude that the Polish entrepreneur from the micro, small and medium-sized enterprise sector (with few exceptions) is de facto at the third stage of development among those indicated earlier in the figure, i.e., still before the stage of digitalisation and digitisation. Considering the fact that Poles are perceived as a very entrepreneurial nation (micro, small and medium enterprises generate 60% of GDP), and the development of digitalization has a universal dimension, it is not surprising that the relatively low innovativeness of micro, small and medium enterprises, which constitute over 99% of companies in Poland, is a matter of concern. It therefore becomes extremely important to search for the reasons for this situation and, more importantly, to propose adequate solutions enabling support for entrepreneurs in improving their competitive advantage not only within the sector in which they compete, but also on an international or global scale. This is also an important area enabling the Polish economy to shift its place from the group of efficiency-oriented countries (i.e. creating more efficient production methods and improving the quality of goods and services) to innovation-oriented countries. The increase in the level of knowledge, on the other hand, is strongly dependent on the internal initiative of entrepreneurs and business owners and the way in which the organisation is managed.

From the individual interviews conducted during the consultation, it appears that about half of the companies participating in the training do not have digitisation and digitalisation tools in place. However, this is not synonymous with the non-application of modern technologies by these companies. 20% of the companies have included in their strategy the use of modern solutions, mainly in the technological area. In these companies, innovative technological solutions were implemented primarily to reduce costs and gain a competitive advantage. The survey indicated that 85% of SME companies do not have human resources capable of implementing the proposed tools in the area of innovation and digitalisation. There is a barrier in the belief of entrepreneurs

that the main benefits of implementing modern technologies relate to improving the quality of the products offered, improving productivity, and reducing costs, and gaining new customers.

The most important barriers limiting the adoption of technology are related to lack of financial resources for such activities, lack of time and lack of qualified staff. Among the external factors inhibiting the process of innovation with the use of technological solutions, the trainees indicated bureaucracy, difficulties in obtaining competent employees and lack of support from public authorities. Among the actions taken or planned to be taken for the implementation of technology, investing own funds, improving the competences of employees through training and hiring new qualified people were mentioned. The responses point to the increasing role of competencies as an important resource in shaping a company's level of innovation.

When asked by the presenters what support they expect from government institutions in improving innovation, participants indicated tax incentives, the adaptation of the training of future personnel to the needs of companies and the clarity of innovation regulations. Unfortunately, public data indicate that only about 47% of companies allocate between 10 and 30% of their revenues to the implementation of technologies supporting production processes, about 30% of companies allocate less than 10% to this purpose, and about 13% do not spend any money on this.

The presenters also discussed what would be the factors influencing the decision to implement innovative solutions in their company. Participants included among the most important determinants of such choices the need to reduce costs of running a company (1/3 of responses) and the need to gain a competitive advantage in the market (1/5 of responses). Customers' expectations of an increase in the quality of the products offered were indicated as the third very important factor (1/10 of responses), followed by customers' expectations of lower product prices.

Analysing the statements of training participants, we can conclude that the implementation of each new solution in the enterprise is aimed (in a shorter or longer period) at improving the competitive position of the enterprise and increasing its profitability. When analysing the expected economic benefits resulting from the implementation of innovations, participants pointed to a very wide range of effects. The most important expected benefits in this respect include an increase in the profitability of the enterprise, an increase in revenue and the acquisition of new customers.

In terms of factors located outside the enterprise and at the same time constituting the greatest barriers to the pace of innovation implementation in an SME enterprise, participants indicated bureaucracy. This is also a "traditional" obstacle indicated at the interface between the private and public sectors in Poland. Managers coming from the group of the smallest enterprises, point to problems lying outside the organisation as an obstacle to innovation. In addition to bureaucracy, they indicate e.g. the lack of support from public administration, difficulties in obtaining EU subsidies or unfavourable regulations e.g. the ineligibility of VAT as a cost in EU projects. In addition, participants indicated difficulties in obtaining competent employees.

In summary, companies develop and gain competitive advantages because of their ability to respond to or create customer needs and expectations. This is therefore always done in relation to events taking place in their environment - especially changes on the demand side. Today's customers expect not only innovative products, but also new forms of delivery, an innovative form of communication. Thus, no company wishing to remain on the market in the future can be indifferent to wide-spread digitalisation.

Indicating more specific areas of influence of technological solutions in the context of competitiveness, participants singled out the possibility of improving the quality of products offered, increasing productivity, or improving the efficiency of resource use. Due to the application of modern technologies, pre-entrepreneurs expect an increase in the profitability of their own operations through increased revenues. These results show the key role that technological solutions can play in competing through innovation. Business owners and management have a special role in the potential for strategic change. Their knowledge of the potential for technology implementation therefore determines the progress of Polish companies towards digitization and digitalization and innovation.

Among the measures taken and planned to be taken for the implementation of innovation and digitalisation tools, investing own resources, raising staff competences through training and hiring new qualified people were mentioned. In the area of plans to raise competencies and hire qualified staff, participants showed a decreasing trend, and the same applies to investing own resources. This indicates an increasing problem of lack of human and financial resources in shaping the level of innovation. In addition, the administration and settlement of projects from Operational Programmes

significantly reduces the application for this type of support. The training will be continued by the partner in the future.

3.2 Customer-centered Innovation Training Program³

3.21 Concept and Curriculum

3.21.1 Background

In a changing and uncertain world, the alignment of innovation with the current and potential customers' needs is necessary. To meet these challenges and to remain competitive, especially small and medium-sized enterprises (SMEs) must constantly innovate to add value. In other words, they must design and deploy new product and service offerings that meet the needs of the marketplace. In order to do this, they must become customer driven.

Customer-centric innovation raise a range of critical issues that organizations must consider as they utilize customer innovation. The development of organizational processes around customer innovation demands a new lens through which to assess both innovative processes and organizational mission.

Digitalization represents one of the key challenges of our time and is associated with numerous consequences for today's economic players. In addition to the provision of a suitable infrastructure at the macro level, the use of technology for the implementation of innovative business models, entrepreneurial processes, and the shortened communication channels in the context of digitalization poses a challenge for many companies. Digitalization results in the constant availability of countless pieces of information (data), which must be collected, classified, and used efficiently and in a targeted manner according to individual interests. Furthermore, digitalization is also ensuring that spatial distances lose their relevance, which is rapidly increasing international competitive pressure for SMEs. Regional companies increasingly find themselves in competition with international monopolies, leading to calls for innovation and individualization of products. The ability to incorporate digital tools into daily work means that

³ Prepared by Dr. Jürgen Hogeförster, Hanse-Parlament

entrepreneurial innovations are often initiated or implemented with the help of digital technologies.

To connect digital technologies and customer-centric innovation, it can be stated that a globally connected world by digital technologies has changed the role of customers radically over the past decades. Customers have gone from a passive, receiving role to a more active, demanding one in which they are “an active co-designer”. Not only does customer-centric innovation improve customer satisfaction, but also it improves the “product quality, reduces risk, and increases market acceptance.

Innovation itself is about collaborative learning and working to create something. To further define the term, customer-centric innovation is part of the open innovation philosophy, meaning that the innovation process happens with input from inside and outside of the company to develop new products or services.

In order to do this properly, the company has to know its customers well and gather as much knowledge on their lives, work processes, value chains and value systems, in other words the culture they are involved in.

Furthermore, customer-oriented innovations increase both customer benefits and customer loyalty. Because customers are actively involved in the design of products and services and have them shaped according to their needs, the likelihood that these customers will remain loyal to the company in the long-term increases. Trust relationships are thus strengthened, and relationships are built.

The vocational further education program “Realisation of customer-centred Innovations” aims to bring owners, managers and professionals closer to customer-centred innovation, to impart competences and knowledge on the different methods as well as to use digital technologies and tools, and at the same time, during the learning process, to carry out development projects for the realization of customer-centric innovations in the companies involved.

For the SME further education program "Realization of customer-centred innovations" it is planned to design and implement the digital competence training programme according to the KAIN method. This method can be used very flexibly and can be designed according to the respective regional conditions as well as the needs of the participants and the SMEs involved. In any case, at least two two-day workshops with classroom teaching and a longer phase of own learning at the workplace in

between should be realized. The implementation of further workshops and further phases of own learning and the realization of workplace development projects are possible at any time.

During the implementation of the continuing vocational training program, innovation subsidies are to be implemented and tested at the same time. The focus is on the implementation of the innovative development projects. The implementation of the development projects in SMEs takes place in the longer phase(s) of on-the-job learning. This learning process and the implementation of the development projects are intensively accompanied and advised by teachers and consultants from the chambers and colleges/universities that carry out the entire continuing education program.

3.21.2 Goals, Target groups and duration of the Further Education Program

This course has been designed to fulfil the needs described above. The training, which contains both theoretical lectures, group works, and practical training will be set to EQF- level 5.

The target groups of this training are:

- founders,
- owners,
- managers and
- employees

of SME companies.

Objectives

The learning objectives of this course are set to serve SMEs in customer centred innovations as well as possible. The concrete learning goal is that after attending the course the trainee has at least a sense of what customer centred innovations and use of digital tools can bring to his / her own business.

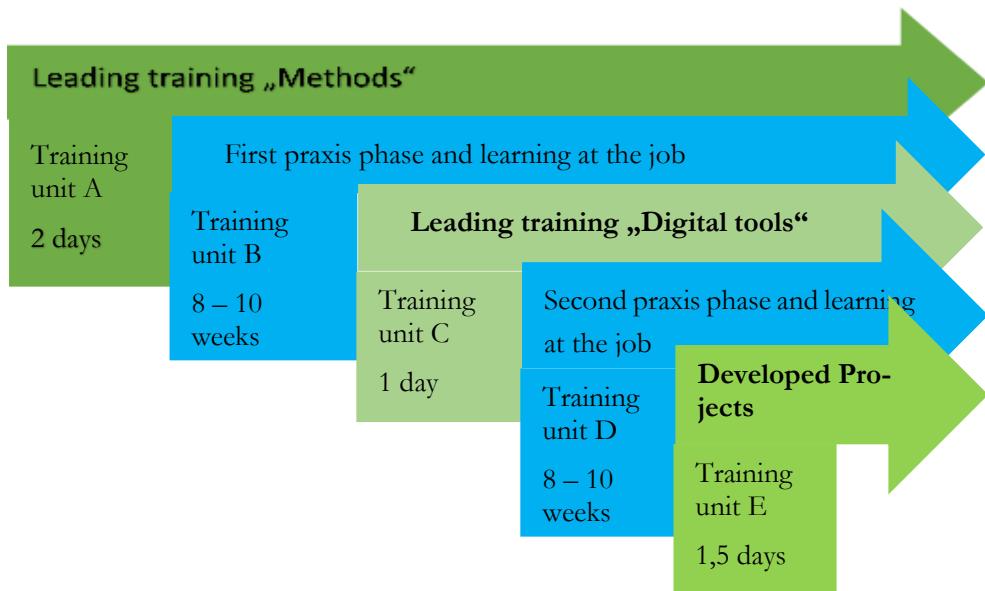
The learning objectives are:

- Trainee understands the importance of customer centred innovations and digitalization.
- Trainee knows the contemporary basic concepts of customer centred innovations and of digitalization – the relevance of topics in this area should be ensured before each training.
- Trainee knows the different methods for the realization of customer-centric innovations, they can evaluate, select and apply appropriately.
- Trainees know the various digital technologies and tools for realizing customer-oriented innovations and can select and use them appropriately depending on the task at hand.
- Trainees are able to involve employees and colleagues in the development and learning processes while learning on the job and master the most important presentation techniques.
- Trainees are able to independently develop and implement projects to implement customer-centric innovations.

Schedule

This course is divided into five parts. The training begins with a 2-day theoretical part, during which the basic issues of each topic will be clarified by presentations and group work. This part will be followed by a first 8 – 10 weeks practice period in the company, in which the participant gets to know the topics of the course from the point of view of this company. During this phase of on-the-job learning, the participant also creates a presentation about the insights and ideas he/she gained during this time in the company and carries out a development project in the company to realize customer-centric innovations. After the first practice period is completed, a seminary of 1 day will be hold. In this seminary the participants acquire skills and knowledge about the various digital technologies and tools. This is followed by a second 8 – 10 weeks practical phase and learning on the job, in which the development project started in the first practical phase is continued and, if possible, a second development project is implemented. The conclusion is a 1.5 days' workshop. Here the trainees will present their development project as well as their findings, discuss their experiences and ideas, and

finally, everything will be concluded with a lecture to deepen individual aspects according to the needs of the participants.



Scope of hours

Training unit	Lessons	Hours of self-study	Hour's total
A "Methods"	16	34	50
B First praxis phase	50	100	150
C "Digital tools"	8	12	20
D Second praxis phase	50	100	150
E "Projects"	12	13	25
Total	136	259	395

3.21.3 Training Unit A “Methods”

Content and Schedule

Training Unit A Methods: Classroom training, duration 16 hours			
First day			
Module No. & Name	Main content & <i>objectives</i>	Actors	Duration in hours & Re- marks
1 Wel- come	<p>Welcome, aims and course of the training. Introduction and expectations of the participants.</p> <p><i>Introduction and imparting an overview. Getting to know each other</i></p>	Trainer Parti- cipants	1,0 h
2 Motiva- tion	<p>Introduction to customer-centric innovation Why these topics are important? The business environment is changing rapidly, and the speed is just increasing. Why SMEs need assistance? Why are innovations so important for SMEs? Assessing the innovation strength of SMEs in the EU and different countries. Definition and importance of customer-centred innovation. Impact and use of customer-centred innovation and comparisons of large and small enterprises. Participants' experience reports on customer- centred innovations.</p> <p><i>Promoting motivation to learn Capturing the importance of the topic Conveying background, basics and facts</i></p>	Trainer Discus- sion, Change of experience	2,0 h See Teaching materials 1

<p>3 Examples</p>	<p>Examples of products or services co-created with customers. Good Practices customer-centric products. Good Practices customer-centric services.</p> <p><i>Providing good examples of customer-centred innovation</i> <i>Checking the transferability for realisation in one's own company</i> <i>Gaining ideas and suggestions for own customer-centred innovations</i></p>	<p>Trainer</p> <p>Discussion, Change of experience, Brain storming</p>	<p>1,5 h</p> <p>See Teaching materials 2</p>
<p>4 Methods</p>	<p>Different methods to involve customers in innovation processes. The most common method of involving customers. Presentation and consultation of the most important methods, such as conducting interviews, surveys, and questionnaires. Use of the digital communication channels for communicating and collaborating with customers, such as e-mail, social media (Facebook, Instagram, Pinterest, Twitter, YouTube). Methods of customer's involvement in innovation processes. Methods for engaging consumers in customer-centric innovations. Methods for engaging consumers in customer-centric innovations by countries. Employees as scouts for customer-centric innovation. Use of online advertising (Google ads, Instagram ads), an interactive website, and Q&R. Use of novel tools such as chatbots, support teams, or gamification tools. Analog methods of customer-centric innovation:</p>	<p>Trainer</p> <p>Discussion, change of experience, working on case studies</p>	<p>3,5 h</p> <p>See Teaching materials 3</p>

	<p>Lead-User Method, Experiments, Living Labs, Customer Group involvement, Outcome based interviews.</p> <p>Digitalization – new opportunities for customer-centric innovation.</p> <p>Selection, comprehensive advice and training of particularly suitable methods.</p> <p>Conclusions and recommendation.</p> <p><i>Getting to know the different methods</i> <i>Imparting knowledge for analysing the company and assessing the methods for different tasks</i> <i>Imparting competences and skills for the selection and appropriate use of suitable methods</i></p>		
End of the first day			
Second day			
5 Difficulties & Benefits	<p>Difficulties in involving customers.</p> <p>Benefits from customer-centric innovations.</p> <p>Results of Research and Surveys: Difficulties.</p> <p>Results of Research and Surveys: Benefits.</p> <p>Consultation of consequences and proposals for future uses in SMEs.</p> <p><i>Recording the advantages and disadvantages of customer-centric innovations</i> <i>Imparting knowledge and skills to develop and implement own activities</i></p>	<p>Trainer</p> <p>Discussion, change of experience, Group work to develop concepts on a case study</p>	<p>1,5 h</p> <p>See Teaching materials 4</p>
6 Best Practices	<p>Best practices from companies in different countries: Denmark, Estonia, Finland, Germany, Hungary, Italy, Latvia, Lithuania, Norway, Poland, Sweden, UK, USA.</p>	<p>Trainer</p> <p>Discussion, in plenum</p>	<p>1,5 h</p> <p>See Teaching materials 5</p>

	<p>Examples of products or services co-created with customers.</p> <p>Methods of customer's involvement in innovation processes.</p> <p>Digital tools used to support customer centric innovation</p> <p>Benefits realized as a result of customer innovation.</p> <p>Presentation and consultation best practices examples.</p> <p>Derivation of possible uses for implementations in own company.</p> <p><i>Learning from best practice examples</i> <i>Acquisition of competencies and skills to analyse best practices and to use them for own applications.</i> <i>Gaining ideas and know-how for the realization of customer-centred innovations</i></p>	<p>consultations on value and possible uses</p>	
7 Strategies	<p>Development of SME-friendly strategies for the realization of customer-centric innovations.</p> <p>Selection of suitable methods.</p> <p>Creation of a realization concept with all steps, procedures, time requirements, etc.</p> <p>Development of a realization concept using the example of an SME.</p> <p>Development of a checklist for the realization of customer-centred innovations.</p> <p><i>Acquisition of competences and skills for the analysis of the own company and for the development of a customized strategy and realization concept</i> <i>Implementation of what has been learned so far into concrete action programs for the own company.</i></p>	<p>Trainer: Moderation and instructions</p> <p>All participants: discussion, consultation and development in group work and</p>	1,5 h

		evaluation of results in plenary session	
8 Development Projects	<p>Each participant creates a development project for his company, which will be realized in part B and part D of the training.</p> <p>If 2 development projects are created, one can be realized in part B and the other in part D in the company.</p> <p>Presentation and consultation of the development projects in the plenum</p> <p>Evaluation of the individual projects and determination of which work, and decisions are still necessary in order to be able to realize the project in the company.</p> <p>Obligation of each participant to agree on at least one development project with the trainer by 10 days after the training at the latest.</p> <p><i>Implementation of what has been learned in a concrete project for the own company.</i></p> <p><i>Development of concrete projects, which will be implemented in the company in the further course of the training</i></p>	<p>Trainer: Moderation and consultation</p> <p>Each participant development of own concept, consultations and evaluations in plenum, agreements with the trainer</p>	2,0 h
9 Presentations & Participation	<p>Presentations and participations in the context of the implementation of the development projects and the further course of training.</p> <p>Presentation and practice of presentations and various methods and techniques.</p> <p>Forms, methods and procedures for involving employees and colleagues in the development and learning process.</p>	<p>Trainer</p> <p>Joint discussions, consultations and exercises in the plenum</p>	1.0 h

	<i>Acquisition of competencies and skills for making good presentations</i> <i>Getting to know the importance and different ways of involving third parties in the learning processes.</i> <i>Creating the conditions to involve as many employees of the company as possible</i>		
10 Conclusion & Evaluation	Verbal feedbacks on Unit A of the training. Written evaluation of Unit A training. Agreements on further procedure and completion of Unit A of the training. <i>Achieve continuous improvement of the training unit A</i> <i>Clarification and binding agreements on the further procedure</i>	Trainer All	0,5 h
End of Training Unit A			

Note 1: Two shorter pauses (with coffee) and one longer pause (lunch) will be held during every day.

Note 2: The material presented above is examples and stimulus, which should be applied and modified according to the country, area, background, level and needs of trainees, and also according to knowledge areas of trainer. The times are suggestions and may vary depending to the weighting of topics.

During this 2-days workshop the participants get to know (usually science-based) models, methods of customer-centred innovation and instruments from project-related research for structuring and solving problems and learn to apply them (mentally). This is intended to create a common conceptual basis for the further procedure in the training.

The models and instruments presented as examples and design recommendations for practical use, ideally form a common framework in which, in particular, the existing experiences of the participants are to be integrated in order to pursue the training objectives. The experience of the participants should serve to supplement or modify the proposals for structuring and solving problems given by the research.

Thus, at an early stage of the training, a necessary adaptation of the proposed models and instruments to the individual needs and characteristics of the participants on site, usually with different frameworks and conditions, should take place.

Before the first workshop, a trainer / consultant designing the course should select and modify the models, instruments and other material applicable to just this country, area, branch and companies in question. The material presented in this curriculum, consisting of best practices and methods applied in companies, serves as a model and stimulus for trainers and participants.

The role of the trainers

It is a task of the trainers / consultants to take into account the individual needs and particularities of the participants on site in a face-to-face training. This requires a high degree of knowledge and experience with the use of interactive and participant-centred didactic methods on the part of the trainers. A further focus of the first part of the training is to introduce the participants with the planning, implementation and critical evaluation of their own project work they are involved in the second and fourth parts of the training. Thus, another central goal of this part of the training is to give the participants important impulses for the implementation of the presented models and instruments in their own project. The application and implementation of the presented models and instruments by the participants "at home" is, so to speak, the focus of the second part of the training concept.

3.21.4 Training Unit B “First Praxis Phase and Learning at the Job”

8 - 10 weeks self-study, practice in company and realization of development projects.

If the development projects that each participant will carry out in his or her company have not yet been determined in the first unit of the training, a coordination with the trainer and a reliable decision on the development project should be made in this regard during the first ten days of the practical phase.

Goals and tasks of the self-study-phase

Accompaniment and support of change processes in enterprises, from the formulation of objectives, description of measures, conception of implementation to impact analysis by training and process-oriented, if necessary, also technical consulting.

Application and transfer of knowledge into the individual practice of the participants on site.

Implementation of the development project in the company.

Involving as many/all employees of the company as possible in the development and learning process.

In this part, the participants have the task of applying the knowledge acquired in the first training unit and the knowledge of how to shape their own practice in the sense of the training idea in their companies / organizations. For sustainable learning, it is necessary that they plan, implement, evaluate, critically reflect and document their own project or activities to improve a situation on site under their individual framework conditions in the "here and now". The results of these reflections and applications of the acquired knowledge in practice as well as the implemented development project will be presented by each participant in the fifth and last unit of the training program and discussed with all other participants. In preparation for this, participants will receive brief instruction in documentation and presentation techniques in the first unit of the training (see module 9 Presentations & Participation).

This phase with the duration of approx. 8 – 10-weeks is accompanied and supported by professional advice and support given by the trainers / consultants. In principle, the participants should apply and implement the knowledge they have acquired in Part 1 themselves. As a rule, however, advice and support are often required in order to apply the process of adapting the knowledge acquired in Unit 1 of the training appropriately under the real conditions on site and to lead one's own project to success.

The role of the trainers/consultants

The support given by the trainers can vary from a rather simple general consultation in the sense of passing on relevant information to an intensive accompaniment in the sense of coaching. In individual cases, it is usually necessary to find out, what kind of

support it is needed to enable the individual participant to pursue his or her individual project goals.

In this phase, it is quite possible and even usual, that, when applying the models and instruments presented in the first phase in practice, the individual project proceeds differently than initially thought and planned by the participant. Even in such situations, the trainers of the project team can provide valuable support in pursuing the "actual" project goals.

This second part of the training enables in particular the very welcome didactic aspect of working on concrete improvements in one's own company / at one's own workplace, which is associated with a high motivation to learn. In this learning process, the company management and other employees are usually intensively involved in what is actually done at the workplace, thus achieving joint learning and strong multiplication effects in the training.

Further advantages, i.e., what has been learnt, is directly implemented in everyday business life, or the innovations associated with project work are in the interest of company's management, quickly become visible and motivate managers to promote further training for the workforce and to use it as a strategic instrument of company management. The advantages also respond to the particular needs of small and medium-sized enterprises, which are constantly suffering from a lack of time as the biggest obstacle to training. In common, the KAIN Training Method eliminates absenteeism nearly totally.

3.21.5 Training Unit C “Digital Tools”

Training Unit C Digital Tools: Classroom training, duration 8 hours			
Module No. & Name	Main content & <i>objectives</i>	Actors	Duration in hours & Remarks

11 Objectives Unit C	<p>Welcome Objectives and Procedure Training Unit C</p> <p><i>Introduction and imparting an overview</i></p>	Trainer	0,25 h
12 Change Experiences	<p>Exchange of experiences of the participants: Looking back, how do you assess training session A today? Have you been able to use what you have learned in your daily work process? How is your development project progressing and does what you have learned help you?</p> <p><i>Promoting motivation to learn Sharing experiences and learning from each other</i></p>	Trainer: Moderation All	0,75 h
13 SME fair digitalization	<p>SME-friendly digitalization and coaching processes. SMEs & Crafts and digitalization. History of crafts, industry and digitalization. Tool use and digitalization. State of digitalization in the skilled trades. What digitalization does SMEs need? Digitalization - organization of adaptation. Digitalization in the skilled crafts sector - organization of adaptation. Procedure and possible participants. Study results: Digitalization in the smallest companies. Importance and consequences for the use of digital technologies in customer-centred innovations.</p>	Trainer Discussions and consultations	1,0 h See Teaching Material 6

	<p><i>Getting to know the challenges of digitalization for SMEs.</i></p> <p><i>Acquiring competencies and skills for evaluating and selecting appropriate digital techniques and tools</i></p>		
14 Digitalization	<p>Digitalization of customer-centric innovations in SMEs.</p> <p>Benefits and barriers of using digital tools to integrate customer-centric innovation in SMEs.</p> <p>Framework conditions for the implementation of digital customer-centric innovation.</p> <p>Applied info-communication tools and technologies supporting business processes in SMEs.</p> <p>Digital communication channels used for communicating and collaborating with customers.</p>	<p>Trainer</p> <p>Discussions and consultations</p>	<p>1,5 h</p> <p>See Teaching Material 7</p>
15 Toolbox	<p>Digital toolbox for customer-centric innovation in SMEs</p> <p>Digital transformation – new technological trends</p> <p>Digital tools for customer-centric innovation</p> <p>Applied instruments, methods and procedures of customer-centric innovation in SMEs.</p> <p>Application notes for digital technologies for the realization of customer-centric innovations.</p> <p>Benefits of the implementation of tools for customer-centric innovation.</p> <p>Obstacles for the implementation of tools for customer-centric innovation.</p>	<p>Trainer</p> <p>All participants: discussion, consultation and group work on the evaluation, selection and use of technologies and tools; evaluation</p>	<p>3,0 h</p> <p>See Teaching Material 8</p>

	<p>Recommendations for the implementation of customer-centric innovation. Evaluation of the tools in terms of suitability for use in SMEs.</p> <p><i>Get to know digital technologies and tools for the realisation of customer-centred innovations in SMEs. Acquisition of competences and skills for the evaluation, selection and appropriate use of digital technologies and tools for the different issues</i></p>	of results and selected tools in plenary session	
16 Use tools	<p>Barriers to the introduction of customer-centric innovations supported by digital tools. Selection of suitable digital tools. Creation of a realization concept with all steps, procedures etc. Development of a realization concept using the example of an SME.</p> <p><i>Acquisition of competences and skills for the evaluation, selection and appropriate use of digital technologies and tools for the different issues Selection of suitable tools for the development projects of the participating SMEs</i></p>	<p>Trainer</p> <p>Discussion, Consulting, short work in small groups</p>	<p>1,0 h</p> <p>See Teaching Material 9</p>
17 Conclusion & Evaluation	<p>Verbal feedbacks on Unit C of the training. Written evaluation of Unit C training. Agreements on further procedure and completion of Unit C of the training.</p> <p><i>Achieve continuous improvement of the training unit C Clarification and binding agreements on the further procedure</i></p>	<p>Trainer</p> <p>All</p>	0,5 h

End of Training Unit C

Note 1: Two shorter pauses (with coffee) and one longer pause (lunch) will be held during the day.

Note 2: The material presented above is examples and stimulus, which should be applied and modified according to the country, area, background, level and needs of trainees, and also according to knowledge areas of trainer. The times are suggestions and may vary depending to the weighting of topics.

During this 1-day workshop the participants get to know (usually science-based) models and digital tools for the realization of customer-centred innovation from project-related research for structuring and solving problems and learn to apply them (mentally). This is intended to create a common conceptual basis for the further procedure in the training.

The models and digital tools presented as examples and design recommendations for practical use, ideally form a common framework in which, in particular, the existing experiences of the participants are to be integrated in order to pursue the training objectives. The experience of the participants should serve to supplement or modify the proposals for structuring and solving problems given by the research.

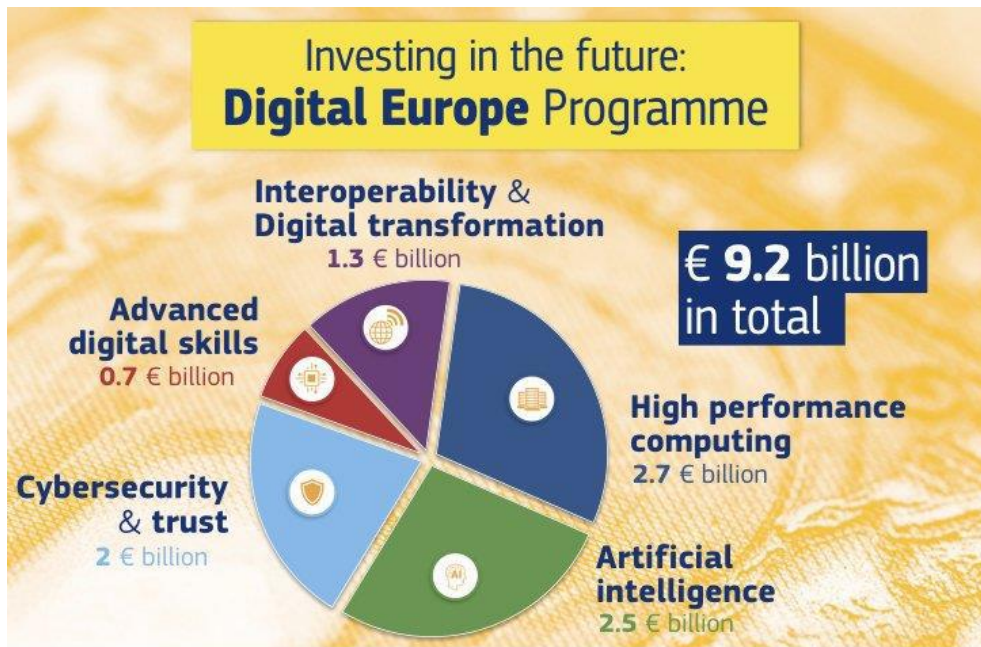
For the role of trainers, see the comments on the first unit of the training program in Chapter Training Unit A "Methods".

3.21.6 Training Unit D “Second Praxis Phase and Learning at the Job”

The second phase of on-the-job learning again comprises 8 - 10 weeks and basically proceeds in the same way as the first practical phase (see the explanations in chapter 5. Training Unit B “First Praxis Phase and Learning at the Job”).

This phase is particularly concerned with reflecting on the digital tools in practice and applying them when carrying out development projects in the company. The development projects started in the first practical phase can be continued or one/more

new development projects with the use of digital tools can be started and implemented in the company.



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Source: https://ec.europa.eu/isa2/news/european-commission-has-announced-investment-%E2%82%AC92-billion-align-next-long-term-eubudget-2021_en

3.21.7 Training Unit E “Development Projects”

Training Unit E Development Projects: Classroom training, duration 12 hours			
First day			
Module No. & Name	Main content & objectives	Actors	Duration in hours & Remarks
18 Welcome & Objectives Unit E	Welcome. Objectives and Procedure Training Unit C. <i>Introduction and imparting an overview</i>	Trainer	0,25 h
19 Experiences	Exchange of experiences of the participants: Looking back, how do you assess training session A and C today? Have you been able to use what you have learned in your daily work process? How is your development project progressing and does what you have learned help you? <i>Promoting motivation to learn</i> <i>Sharing experiences and learning from each other</i>	Trainer: Moderation All	0,75 h
20 Refresher courses	Reason for the lack of application of customer-centric innovation. The level of involvement of customers in different types of innovation. Degree of involvement of customers in the product and service innovation phases.	Trainer Discussion and consultation; working	1,5 h See Teaching Material 10

	<p>Categorizing consumers based on their needs and expertise.</p> <p><i>Gain in-depth competences and knowledge on customer-centred innovation in SMEs.</i> <i>Acquiring knowledge for dealing with barriers</i> <i>Deepening what has been learned so far and gaining confidence to realise customer-centred innovations</i></p>	in small groups	
21 Development projects A	<p>Presentation by each participant of their development projects that were realised in the company in training units B and D; presentation of the results achieved and future further development and planned new projects. Discussion and deliberation of each presented development project in the plenary.</p> <p><i>Presentation of the results of own work, gaining and getting to know best practices- Exchange of experience and learning from each other</i> <i>Gaining ideas for future realisations of customer-centred innovations in the own company</i> <i>Learning from the mistakes and successes of other participants</i> <i>Gaining confirmation and strengthening motivation for one's own future work</i></p>	<p>Trainer: Moderation</p> <p>Each participant presents his or her project, which is then discussed and deliberated in the plenary immediately afterwards.</p>	5,5 h
End of first day			
Second day			
22 Development projects B	<p>Presentation by each participant of their development projects that were realised in the company in training units B and D; presentation of the results achieved and</p>	Trainer: Moderation	2,5 h

	<p>future further development and planned new projects.</p> <p>Discussion and deliberation of each presented development project in the plenary.</p> <p><i>Presentation of the results of own work, gaining and getting to know best practices.</i></p> <p><i>Exchange of experience and learning from each other</i></p> <p><i>Gaining ideas for future realisations of customer-centred innovations in the own company</i></p> <p><i>Learning from the mistakes and successes of other participants</i></p> <p><i>Gaining confirmation and strengthening motivation for one's own future work</i></p>	Each participant presents his or her project, which is then discussed and deliberated in the plenary immediately afterwards.	
23 Questions & further procedure	<p>Clarification of questions, deepening's and further procedure.</p> <p>Planning of the participants to continue the work in the company.</p> <p>Arrangements for the further procedure and the continuation of the exchange of experiences among each other.</p> <p><i>Ensuring the continuation of the learning processes and the work in the companies</i></p>	Trainer All	1,0 h
24 Conclusion & Evaluation	<p>Verbal feedbacks on Unit C of the training.</p> <p>Written evaluation of Unit C training.</p> <p>Agreements on further procedure and completion of Unit C of the training.</p> <p><i>Achieve continuous improvement of the training unit C and the whole training.</i></p> <p><i>Clarification and binding agreements on the further procedure</i></p>	Trainer All	0,5 h

End of the Training

Note 1: Two shorter pauses (with coffee) and one longer pause (lunch) will be held during the first day and two shorter pauses (with coffee) during the second day.

Note 2: The material presented above is examples and stimulus, which should be applied and modified according to the country, area, background, level and needs of trainees, and also according to knowledge areas of trainer. The times are suggestions and may vary depending to the weighting of topics.

Goals and tasks of the 1,5 days' workshop

- Reflect (evaluate) the successes in the dimensions of individual, operational and structural changes and change processes.
- Identify conducive and obstructive conditions of change processes.
- Derive "lessons learned" for further change processes.
- Clarification of questions, deepening of topics according to the needs of the participants and agreements on how to proceed.

In the fifth part of the training program, the participants present and discuss the experiences and findings from practical phases A and B (see chapters 5. and 7.) as well as their individual projects that they have carried out in the company. Both the participants and the trainers have the special task of reviewing the projects and reflecting on whether or what contribution they make to the sustainable pursuit of the overarching educational idea of strengthening capacities and skills for customer-centred innovation in SMEs. The exchange between the participants can give them very valuable impulses on how to make their own project even more successful. An important goal in this context can also be to show which major obstacles are responsible for "not-yet-successes" in order to work on them in the future.

The role of the trainers/consultants

- Enable constructive exchange between the participants,
- Focus on the common basis for the pursuit of (general) training objectives, and

- Moderate an instructional discussion on the identification of supportive and obstructive conditions of change processes and present contributions for a possible reduction of resistance in the tracking of individual projects.
- To guide the participants to make plans for the continuation of the learning processes and work in the enterprises and to make as concrete agreements as possible.

3.21.8 Teaching Materials

Attachment 1 KAIN Method and Coaching Program

Attachment 2 Power Point KAIN & Coaching

Attachment 3 Examination Regulations and international Recognition

Teaching Material 1_Modul 2 Motivation

Teaching Material 2_Modul 3 Examples

Teaching Material 3_Modul 4 Methods

Teaching Material 4_Modul 5 Difficulties & Benefits

Teaching Material 5_Modul 6 Best Practices

Teaching Material 6_Modul 13 SME fair digitalization

Teaching Material 7_Modul 14 Digitalization

Teaching Material 8_Modul 15 Toolbox

Teaching Material 9_Modul 16 Use tools

Teaching Material 10_Modul 20 Refresher Courses

3.22 Coaching Program

3.22.1 Training Program: Knowledge Acquisition according to Individual Needs – KAIN

A striking obstacle faced by SME is lack of time and permanent overburdening of their owners as well as their impossibility to release employees from work for a longer scope of time to engage them in advanced trainings. There is also particular interest in ensuring that, as far as possible, qualifications offered should match individual skills needs of the employees and, at the same time, address specific SME issues. In response to such demands, a structural concept will be applied in the project, consisting of the following items:

- 2-3 learning phases with classroom teaching, delivered on two days per week, possibly Fridays and Saturdays.
- in between, longer on-the-job teaching periods at the trainees' workplace with simultaneous realization of innovative development projects in SMEs, covering three to four months.
- Proposal for teaching periods at the trainee's workplace:
 - a) coaching by same trainers that are also delivering classroom teaching,
 - b) optional and customized e-learning options,
 - c) implementation of a specific development project within the company, in the topic area of the respective advanced training, involving as many employees as possible, thus, ensuring joint team learning.

The successfully tested and implemented methodological framework (training method) KAIN

- creates a common knowledge base for participants with different backgrounds in training and consulting processes,
- takes particular account of the individual experience of participants,
- shows possibilities to change/improve the situation of the participants on site for the pursuit of project goals and change measures,
- sharpens the knowledge of possible needs for change,

- enables those involved participants to design the right measures and implement them correctly, and
- combines qualifications with the implementation of innovative development projects in companies.

KAIN describes the tasks of trainers / consultants to carry out qualifications within the framework of continuing vocational training, to accompany the implementation of company-specific development projects and to enable company employees to carry out change processes under the supervision of external consultants.

The qualification and consulting process is composed of three phases:

1. classroom teaching
2. self-study with external support
3. report and reflection.

The implementation of further workshops and further phases of own learning and the realization of workplace development projects are possible at any time. The overall aim of the training is to ensure that all participants have sufficient information and knowledge on how the basic training idea can be implemented and pursued under the individual (quite different) framework conditions on site. Hopefully they will gain confidence in the feasibility of change processes.

Part 1: Classroom Teaching

Duration: approx. 2 days

Key objective: imparting knowledge - forming a common ground within the group.

This training module basically consists of a 1.5-2-day workshop, during which participants learn about (usually science-based) models and (conceptually) apply instruments of project-related research for structuring and solving problems. This is intended to form a common conceptual ground for further training steps. The presented models and instruments (recommended for practical application) ideally form a common framework, mainly to better integrate existing experience of course participants in pursuing their training goals. The participants' experience may complement or modify the research proposals on structuring and solving problems. Such approach enables a desired (conceptual) adaptation of the proposed models and instruments to

the individual participants' needs and specificities (given the diversity of their situations) at an early stage of the training.

Observance of the participants' individual needs and specificities in classroom training requires a high degree of expertise and experience by trainers, including their ability to use interactive and participant-oriented didactic methods.

Another addressed focus in the first part of the training is communicating to the trainees' relevant issues with regard to planning, implementation as well as to (critical) assessment of their own projects that are processed in the second part of the training. Thus, another key objective of this part of the training is to equip the trainee with critical impulses for processing the presented models and instruments in his individual project. In a sense, application and implementation of the presented models and instruments by trainees at their work constitutes the primary focus of the second part of the training concept.

Tasks of the trainers/consultants:

This consideration of the individual needs and particularities of the participants on site in a face-to face training requires a high degree of knowledge and experience with the use of interactive and participant-centred didactic methods on the part of the trainers.

A further focus of the first part of the training is to introduce the participants with the planning, implementation and also (critical) evaluation of their own project, which is to be dealt with in the second part of the training. Thus, another central goal of this part of the training is to give the participants important impulses for the implementation of the presented models and instruments in their own project. The application and implementation of the presented models and instruments by the participants "at home" is, so to speak, the focus of the second part of the training concept.

Part 2: Self-study in own company/organization with the support of trainers

Duration approx. 12 – 18 weeks

Key objective: transfer and practical application of acquired knowledge in the trainees' individual job practice; special role of the trainer as consultant and coach.

In the second part of the training, trainees are tasked to apply skills and knowledge acquired in the first part of the training with respect to their individual job practice at their company/organization, in line with the training idea. For a sustainable learning effect, it is crucial that trainees plan, implement, evaluate, document and critically reflect on their own project or their own activities with regard to improving their individual situation, basically under their respective “here-and-now” conditions.

This course phase is accompanied and assisted by trainers and their technical advice and support. Basically, trainees are on their own with respect to applying and implementing knowledge acquired in Part 1. As a rule, however, advice and support are usually required in order to properly enjoy the benefits of adaptive process of newly acquired knowledge from the training Part 1, now under real-life conditions, and to turn the project into success. Support by trainers may vary, from a rather simple general advice in the sense of passing on relevant information up to an in-depth assistance-like coaching. Normally, it is advisable to decide on case-by-case basis which type of support is best suited to enable each trainee achieving individual project goals.

At this stage, it is certainly possible, if not uncommon, that in processing the models and tools presented in Phase 1, the trainees` projects may differ from their initial concepts and plans. In such case, trainers may lend a helping hand in bringing back on track “real” project goals.

The second part of the training has a particularly welcome didactic attribute, allowing for fine-tuning improvements on the job / in one`s own company, thus, ensuring high learning motivation. As a rule, this type of learning, embedded in real job conditions, involves committed personal involvement of company management and other employees, and, by joint team learning, delivers expressive multiplier training effects.

Further advantages are straight implementation of the acquired new knowledge in daily job operations; project-related innovations are in the interest of corporate management; they become quickly tangible, and managers feel encouraged to continue with advanced trainings for their employees, turning them into a strategic instrument of corporate management. Apart from this, this training approach meets particular needs of SMEs, which biggest barrier to good training is their lack of time. Under KAIN training method, lost working hours and work absences are almost entirely avoided.

In the second part, the participants have the task of applying the knowledge acquired in the first part and the knowledge of how to shape their own practice in the sense of the training idea in their companies/organizations. For a sustainable (learning) effect it is necessary that they plan, implement, evaluate, critically reflect and document their own project or activities to improve a situation on site under their individual framework conditions in the "here and now".

This phase with the duration of approx. 12 – 18-weeks is accompanied and supported by professional advice and support from the trainers/consultants.

If necessary, additional one to two-day workshops with classroom teaching can be conducted during Phase 2.

Tasks of the trainers/consultants:

At the beginning of the longer phase of learning on the job, the innovative development project to be realized is defined and prepared in the company. The trainer accompanies the work to realize the development project in the company and involves other consultants and experts as needed. The support of the trainers can range from a rather simple general consultation in the sense of passing on relevant information to an intensive accompaniment in the sense of coaching. In individual cases, it is usually necessary to consider what kind of support is needed to enable the individual participant to pursue his or her individual project goals.

In this phase it is quite possible and not uncommon that when applying the models and instruments presented in phase 1 in practice, the individual project proceeds differently than initially thought and planned by the participant. Even in such situations, the trainers of the project team can provide valuable support in pursuing the "actual" project goals.

This second part of the training enables in particular the very welcome didactic aspect of working on concrete improvements in one's own company / at one's own workplace, which is associated with a high motivation to learn. In this learning process, the company management and other employees are usually intensively involved in what is actually done at the workplace, thus achieving joint learning and strong multiplication effects in the training.

Further advantages are that what has been learnt is directly implemented in everyday business life, that the innovations associated with project work are in the interest of company's management, quickly become visible and motivate managers to promote further training for the workforce and to use it as a strategic instrument of company management. It also responds to the particular needs of small and medium-sized enterprises, which are constantly suffering from a lack of time as the biggest obstacle to training. The KAIN Training Method generally almost completely eliminates absenteeism.

Part 3: Individual project presentation and reflection

Duration approx. 1.5 – 2 days

In the third part of the training, experience and insight gained will be presented and exchanged at a joint event, in emphasis on presentation of individual participants' projects. Both, the trainees and the trainers, will be tasked to review and reflect on projects presented by the participants and to analyse answers with respect to a possible contribution to sustainable training target tracking. Moreover, a further key goal may help identifying major barriers to "not-yet-a-success" and fix them in the future.

The exchange of information amongst participants may provide valuable information on how to improve their own projects to be even more successful.

Tasks of the trainers/consultants:

- enable constructive exchange between the participants,
- focus on the common basis for the pursuit of (general) training objectives, and
- moderate an instructional discussion on the identification of supportive,
- ideas on struggle-free implementation solutions for trainees' projects, and
- obstructive conditions of change processes and present contributions for a possible reduction of resistance in the tracking of individual projects.

Of course, upon completing third part, subsequent longer self-study phase may follow, combined with on-the-job implementation, followed again by classroom-teaching in form of a third workshop, etc.

At the end of the training, all participants should have sufficient information and idea on how to implement and pursue the basic training idea, mostly under different real-life conditions.

Time-organizational setup and competencies of participants

For sure, a truism that in a large-scale transnational project, participants from different countries would never be able to match their time frames to enjoy joint meetings and events. Yet, planning and delivery of training to a specified target group and their participants, requires that:

- participants of Part 1 are in, any case, also participating in training Part 3. Where appropriate, couples or small teams should be made available as representatives of a project team with respect to these training parts,
- participants are experienced in presenting content or in using interactive training design methods, or they are trained to meet required demands,
- participants are to a certain degree involved in decision-making or co-determination in their company/organization with respect to pushing through their projects and receiving appropriate support from senior management.

As a rule, participation in the seminar is subject to a fee.

The offering institutions may attach obligations to the paid course, e.g., that a fee is due for the arrangement of consultancy services and/or a written report on the results of the consultation processes must be provided.

Instructions, requirements and tasks for trainers/consultants

The selection of companies/persons for the training and consultations depends on the interests of the companies. In an active approach, a pre-selection can be made on the basis of individual criteria, e.g., sector, company size, state of technology use, quality of personnel policy, innovation orientation, ..., i.e./with other words the maturity level of the organization. The size of the group should not exceed more than ten and not be less than three or four companies. Enterprises may be allowed to send more than one person (project group). The total group should not exceed more than fifteen persons.

The persons from the companies should have the right to make decisions or have a say in their organizations in order to be able to decisively advance the pursuit of their individual projects.

The participants should decide at the end of part 1 to carry on with parts 2 and 3. Otherwise resources will be wasted. If there is a fear that problems will arise in part 2, it will be better to do a small project for testing rather than too many or too large projects. And: even from failed projects something can be learned.

The companies can exchange their ideas and experiences during the development phase, e.g., develop measures together.

Requirements for trainers/consultants

At various points in the brief description of the training method it became clear that the trainers have a special role to play in the use of this method, which is underlined here again.

In general, the trainers/consultants should have experience in presenting content and using interactive methods to design training.

Against the background of an overview knowledge covering all relevant subject areas the trainers are not only representatives for a variety of project topics and contents, but also –from a didactic-methodical point of view – moderators, learning (process) facilitators, coaches, sometimes co-managers, consultants, and even learners.

In individual cases, they must also decide in what form the involvement of experts and specialists on a (detailed) topic is necessary for highly specialized topics. This requires a good network.

A special challenge for the trainers is when they are in the role of a coach, who may also have to provide individual support for the learning processes of individual participants in the pursuit of a project on site.

Within the framework of a Train the Trainer program for teachers to conduct further training, teachers are familiarized with the KAIN method and taught skills for its application.

The qualification seminar must be advertised and promoted intensively.

- Early and repeated announcement of courses in professional journals, on websites, via newsletters, circulars, etc. are needed.
- Repeated dissemination of information via various media channels – in writing and particularly active in face-to-face meetings, in form of individual consultations, at meetings, trainings, via consultants, etc. should be done.
- Production of posters, hand-outs with invitations to advanced education training courses or related information on counselling events and information placement/introduction in educational establishments, chambers, universities, etc. are additional possibilities.
- Co-operation with local/regional/national institutions, e.g. business and urban development; employers' associations, trade unions, employers' liability etc. may extend the reach of the acquisition.
- If you have an address pool of trainers and consultants: Sending personal invitation letters with indication of date, including a reply sheet by mail and/or by e-mail and possibly repeated telephone follow-up activities to addressed potential participants.
- Conducting press conferences/discussions and issuing press releases to achieve publications in the daily press.
- Involvement of relevant multipliers who approach potential participants in person.
- Use every opportunity for personal contact to pass on information and to advise potential participants about your measures.

Implementation the Training / Organizational Preparation

- ✓ Assuring timely and binding reservation of training rooms and securing an adequate equipment.
- ✓ Timely recruitment of lecturers and organizing a complete teaching timetable for each respective complete advanced training block.
- ✓ At least one full-time lecturer shall be active and/or a competent specialist on the respective training topics.

- ✓ Timely preparation and provision of documents, materials, etc. for
 - all teachers and staff.
 - all participants.
- ✓ Provision in paper form as well as electronically
- ✓ The following documents and materials have been designed and are available free of charge: Concept, Curricula and Teaching materials for a SME specific digital competence training program.

Evaluation of Training Seminars

Any training seminar is subject to evaluation in order to identify and implement further developments and improvements in future training programs.

For this purpose, written and oral interviews with the participants and lecturers shall be conducted.

The concepts, questionnaires, guides etc. developed are free of charge for all and any future use.

3.22.2 Training and Coaching Process⁴

Principles of effective Teaching

The purpose of the training program is to impart knowledge of principles of effective teaching and effective training techniques and their application in SMEs. Participants may have worked with something like resource efficiency, material efficiency, resource or material saving, environmentally friendly technology before, so they have a solid background on which to build. When is the training successful? To achieve the success criteria the training should have a clear agenda of the topic to be covered, well defined target group, have enough time to the planning, have well defined pro-program specific learning outcomes, have teachers, instructors or presenters who are familiar with the topic, involve participants, have organizational support systems for the very

⁴ See Sandelin, Sirpa: PROGRAM FOR TEACHERS TO CONDUCT FURTHER TRAINING, Satakunta University, Pori 2021

first steps of the training, use quality measurement system (based on evaluations, feedback analysis), etc. The list is long and demanding and organizing training program may be a real challenge.

One of the key success factors is the trainer, mentor, coach or instructor, no matter which is applicable to the train the trainer sessions. Bwika has identified the following attributes of a good instructor:

- Competence in subject matter
- Mastery of the techniques of instruction and evaluation
- Desire to teach
- Resourcefulness and creativeness
- Attentiveness to trainee needs
- Management techniques in classrooms
- Professional attitude
- Ability to develop good personal relations

Training course design and organization includes several phases. The training design models ADDIE consists of five phases, i.e.. analysis, design, development, implementation and evaluation. Analysis deals with analysis, where the need for the training is studied in detail. In the designing phase the training program is outlined and planned. In the development phase the training is rolled out to the field in the form stipulated in the design phase. The final phase evaluation concludes the process and measures how effective the training program was at achieving its goals. The detailed information with examples can be found from the page The ADDIE Model Infographic <https://elearninginfographics.com/the-addie-model-infographic/>.

Training session should respond to the participants learning styles. In general, there are three types of learners:

- Visual: These learners receive information best through seeing or reading it. This type of learners benefits from written instructions, diagrams, handouts, over-heads, videos, and other visual information.
- Oral: Oral learners receive information best when they hear it. They respond best to speakers, audio conferences, discussion groups, etc.

- **Kinesthetics:** These learners learn by touch and feel. They respond well to demonstrations and in having the chance to practice themselves.

Trainees are individuals. Sometimes trainers may encounter themselves in a demanding position with difficult participants. Table 1. gives some strategies to cope with difficult participants.

Table 1. Ways to survive with difficult participants (Swan and Morgan 1993, cited in Assistive Technology Trainer’s handbook, <https://www.natennetwork.org/wp-content/uploads/at-trainers-handbook.pdf>, p. 86-87)

Behavior	Possible reasons	Strategies for presenters
The aggressor		
Confrontational, challenging and unpredictable. May include direct confrontation or constant “supportive” criticism of present ideas.	Need to win. Desire to be the leader. Need to control the group or the outcome of the training.	Remain calm – do not engage in the confrontation. Ask for explanation and clarification of concerns. Seek feedback from other participants. Redirect the conversation back to content. Model ways to permit differences of opinion to stand. Use humor. Be friendly and relaxed. As a last resort, discuss the behavior in private during a break.
The isolate		
Does not participate or frequently leaves the session for other activities such as phone calls.	Anxious about speaking. Unsure of own knowledge. Unwilling to commit to the work.	Ask questions that require yes, no or very short answers to get things started. Offer activities for pairs or very small groups.

	<p>Insecure about working with others. May not want to be in the workshop. May have pressing needs than the content of the training.</p>	<p>Assign each person in the workshop specific task to be reviewed by the presenter or other participants. Ask questions that are about the isolate's areas of expertise or strengths. Work with the person one-to-one or ask about the reasons for non-participation.</p>
The negative		
<p>Responds negatively to any new idea or task. Refuses to try new ideas or to consider them.</p>	<p>Poor self-concept. Lack of faith in ability to do the work. Has been required to attend the training.</p>	<p>Stay positive. State your perceptions of the situation in positive ways. Do not argue. Do not problem solve for the person. Brainstorm with the large group about ways to address the negative aspects that person identifies. "What would it take..." Ask the group to reserve judgement until the end. Ask what part of the topic could be adopted.</p>
The monopolize		
<p>Talks for long periods. Interrupts others. Repeats concerns frequently. Tries to speak first. Does not listen.</p>	<p>Insecure about participation. Insecure about own knowledge base. Need for attention.</p>	<p>Odder activities that require turn taking and multiple speakers. Offer activities that require each person to respond or pass.</p>

	Need for approval from the presenter or the group. May be naturally talkative. May desire to be in charge of the outcome.	Encourage participants to offer feedback to each other rather than in the large group. Provide a time limit for comments and questions that everyone in the group must abide by.
The expert		
Says that s/he already knows the content. Talks a lot. Volunteers to help the presenter. May offer incorrect facts.	Seeking respect and acknowledgement from other participants. Seeking approval or connection with the presenter.	Ensure opportunities with others. Spend a break or part of a lunch with the person.

Presentation skills

When planning a training session, trainers should pay attention to what trainees' remember from it. Estimated learning takes place:

- 10 % of what they read
- 20 % of what they hear
- 30 % of what they see
- 40 - 50 % of what they see and hear
- 50 % of what they discuss
- 70 % of what they experience
- 90 % of what they say as they do it

Trainers should engage participants in thinking, questioning, and experiencing themselves. Thus, trainers should not speak all the time alone, because effectiveness of learning decreases very soon, if participants are not integrated in the training.

Icebreakers

In the beginning of the session, it is important to get participants involved and engaged in an activity that requires them to talk and cooperate with the others. Icebreakers are the simple activities used at the beginning of a session to help participants learn

each other's names and/or backgrounds, share their experiences, or introduce the topic of the lecture. The right icebreaker can help to get a positive and enjoyable learning experience for both the trainer and the participants. During the ice-breakers participants should connect with at least one other person. Icebreakers should be topic related and at low risk so that participants would feel comfortable and easy. Time used for icebreakers should not be too long compared to the length of the session.

Presentations

The presentation (e.g. PowerPoint™ or Prezi (Prezi.com)) is used to support the content of the training and thus it should be clear and easy to read. The presentation is designed to be a visual support for both the trainer and the participants.

Assistive Technology Trainer's Handbook <https://www.natennetwork.org/wp-content/uploads/at-trainers-handbook.pdf>

Presentation Skills Training Resources and Articles <http://www.businesstrainingworks.com/training-resources/presentation-skills-articles>

How to create effective training materials <https://www.hpandt.com/howtocreateeffectivetrainingmanuals.pdf>

Figures, Tables and Videos

In order to improve the attractiveness of the lecture and the presentation it would be advisable to include figures or tables or videos into the presentation/ the lecture. Figures and tables illustrate the situations well and thus make it easier for the participants to assimilate the gained information. Presentations of success stories and case studies can be also included to this section. Internet and YouTube offer good opportunity for researching suitable videos.

This toolkit is a training program which can be delivered by experienced trainers / facilitators, with expert knowledge and skills in facilitating. http://www.knowledge.scot.nhs.uk/media/6866097/trainthetrainers__final_.pdf

Free training resources <https://www.trainingcoursematerial.com/free-training-resources>

Attitude awareness, motivation and engagement

According to the BJ Fogg Behavior Model, people take action when their motivation and ability to complete a task are both high and there is a triggering element (Figure 1). Behavioral changes will be expected during training if all three elements are present at the same time.

The model highlights three principal elements and their subcomponents:

- Core Motivators (Motivation): pleasure/pain, hope/fear, social acceptance/rejection; sensation, anticipation, belonging.
- Simplicity Factors (Ability): time, money, physical effort, brain cycles, social deviance, non-routine.
- Triggers: facilitator, spark, signal.

In the planning and implementing training sessions trainers have to create and keep the high motivation level, give skills to do things easier, and give something that calls to action. Training should give a positive learning experience and a feeling of a victory.

Attitude can be dealt in different ways during the training. Depending on what type of attitude question we have the solution of influencing into the attitude is somewhat different. Is there a need for attitudinal change, future oriented attitude, more positive attitude or an attitude that can see the comparative advantages? The training course objective should be created in a way that it emphasizes the nature of attitude change. Change should be seen both in participants' own attitude and in the attitude in SMEs to gain comparative advantages. Also, the importance of the concept in a global scale should be emphasized.

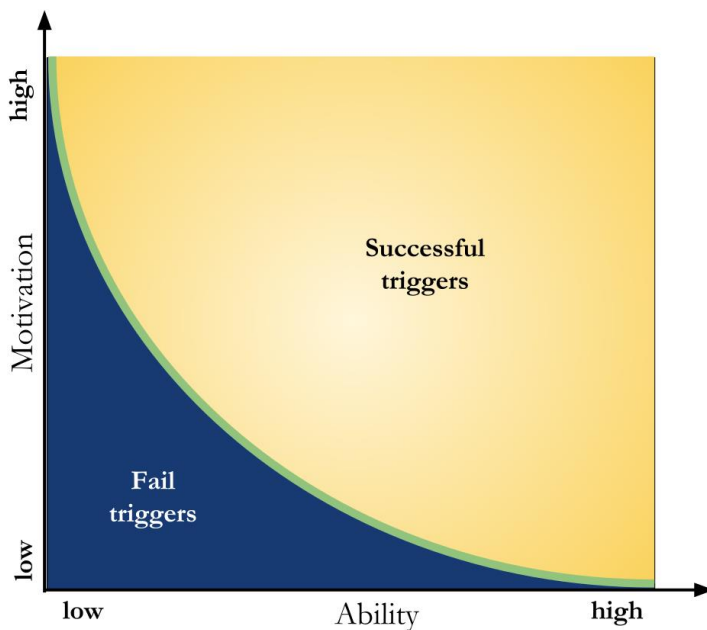
Effective training and learning rely on motivation. Trainers face challenges in making the lectures more interesting and motivating. Unfortunately, there is no single answer how to motivate participants. Trainers are advised to accommodate different learning styles, like visual, oral, or kinesthetics, during their training sessions.

When implementing the Training trainers should consider how they can translate theory into practice. Experimental learning is very powerful when trainers can combine participants' own experiences with the training program contents.

There are a range of exercises the trainer can effectively use in order to involve in the participants as much as possible to the learning process. The best way for adults to learn is when the new course material is based on their experiences, but when there is also left space for the debate among the participants. Many participants are experienced personnel who have valuable information to contribute. There are varieties of training methods and together they can give the possibility for a multi-faceted understanding of the course material.

One way to activate trainees is to include storytelling in the training sessions. Stories may make communication easier and insert personal touches in the sessions. Stories can be used as examples of right and wrong ways to perform tasks or skills. They could be used to activate participants to find different views on the topic. Trainers should also give floor to the participants' own stories.

Figure 1. The BJ Fogg Behavior Model (According to Goodmanguy - Own work, CC BY-SA 4.0, <https://commons.wikimedia.org/w/index.php?curid=58335488>).



There are several ways trainers can use to engage your audience throughout the training sessions:

- interesting materials, which will be used after the training, too pair or group discussions, involve participants in one way or another.
- case studies and examples from real life situations.
- role plays are excellent for example in supervisory, mentoring or coaching situations.
- demonstrations, videos, material samples, process simulations, etc.,
- Training methods: a review and analysis https://www.researchgate.net/publication/274980945_Training_Methods_A_Review_and_Analysis.
- The Trainer's Survival Guide has 25 different activities that make lecture-based programmers more active. They can be used during the training session, and they have tips for the trainer to get participants involved. <http://www.leotrainner.com/tactiveteach.pdf>.
- Storytelling Tips for Powerful Messages in ONE-hour https://ec.europa.eu/regional_policy/sources/informing/events/2511-virtual/melissa_rancourt_inio_meeting.pdf

Effective Training Techniques

The second part of this pedagogy deals with mentoring and coaching, spreading best practices, learning from the worst cases, effective questioning and appreciative inquiry, and creativity and innovations. There are several links to different kind of document, reports and videos about how to improve the training sessions.

Learning involves acquiring new knowledge, skills and attitudes that result in change in participants' ability to do something, i.e., in this Train the Trainer program the ability to apply effective training methods. The components in learning process include knowledge acquisition, thinking for understanding and doing in practice.

Group work and brainstorming

Group work can be applied in learning if the trainer wants participants to deal about the issue by debating and discussing. Group work in small groups gives all participants the opportunity to participate in the exercises and thus express their ideas. In order to get the best out of the group work would be good to get them goal orient-ed. The

participants should understand the task of the group work at hand, the timeframe, and the way of presenting the results.

In brainstorming the trainer asks an open-ended question and the participants come up with as many solutions as possible. The idea of brainstorming is to get participants involved and engaged in the training. Brainstorming should be based on few rules in order to get the best results. Example of the rule could be that there are no stupid or bad ideas.

Trainer's Handbook, Assistive Technology Trainer's handbook <https://www.natenetwork.org/wp-content/uploads/at-trainers-handbook.pdf>

MindTool Brainstorming <http://www.mindtools.com/brainstm.html>.

Mentoring and coaching

The EMCC glossary gives the following definition to coaching and mentoring: “It is a professionally guided process that inspires clients to maximize their personal and professional potential. It is a structured, purposeful and transformational process, helping clients to see and test alternative ways for improvement of competence, decision making and enhancement of quality of life. Coach and Mentor and client work together in a partnering relationship on strictly confidential terms. In this relationship, clients are experts on the content & decision-making level; the coach & mentor is an expert in professionally guiding the process”.

(<https://emccdrive.emccglobal.org/api/file/download/uKy7MLlofV6NoR4grJpyS-LZNGpbYoGntuZSeu9zf>)

Mentoring can be described as partnership between two people working in a same field or sharing same experiences. A mentor is a person helping the mentee to develop solutions to career related issues. Mentors should be helpful and get the mentee to believe in him/her while boosting his/her confidence. A good mentor also challenges and questions mentee, but in the meantime provides guidance and encouragement. The most important meanings of mentoring are to enable others to become more self-aware, to make them take responsible for their life and to direct their life in the direction they decide.

Coaching focuses on the individual needs of a person and is generally less formal than other kinds of training. A manager, supervisor, or other employees serve usually

as the coach. The coach works with the employee being coached when time allows and works with this employee to answer questions, make suggestions, leads to right track, and gives support and feedback. The differences between coaching and mentoring are shown in Table 2.

Table 2. Differences between coaching and mentoring (<https://www.usgs.gov/media/files/coaching-vs-mentoring-25-ways-theyre-different>).

Coaching	Mentoring
Task oriented	Relationship oriented
Short term	Long Term
Performance driven	Development driven
Can be done as needed; no design necessary	Program design needed to create effective program
Manager directly involved	Manager involved only indirectly
More easily evaluated and measured for ROI	Less easy to measure for ROI
Reliance on performance management systems, e.g. reviews, 360's etc.	Not dependent upon performance management systems
Feedback by coach to manager about progress in development	No feedback by mentor to manager
Coach paid for services	Mentor receives no compensation
Coach operates independently	Mentors operate with assistance from the Mentoring Program Manager
No training of coaches needed	Mentors and mentees trained
Focus is more on business issues than personal	Focus is on personal and professional development
Lower initial investment cost	Higher initial investment cost (lower over time)
Lends itself to online software	Management of the mentoring program lends itself to software but not the relationship itself

Coaches leave organization when done	Mentors and mentees remain in the organization and can provide ongoing mentoring to others
Done by inside or outside content expert	Mentors are normally within the company
Can be done for remedial purposes	Never remedial
Internal politics not usually affected	Internal politics a consideration in program design
Cultural change may/may not occur	Mentoring is transformational and affects the culture
Diversity may or may not be included	Diversity is a component of mentoring
Coaching done 1-on-1	Mentoring most often is done 1-on-1 but other models may be used as well
Content expertise more important in coaching	Interpersonal skills more important in mentoring
Manager can be coach of own employee	Mentor is outside mentee's direct supervisory line
Coaching is one-directional	Mentoring is bi-directional
Coaching is focused on the businessperson	Mentoring involves all aspects of the person
Behavioral transformation	Personal transformation

- Information on business mentoring, successful mentorship and the benefits of mentoring can be found from the Website <https://www.micromentor.org/>
- Videos: <http://mentoring-works.com/resources/videos/>

Effective questioning and appreciative inquiry

Learning can be promoted by effective questions. By questions trainers can motivate participants, keep their interest on the key issues, and engage them in the learning

process. Questions can also be seen as means of fostering knowledge sharing and creation among participants. Should you be worried if participants do not have questions? Yes, you should. In the beginning of the session's trainer should encourage participants to ask questions. There are no silly questions. If there are no questions from the audience, pose them a question. If you do not know the answer, ask help from the participants. Someone from the audience might know the answer. Of course, you can always give links to Internet sites with further information.

In the SMEs problems can be solved by using the 4D-model or 5D-model. The four common phases are:

- Define: you have to know the current situation and it's positive aspects
- Discovery: analyze what works well currently
- Dream: dream vision of what is the bright future, brainstorm creative and innovative ideas
- Design: build the dream, plan systems, processes, and strategies

The fifth phase in the 5D-model is (Figure 2):

- Deliver, which is the implementation towards the dream.
- MindTools Appreciative inquiry http://www.mindtools.com/pages/article/newTMC_85.htm
- Center for Appreciative Inquiry <http://www.centerforappreciativeinquiry.net/>

Best practices and worst cases in knowledge creation and sharing.

Best practices can be defined as “practices that consistently show results superior to those achieved with other means”. (European Commission report on best practices p.17) Best practice examples can be used as a support and example during the training session. Good examples can be asked from participants.

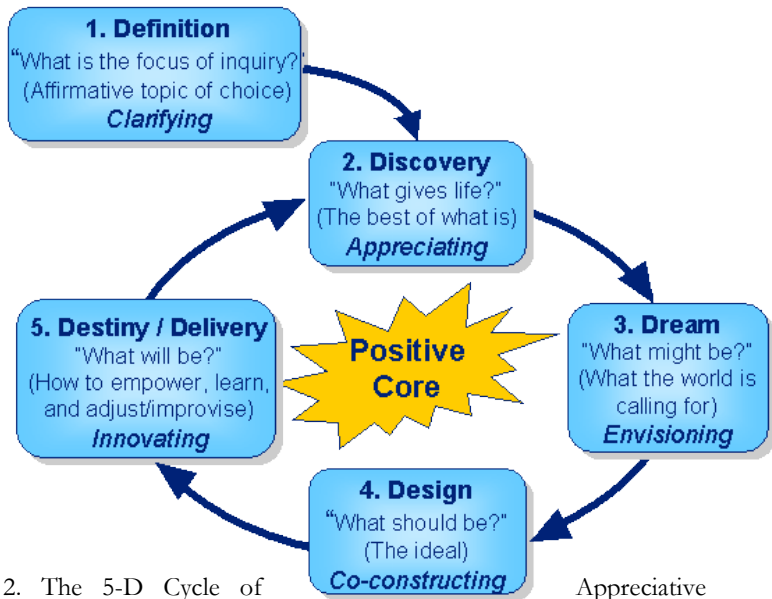


Figure 2. The 5-D Cycle of Appreciative Inquiry
http://www.metavolution.com/rsrc/articles/whatis_ai.htm

- Small Business Act - Database of good practices <https://ec.europa.eu/growth/tools-databases/sme-best-practices/SBA/index.cfm?fuseaction=welcome.detail>
- Enterprise Europe Network, Success stories <https://een.ec.europa.eu/success-stories>

Worst cases can be defined as “: involving, projecting, or providing for the worst possible circumstances or outcome of a given situation” (<https://www.merriam-webster.com/dictionary/worst-case>). During the training session worst cases can be helpful to the participants in order to help their planning of the future expenditure cuts and

contingency in their businesses. Unfortunately, examples from the worst cases are not easily found.

Experiences from a real working life and companies should be included in the training programs. During group activities possible solutions for the acute changes could be developed.

Foresight methodology: https://www.interregeurope.eu/fileadmin/user_upload/tx_tevprojects/library/file_1553867970.pdf

Creativity and innovations

Creativity and innovations are closely related to the productivity in SMEs. European Commission promotes innovations in SMEs, like technological breakthroughs, new processes and business models, non-technological innovations and innovations in the services sector. Creativity, use of new knowledge and capturing tacit knowledge will strengthen productivity of SMEs. When knowledge is transferred effectively, new product, process and service innovations have a change to be invented.

- European small business portal has gathered together all the information provided by the EU for SMEs, ranging from practical advice to policy issues. http://ec.europa.eu/small-business/index_en.htm
- European Commission, Innovations http://ec.europa.eu/growth/industry/innovation/index_en.htm
- MindTools Creativity tools http://www.mindtools.com/pages/main/newMN_CT.htm

Digital Training and Learning Tools

Technology plays a fundamental role in the processes of train the trainer education and learning. Digital training and learning tools can be used in several ways to support the teaching and learning process. The number of digital tools available is huge, so only a couple of the main type of applications will be presented. The role of these tools is to give autonomy to the trainee and encourage trainees to collaborate with other trainees and facilitate communication with the trainer and trainees. Digital tools can be used in multiple ways via mobile devices. With train the trainer process technology will give much wider ways to conduct training sessions, to be integrated as supplement tools in

face-to-face teaching or to support mentoring or coaching process either online or offline.

Pedagogy in digital environments

When utilizing digital training and learning tools, the pedagogical approach has to be rethought. All three forms of knowledge, i.e. content, pedagogy, and technology, have to be considered simultaneously in unique contexts as shown in Figure 3. Since train the trainer courses differ from the level of trainees, the cultures and lecturers, each course is unique. Traditional training events are unique too, but the complexity of training with digital tools brings more pedagogical challenges. Transition to the use of digital training and learning tools means much more than just transfer of materials and activities to the digital environment.

Examples of learning platforms and tools

Some of the learning platforms and tools are shortly presented here. Tools enable not only online video meeting, but also managing daily tasks and storing documents in cloud services. Tools work as well as well on mobile devices and desktops or laptops. The following platforms and tools are only examples from different kinds of applications, and freer and fee paid versions and applications are in the Internet.

Moodle is an open-source learning management system (<https://moodle.org/?lang=fi>).

The platform is available in several languages.

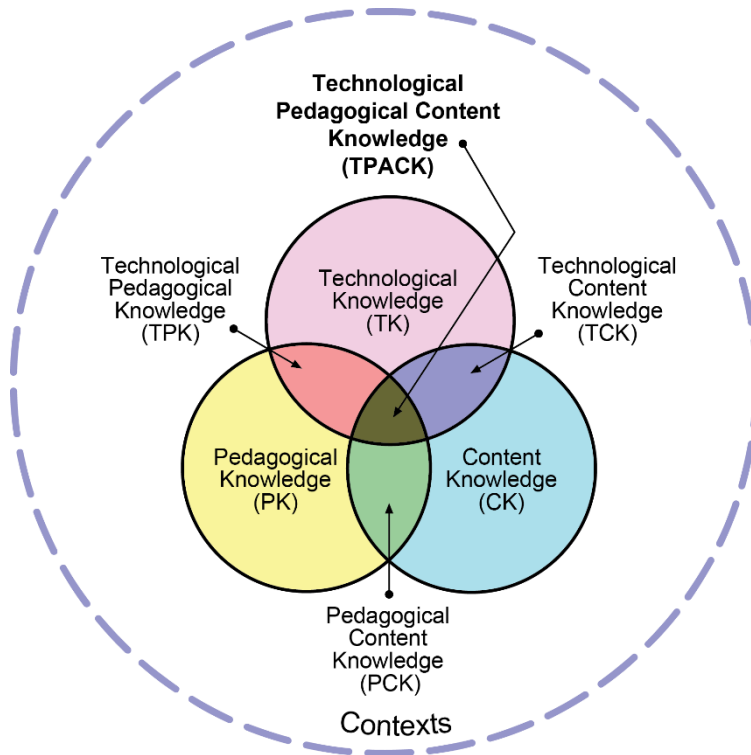


Figure 3. Components of TPACK (© 2012 by tpack.org, <http://tpack.org>).

Hubs for meetings and conferencing, chatting and collaborations are Microsoft Teams (<https://www.microsoft.com/en-us/microsoft-teams/group-chat-software>) and ZOOM (<https://zoom.us/>).

Collaborative tools offer versatile visualization tools for collaborative knowledge building. Visual thinking tools are applicable in various business and training cases, such as project planning, meeting management, brainstorming, idea management, knowledge management, and note taking. Participants can simultaneously create content and new ideas or create mind maps. Some examples of collaborative tools are Flinga whiteboard (<http://www.nordtouch.fi/>), Miro (<https://miro.com/>) and Padlet (<https://padlet.com>).

Kahoot! is a game-based learning platform for creating, sharing and playing learning games or trivia quizzes (<https://kahoot.com/>).

Online feedback can be collected by many different platforms. E.g., some of the collaborative tools enable anonymous input and can be modified to be used in collecting the feedback. More sophisticated tools, for example Google Forms and Microsoft Forms, enable conducting a survey and importing the results to the Excel or other spreadsheet program to be analyzed.

Tools that are particularly designed to collect feedback are for example SurveySparrow (<https://surveysparrow.com/>), GetFeedback (<https://www.getfeedback.com/>) and Gainsight PX (<https://www.gainsight.com/>) that is particularly designed to catch user feedback from digital platforms, applications and services.

Concerning the educational purposes there are several free web tools that can be used to gather feedback from students. Feedback can be both formally and informally. It is also possible to use these tools to poll students about a learning event, assess their level of comprehension, or simply to get to know their opinions about a certain topic. Some of these tools will be listed below:

- Poll Everywhere (<http://www.polleverywhere.com/>)
- Kwiqpoll (<http://kwiqpoll.com/>)
- TodaysMeet (<http://todaysmeet.com/>)
- SimpleMeet Me (<http://www.simplemeet.me/#>)
- Urtack (<https://urtak.com/>)

Each tool has its own properties and particular purpose it has been designed for. Thus, it could be a good idea to get known with several tools before choosing the one to be used just in the case on hands.

- Digital pedagogy <https://www.tuni.fi/tlc/en/planning-and-implementation-of-teaching/digital-pedagogics/>
- Digital pedagogy toolkit <https://www.jisc.ac.uk/full-guide/digital-pedagogy-toolkit#>
- Hybrid pedagogy <https://hybridpedagogy.org/>
- Pedagogics in digital learning <https://unips.fi/pedagogics-in-digital-learning/>

- Automatic feedback in online learning environments: A systematic literature review <https://www.sciencedirect.com/science/article/pii/S2666920X21000217>

3.22.3 Coaching Process

The entire training from the first approach of the participants to the execution of the test and the end of the training must be accompanied by individual coaching, which is particularly intensive in phase 2 of the training. Within the scope of the coaching, all relevant subject areas must be covered, for example, consultations with the participants and the participating companies, transfer of know-how and information, determination of needs and implementation of follow-up training, referral to experts, organization of information and experience exchange, etc., up to assistance with personal questions or problems.

The words “coaching” and “consultation” are often used interchangeably. However, strictly taken, these concepts imply very different notions. Coaching focuses on a goal- and results-oriented process which helps clients to find their own solutions. It is therefore understood as a method that enables those facing special (often professional) challenges or problems to manage them (largely) independently. Due to this self-understanding, it becomes clear that a coach is not an advisor or consultant answering the questions of the person seeking advice, but a coach enables the client, through certain questions and techniques, to ask the “right” questions and find the answers by him or herself.

The task of consultants or advisers, on the other hand, is to answer specific questions of the person seeking advice as an expert on the topic. Hence, the solution or answer to the question of the advice seeker is given by another person, implying that the person seeking advice does not need to further investigate the issue.

Nevertheless, there are some common characteristics of the two processes:

Profound expertise and professionalism: usually acquired through university studies, training and with extensive professional experience.

Reflexivity: Here understood as a systematic and well-founded thinking about one's own actions and activities as well as the structures and processes with which one pursues a goal.

Value orientation and positive image of man understood here as an appreciation and recognition of the diversity of personalities, a personality's dynamics, and changeability.

Working in and with networks: as a necessary condition for pursuing goals and increasing professionalism.

As part of the ICIinSMEs project, due to the complexity of challenges and issues faced by participants and SMEs, it can be assumed that there will be no clearly de-fined border between coaching or counselling support from the coaches/advisors. Both can be appropriate, important and necessary depending on the case. There-fore, consulting or coaching is seen in this context as an interactive process in which both, the strong support of the consultant or coach and active participation of the person seeking advice, is of immense importance for solving the problem at hand. Within the "ICI4SMEs" project, this process should be based on the "Case Management Model" increasingly used in the realm of social work.

Case management is an extremely complex and intensive process carried out together with the advice seeker. It is always on a voluntary basis and requires the consent of the person seeking advice. Cases in which a case management structure is worthwhile are particularly complex problem situations for whose solution a large number of helpers from different areas is required. This also means that multiple coaching sessions will be necessary. Furthermore, setting up case management structures is a time-consuming and labor-intensive process. Therefore, it cannot be expected that the advisors/coaches of the project participants will fully implement this concept. Nevertheless, it should serve as a suggestion for structuring the coaching process.

The case management process is divided into two levels: the case level and the (care) systems level. At case level, the case manager focuses on the person seeking advice. First, the case is assessed. In this phase information is collected comprehensively, systematically and without judgement or evaluation. The next step of this phase is a conscious decision which problem should be worked on made jointly by the case manager and the advice seeker. Once this decision has been made, hypotheses are formulated to come up with different explanations for the selected problem. These hypotheses

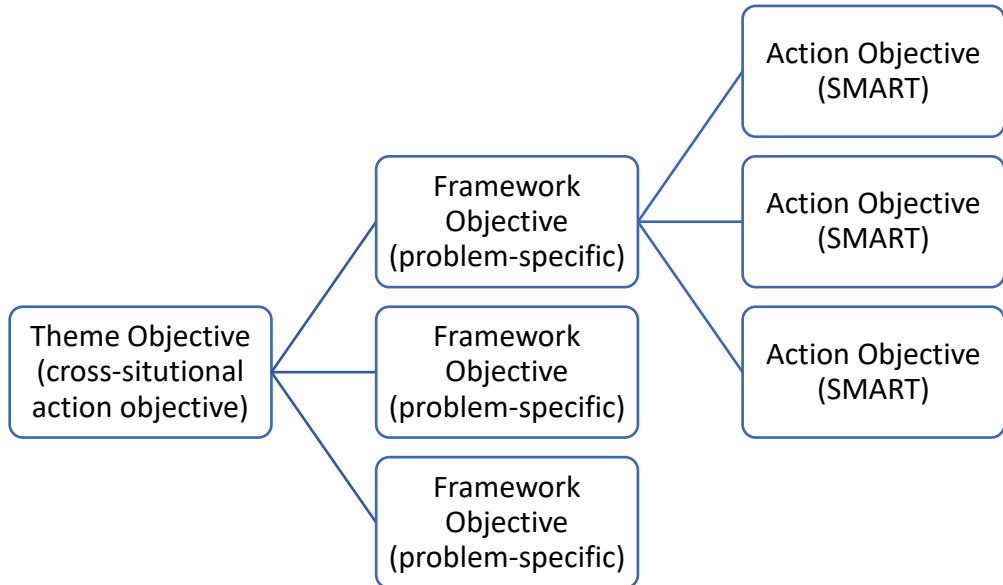
facilitate the formulation of action goals in the next phase. In the case of this project, the selected problem should be the desired self-employment as entrepreneur. Furthermore, it is important to record strengths, competences, and resources of the participant to be able to draw on them when solving the selected problem during the coaching process.

In the next phase (planning) an individual support plan is drawn up. Here, a distinction is made between theme, framework, and action objectives. It is crucial to adhere to the hierarchy moving from the abstract theme objectives to the concrete action objectives. Theme objectives take interests and hopes into account, they are personal, easy to understand and formulated in a positive way – they reflect the participant’s visions. Framework objectives relate specifically to the guiding problem (i.e., self-employment as entrepreneur) and its explanation hypotheses. They are generally in line with the theme objectives. Lastly, action objectives are formulated to concretely implement the framework objectives. They are incremental and must be manageable for the participant. The so-called SMART criteria (specific, measurable, acceptable/attractive, realistic, timed and strength-oriented) should be taken into account when formulating the action objectives.

In the case level’s next phase, it is a matter of implementing the defined objectives. In contrast to regular counselling, in case management this phase is more than just a recommendation and placement into assistance services. Here, close accompaniment and, if necessary, support is foreseen. The process is oriented towards the wishes, strengths and resources of the participant to initiate a helping process that is as autonomous as possible (keyword empowerment). If many different institutions work together, so-called case conferences can be of an advantage to make cooperation more effective.

Before ending the case management process as well as already during the implementation phase, the process should be closely monitored and if, necessary, modified by the advisor/coach. The close accompaniment of the change process by the advisor/coach offers the participant additional support.

The end of the process should be active and binding. It contains elements of reflection, evaluation and farewell in which the handling of new situations without the advisor/coach should also be discussed.



The systems level of case management focuses on all the organizations and specialists who are involved in the solution process for those seeking advice. Here it is helpful to fall back on already existing networks of the advisor/coach as well as of the participant.

3.23 Examination Regulation and International Recognition⁵

3.23.1 Examination Regulation

The training program "Realization of customer-centered innovations" can be examined alternatively:

⁵ Prepared by Dr. Jürgen Hogeförster, Hanse.Parlament

- On the basis of an official examination regulation leading to a state-recognized degree. The following examination regulations fulfil this purpose.
- As an internal audit, which is also carried out on the basis of the following examination regulations but does not lead to a recognized degree. In this case, the participants will receive a certificate and attestation showing the overall examination grade.

Wherever possible, examinations should be based on official examination regulations and training should end with a recognized further vocational training degree. If the necessary legal basis for this does not exist in individual countries and cannot be created during the project period, an internal examination is to be carried out, which is, however, also implemented in accordance with the official examination regulations below and documented in a certificate.

Official Examination Regulation

§ 1 Purpose of the examination and designation of the degree

- 1) The examination is intended to determine whether the candidate possesses the necessary knowledge, skills and experience required in implementing of customer-centered innovations in SMEs.
- 2) A successful pass in this examination leads to a recognized degree in
(for example, specialist for customer innovation in SMEs).

§ 2 Requirements

The examination is to admit those who have:

- 1) Successfully completed vocational training or have at least five years' professional experience
- 2) Further to Paragraph 1), admission to the examination may also be granted on presentation of certificates or otherwise, as proof that the requisite knowledge, skills and experience have been acquired in previous activities and can justify admission to the examination.

§ 3 Structure, content and duration of the test

- 1) Theoretical fundamentals

In the first part of the examination, basic knowledge in the following fields of activity must be demonstrated:

a) Analysis of the operational framework conditions with regard to the current and future management and realization of customer-centred innovations.

b) Submission of economically justified proposals for the realization of customer-centred innovations.

c) Activities for the implementation of customer-centred innovation measures in the company.

d) Checking the suitability, selection and use of digital technologies for the realization of customer-centred innovations.

e) Examination of the operational suitability of the innovation measures.

f) Development of optimization proposals for the improvement of the innovation measures and the use of digital technologies.

2) Planning, implementation and evaluation of customer-centred innovation measures and use of digital technologies in the company.

In the second part of the examination, the examinee is to demonstrate that he/she is able to plan, implement and evaluate a company-related innovation project. This includes:

a) the identification of company innovation fields of action in SMEs

b) planning innovation activities in the company and using digital technologies for this purpose

c) the presentation of advantages and disadvantages in the implementation of customer-centred innovation activities in the company

d) the anchoring of digitalization in the realization of customer-centred innovation activities in the company as a project

e) Measures to check the suitability of measures and digital technologies for the acquisition and realization of customer-centred innovation activities in the company.

3) The third part of the examination is in the form of a project work, which is to be prepared as a written, extra-occupational term paper. The scope and processing time of the project work is determined by the examination board.

4) The first part of the examination is oral and should not take longer than 30 minutes in total.

5) The second part of the examination is conducted in writing and should not exceed 60 minutes.

6) On the basis of the examination performances in the project work, a technical discussion is to be held in which the candidate is to show that he/she can demonstrate the technical connections underlying the project work, justify the course of the project work and present technical problems associated with the project work and their solutions. The technical discussion should not last longer than 15 minutes.

§ 4 Consideration of previous examinations

1) The examinee can apply for exemption from the examination in individual areas of action, if he/she has passed a previous examination before a competent authority, a public or state accredited educational institution or before a state examination board whose content requirements correspond to the respective fields of activity.

2) A complete exemption is not allowed.

§ 5 Passing the written and oral examinations

1) The examination results in the parts stipulated in § 3 must be assessed separately.

2) The number of points obtained in the three papers for the oral and written examinations should be summarized into a total score. The final grade is therefore:

15% from the first part of the examination,

25% from the written examination in the second part of the test,

40% of the project work in the third part of the test and

20% of the technical discussion in the third examination.

3) The written examination of the second part of the examination must be supplemented by an oral examination if this can be decisive for passing the examination. The oral examination should not last longer than 15 minutes per examination.

4) The examination is passed if at least sufficient performance has been achieved in each examination part.

5) A certificate is to be issued on passing the examination, which must show the overall examination grade.

§ 6 Retests

(1) An examination which was not passed can be repeated twice.

(2) If the candidate has passed individual sections of the examination but has not performed at least adequately in sections in accordance with §3, the parts successfully passed must not be repeated on further application, provided that the candidate has filed for reassessment within two years from the date of the declared result of the failed examination. The assessment of the examination will be made with regard to this factor.

§ 7 Application of other provisions

For all craft and non-craft occupations, the respective training examination regulations apply in their currently valid version.

3.23.2 Evaluation in the Qualification Framework and International Recognition

Qualifications Framework “Baltic Sea Region”

A qualifications framework for the Baltic Sea Region was designed under the Project Leonardo “Baltic Education”. By means of the European Credit Transfer System of Vocational Education and Training (ECVET), this “BSR-QF” provided the basis for the evaluation of two craft occupations – “carpenter” and “painter”. ECVET is a system which allows to characterize qualification (knowledge, skills and competence) by transferable and accumulable learning units and to assign credit points to the learning

outcomes. The BSR-QF and the applied ECVET process for the two named occupations formed the basis for the evaluation of the advanced training programs "Realization of customer-centred innovations".

EQF and BSR-QF – an introduction

The Maastricht Declaration of 2004, the Lisbon Strategy of 2000 as well as several other European Union initiatives, and in this context specifically dedicated funding to raise the geographical and labor market mobility and to promote lifelong learning, will yield increased employment and economic growth across EU countries. Rapid social, technological and economic changes along with an aging society make lifelong learning a necessity. For that reason, education is a major component to meet and to achieve the ambitious Lisbon goals. Hence, the European Commission has induced to develop a European Qualifications Framework and to establish National Qualifications Frameworks (hereinafter: NQF) by 2010. The modelling of National Qualifications Frameworks lies in the competence of national authorities, whereas the EU-Commission has recommended that the EU Member States implement NQFs. The European Qualifications Framework represents a meta-framework and is considered by the European Commission as crucial in meeting European objectives, set out in the Lisbon Strategy.

The main purpose of a qualifications framework is to improve transparency, quality and comparability of professional and academic qualification levels across differing education systems and European countries. The EQF itself does not constitute a formal recognition of occupational qualifications. A special feature of Europe is the enormous diversity of educational systems. A prerequisite to make this specificity an asset is to foster transparency.

Transparency can be considered as a fundamental prerequisite for the recognition of qualifications, and it improves comparability. Better comparability between countries is a decisive element to increase labor mobility and to ensure permeability of qualifications, whereby permeability constitutes a prerequisite for lifelong learning.

In the near future, qualifications frameworks must meet these criteria with concrete and well-designed concepts. A qualifications framework is an appropriate tool for the development and for classifying qualifications. The European Qualifications Framework was adopted in November 2007.

Under the project “Baltic Education”, constructive and fruitful discussions at European and national levels should be encouraged by a “Baltic Sea Region Qualifications Framework” (hereinafter: BSR-QF). This BSR-QF should be regarded as a supplement and contribution to the ongoing debate rather than a substitute for the shaping of National Qualifications Frameworks. The project “Baltic Education” has delivered a sizeable contribution to this strategy.

The Baltic Sea Region (BSR) is an area with a considerable number of different countries. These countries share common problems as they endeavor to cope with the same economic and demographic challenges and concerns. It is essential for this region to further develop vocational training, to improve quality and to establish transparency and recognition models. To solve these complex issues, the BSR-QF provides an orientation, allowing for classifications across the whole qualification range and also serving as a common ground for constructive discussions, conceptual considerations and individual progress.

The Baltic Sea Region Qualifications Framework

The BSR-QF comprises eight qualification levels that take into account acquired skills from the European Higher Education Area (EHEA) plus vocational qualifications and competences.

This concept is consistent with the recommendations of the European Commission. Table 1 shows the elaborated proposal for the BSR-QF. The following presents a brief overview of the respective competence levels of the BSR-QF. The following section provides more detailed information on the methodology and descriptors that have been developed and used for the BSR-QF.

Competence level 1 – Basic education

Skills profiles to be reached at this stage are general basic training skills and they will not be counted to vocational training or academic education. Basic training is a prerequisite to gain access to higher qualification levels. The development of learning skills still requires resolute continued guided support. It is not possible to assign this skills level to a specific domain. Therefore, qualifications in this level are domain independent.

Competence level 2 – No vocational training

Level 2 comprises the first level of vocational training (VET area). Qualifications at this stage are not specifically pronounced, since knowledge and skills are at an early stage of evolving. Methods and social skills are not yet domain specific. 1 to 2-year qualification programs, training phases and vocational training preparation phases are covered by this stage.

Tab.1: Baltic Sea Region-Qualifications Framework

Level	Education Degree	Framework for Qualification of the VET* area and EHEA**
1	<i>Basic Education</i>	-
2	<i>No Vocational Graduation</i> graduation/training after/for 1-2 years, and work and apprenticeship preparation phase (at the age of 15/16)	First cycle VET area
3	<i>Lower Vocational Graduation</i> certificate of apprenticeship (in 2-4 years), and no/limited professional or experience (certificate of apprenticeship + <5 years of profession experience)	Second cycle VET area
4	<i>Middle Vocational Graduation</i> long profession experience as skilled worker (certificate of apprenticeship + ≥ 5 years of profession experience); comprehensive further education; “young master craftsman” with no/limited professional experiences (<3 years of profession experience)	Third cycle VET area
5	<i>Upper Vocational Graduation</i> master craftsman with long profession experiences as master (≥ 3 years); “master craftsman plus”; long	Fourth cycle VET area and short cycle academic area

Level	Education Degree	Framework for Qualification of the VET* area and EHEA**
	profession experiences and further education (certificate of apprenticeship + ≥ 8 years of profession experience); introductory study period	
6	Bachelor (academic bachelor's degree) and other similar qualifications and competences	Fifth cycle VET area and first cycle academic area
7	Master (academic master's degree) and other high qualifications and competences	Sixth cycle VET area and second cycle academic area
8	PhD and other very high qualifications and competences	Seventh cycle VET area and third cycle academic area

Competence level 3 – Lower vocational training

Level 3 covers complete vocational training from a training period of 2 to 4 years. Access to the competence level of a lower vocational training is possible after completion of a secondary school or after reaching the competence level 2. This involves professional skills, equivalent with an expertise level of an initial vocational training. The graduate has no or limited work experience. Qualifications at this level include a broad general education and an initial job specific expertise. Therefore, only specific parts of a domain will be covered in this qualification level. Completion of the skill level 3 is a precondition for achieving the competence levels 4 and 5.

Competence level 4 – Intermediate vocational education

Compared to Level 3, this level specifies a higher degree of professional and technical expertise. Vocational training qualifications, extensive advanced training, “Young master craftsman”, and long work experience are covered by this stage. The level in this field is relatively high and all parts of a professional domain are covered. Level 4 qualifications indicate great job specific knowledge and skills. In this level, a person can

be regarded as a specialist who has the knowledge and skills to solve problems relatively independently. Finally, achieving level 4 along with extensive advanced training, allows a limited number of candidates with ambitious and superb qualifications to access an academic bachelor level, without having previously obtained a general qualification for university entrance.

Competence level 5 – Higher vocational education

At this stage, candidates already have a formal vocational qualification as a master craftsman, including follow-up trainings; they have long professional experience and thus a high degree of technical expertise. Each part of a domain is covered at a high level, but without scientific expertise. Knowledge acquired by candidates at this competence level comprise autonomous learning, broad theoretical and practical knowledge. At this relatively high level of competence basic academic studies are touched upon. Completing of the competence level 5 with comprehensive, previous vocational education and further training (e.g. as “Master Craftsman Plus”) gives access to competence level 6, without having a general qualification for university entrance. It is possible to obtain credits for university entrance, based upon previously acquired knowledge (maximum 120 credit points). Nevertheless, persons who seek access to the bachelor level, must pass an individual interview. Competence level 5 covers the short academic cycle with regard to the European Higher Education Area (EHEA). University students with circa 120 credit points are within competence level 5.

Competence level 6 – Bachelor and other comparable education and skills

Candidates within this qualification range have already completed the first cycle of the EHR and the 5th level of vocational training. The academic bachelor’s degree is obtained by students who usually scored 180-240 credit points. Level 6 qualifications feature advanced theoretical knowledge and skills. This also applies to individuals with completed vocational training and notably domain-oriented knowledge. Precondition for access to the competence level 6 is the general qualification for university entrance or similar sophisticated competences and skills within a domain-specific education. Completing the qualification levels 4 and 5 also opens up access to the competence level 6.

Competence level 7 – Master and other higher qualification and skills

Having an outstanding domain-specific knowledge, candidates are at a significantly high level within this stage. They are highly qualified professionals, with advanced training and skills in a most deeply specific domain. Qualifications at this level include self-determined and theoretical learning. The master's degree is one of the conditions for reaching the third level of the academic cycle. Competence Level 7 is the second highest qualification of the EHR and the second highest level of the vocational training cycle.

Competence level 8 – PhD and other first-rate qualifications and skills

A PhD title is one of the highest academic degrees and it is the highest level within the EHR system. An academic person at this proficiency level is a professional and expert. Competence level 8 is the highest vocational training cycle to be reached by individuals. These persons have outstanding expertise and intellectual abilities in a most highly specific domain field. Persons at qualification level 8 have leadership skills and experience as well as potential for critical, methodical analyses, assessments and presentations.

Methodology and Descriptors

The proficiency levels measure professional, personal skills, abilities, and competences within a specific domain. It is a method to classify and assess qualifications in levels. It is not the acquired diplomas but skills that are subject to assessment in levels. Qualifications are understood as a set of skills. A competence is defined as the ability to meet tough requirements in a specific context. Competent execution or effective actions involve the mobilization of expertise, cognitive and practical skills as well as social and behavioral components such as attitudes, emotions, values and motivations. Skills are more than school and work-related knowledge. It is therefore a consistent argument that (professional) skills comprehensively include social and personal competence. Skills, as they are set out in the BSR-QF, are not occupation-specific, but they are in fact aggregates. Hence, educational degrees were used in the project to describe, illustrate and classify skills. This increases the legitimacy among stakeholders, builds on familiar ways of thinking and classification patterns and enables easy, transparent and unbureaucratic description and understanding.

Table 2 shows the descriptors for each skills level of the BSR-QF. The descriptors “expertise” and “competence” are equivalent to the descriptors in the EQF.

The Baltic Sea Region Qualifications Framework contributes to the discussion and advisory debate on the development of the National Qualifications Framework. The design is consistent with the structures and methods of the European Commission. This BSR-QF contributes to the fostering of education and the economy of the Baltic States as it presents an instrument to reduce cross-border barriers, which limit the work-related mobility and productivity dependent thereon. Accordingly, the BSR-QF has been accepted by the members of the Hanseatic Parliament in the General Assembly on 8 November 2007 in Vilnius as a substantial support and development tool. In the further work of the present project, the BSR-QF ensures orientation for grading, structuring and evaluation of individual professions.

Tab. 2: Descriptors for competence levels 1-8 (Source: Own research)

Level	Expertise*	(Methodological) Competence*	(Formal) education degree	Frame-work for Qualification of the VET area and EHEA
	<i>In the BSR-QF, expertise is described as knowledge and skills (equivalent with EQF)</i>	<i>In the BSR-QF, competence describes the degree of responsibility and autonomy</i>	<i>The (Formal) education degree describes the degree which can be reached by an individual</i>	<i>The framework VET area and EHEA is a modified and extended EHEA framework</i>
1	Basic general Education; basic skills required to carry out simple tasks	Work under direct supervision in a structured context	–	–
2	Basic factual knowledge of a field of work or study; basic	Work under direct supervision in a structured	graduation/training after/for 1-2 years, and work and	First cycle VET area

	cognitive and practical skills required to use relevant information in order to carry out tasks and to solve routine problems using simple rules and tools	context with some autonomy	apprenticeship preparation phase (at the age of 15/16)	
3	Knowledge of facts, principles, processes and general concepts, in a domain; a range of cognitive and practical skills required to accomplish tasks and solve problems by selecting and applying basic methods, tools, materials and information	Take responsibility for completion of tasks in work; adapt own behaviour to circumstances in solving problems	Certificate of apprenticeship (in 2 - 4 years), and no/limited professional or experience (certificate of apprenticeship + < 5 years of profession experience)	Second cycle VET area
4	Factual and theoretical knowledge in broad contexts within a domain; a range of cognitive and practical skills required to generate solution to specific problems in a domain	Exercise self-management within the guidelines of work contexts that are usually predictable, but are subject to change supervise the routine work of others, taking some responsibility for the evaluation and improvement of work activities	Long profession experience as skilled worker (certificate of apprenticeship + \geq 5 years of profession experience); comprehensive further education; “young master craftsman” with no/limited professional experiences (< 3 years of profession experience)	Third cycle VET area

5	Comprehensive, specialised, factual and theoretical knowledge within a domain and an awareness of the boundaries of that knowledge; a comprehensive range of cognitive and practical skills required to develop creative solutions to abstract problems	Exercise management and supervision in contexts of work or study activities with unpredictable change; review and develop performance of self and others	Master craftsman with long profession experiences as master (≥ 3 years); “master craftsman plus”; long profession experiences and further education (certificate of apprenticeship + ≥ 8 years of profession experience); introductory study period	Fourth cycle VET area and short cycle academic area
6	Advanced knowledge of a field of work or study, involving a critical understanding of theories and principles; advanced skills, demonstrating mastery and innovation required to solve complex and unpredictable problems in a specialised domain	manage complex technical or professional activities or projects, taking responsibility for decision-making in unpredictable work or study contexts take responsibility for managing professional development of individuals and groups	Bachelor (academic bachelor’s degree) and other similar qualifications and competences	Fifth cycle VET area and first cycle academic area
7	Highly specialised knowledge, some of which is at the forefront of knowledge in a field of work or study, as the basis for original thinking; critical awareness of knowledge	manage and transform work or study contexts that are complex, unpredictable and require new strategic approaches take responsibility for contributing	Master (academic master’s degree) and other high qualifications and competences	Sixth cycle VET area and second cycle academic area

	issues in a field and at the interface between different fields; specialised problem-solving skills required in research and or innovation in order to develop new knowledge and procedures and to integrate knowledge from different fields	to professional knowledge and practice and/or for reviewing the strategic performance of teams		
8	Knowledge at the most advanced frontier of a field of work or study and at the interface between domains; the most advanced and specialised skills and techniques, including synthesis and evaluation, required to solve critical problems in research and or innovation and to extend and redefine existing knowledge or professional practice	demonstrate substantial authority, innovation, autonomy, scholarly and professional integrity and sustained commitment to the development of new ideas or processes at the forefront of work or study contexts including research.	PhD and other very high qualifications and competences	Seventh cycle VET area and third cycle academic area

* European Commission (EC) (2006): Implementing the Community Lisbon Program. Proposal for a recommendation of the European Parliament and of the Council on the establishment of the European Qualifications Framework for lifelong learning. COM (2006) 479 final, 2006/0163 (COD), Brussels.

Structuring and evaluation

The objective of the Baltic Education Project was to develop, introduce and implement a system for mutual recognition of professional qualifications. This will be achieved by using the European Credit Transfer System of Vocational Education and Training (ECVET). ECVET is a system that enables describing qualifications by transferable and accumulable learning units (in the form of knowledge, skills and competence) and corresponding allocated credit units.

ECVET also perfectly complements the European Qualifications Framework. In its guidelines, the European Commission outlined the overall concept as follows:

- a) focus on learning outcomes expressed in terms of knowledge, skills and competence.
- b) based on a process of qualification.
- c) adapted to the demands of lifelong learning and all learning contexts, on an equal footing.
- d) geared towards the mobility of people.

Further ECVET consultation guidelines and regulations specify:

- a) mobility of people undertaking training.
- b) validation of the outcomes of lifelong learning.
- c) transparency of qualifications.
- d) mutual trust and cooperation between vocational training and education providers in Europe.

In a first step, the individual training modules are evaluated according to the principle "25 training hours = 1 credit point". Based on this starting point, in a second step the significance and content of each training module is evaluated by project partners and experts and then the credit points for each module are determined in a group evaluation.

Within the framework of the "Baltic Education" project, a procedure for the mutual international recognition of vocational education and further training qualifications was developed and agreed with all countries bordering the Baltic Sea. Following this agreement, the project developed and agreed a procedure for the recognition of

qualifications from all training courses. The following procedure then follows for the international recognition of the degrees of all training courses of the project.

- Lecturers/examiner rates the courses by assigning credit points.
- Mutual recognition of completion in the Baltic Sea countries follows upon fulfilment of the following conditions:
 - a) The final exam was passed.
 - b) The assessment of the course has resulted in at least 80 % of the possible credit points shown in Tables 3 (20% margin of tolerance).
 - c) Skills were acquired in all three mandatory modules
- Where they do not yet exist, each of the future participants will receive an EU education passport in which the results are documented.

Structuring and evaluation of further vocational trainings

The training program comprises three modules, which are classified as mandatory modules, in which knowledge and skills have to be acquired.

With regard to the assignment of the trainings in the BSR-QF, the classification was made competence level 5 “Higher vocational education”, if participants have already acquired appropriate skills by other qualifications and professional activities and if they contribute them to the course.

The assessment in the project for the training led to the following conclusions:

Table 3: Evaluation further vocational trainings by credit points system

Modules of every training	Credit Points
Training unit A: “Methods”	2,0
Training unit B: „First phase of learning at the job”	6,0
Training unit C: „Digital tools”	1,0
Training unit D: „Second phase of learning at the job”	6,0
Training unit E: „Projects”	1,0
Credit Points total for each training	16,0

Internationally recognized educational qualification

Upon completion of the respective training course and the final examination, the participants acquire the recognized professional further training qualification of Specialist for specialist for customer innovation in SMEs.

A vocational further education qualification degree acquired in accordance with the above rules and evidenced by appropriate credentials and certificates is officially recognized in all Baltic Sea countries.

3.24 Implementation Reports

3.24.1 Implementation in Olsztyn, Poland⁶

The Warmia and Mazury Chamber of Crafts and Entrepreneurship is an organization of economic self-government of crafts, an association of employers and entrepreneurs and is a form of social dialogue. The purpose and task of the Chamber is to represent the interests of its affiliated members in front of state and local government bodies, provincial, district and local government institutions, to provide them with instructional and advisory assistance, training, and to conduct qualification examinations and supervise the training of juvenile workers.

The amount of money spent on research and development in Poland is growing dynamically. At the end of 2018 and the beginning of 2019, the amount increased by more than 17 percent. Among sectors, entrepreneurs spend the most on innovation - 63 percent of the total investment, followed by the higher education sector (36 percent.) Companies are increasingly undertaking activities aimed at increasing innovation and competitiveness, allocating a number of expenses to this activity.

In order to support the development of innovation in Polish enterprises, we joined the ICIinSMEs (Digital methods, toolbox and trainings for increasing customer innovation in SMEs) project. As part of the project, we conducted a training course on Customer-Focused Innovation at our Chamber, which was included in WP5. The

⁶ Prepared by Justyna Kaczorek and Aldona Szajner, Warmia and Mazury Chamber of Craft and Entrepreneurship

training was aimed at companies in the SME sector. The training was attended by craft entrepreneurs and employees of craft organizations.

We adapted the training to the participants' level of knowledge and in terms of their needs and interests.

Admission and organization of the training

Information about the course was sent via email to organizations affiliated with our Chamber of Crafts and cooperating companies, and through them to Craftsmen. Participants who applied for participation were then qualified for the course.

All participants are representatives of Polish SMEs. They are employees/entrepreneurs dealing with the topics of digitalization, innovation and customer relations, as the whole project is aimed at introducing digital solutions that will help create innovations with the participation of customers.

Number of participants: 23 people from 20 different companies.

The training was divided into two parts. The first was a training meeting, which took place on September 30, 2022. The next stage was self-study, analyzing the situation in the enterprise and introducing new solutions in companies. During this time, participants had the opportunity to receive individual consultations.

The training was conducted by a specialist in innovation, a lecturer at the Warsaw School of Economics. The lecturer's academic work includes such issues as innovation, competitiveness and internationalization of enterprises; choice of innovation strategy, sustainable innovation, open innovation, innovation alliances; importance of human resources and leadership in the creation of innovative ideas; knowledge management, consumer involvement in the creation of new products. The training was conducted in cooperation with the Chamber's project staff.

Participants profile and organization of the training

There were 23 trainees in total (10 men, 13 women).

All of them are Polish citizens.

Age: from 35 to 70 years old.

Education very diverse from low through high school to university education.

They were representatives of 20 companies from 12 sectors:

- management (managers, office directors) - 6
- car mechanic - 2
- hairdresser - 4
- chimney sweep - 2
- upholsterer – 2
- training/education; auto electromechanics; accounting; vulcanizer; tailor; bioenergy-therapist; builder - 1 person each.

Execution of the Training

The purpose of the training was to introduce entrepreneurs to the topic of innovation from a global perspective, from a customer perspective and from a company perspective.

The training used practical exercises, group work, exchange of experiences and also individual consultations. Many discussions were held. The trainees received answers to their questions and problems they encountered when introducing new solutions in their companies. Participants of the training received teaching materials in the form of 10 Modules included in the Training Program "Implementation of customer-oriented innovations", as well as presentations used during the training.

Consultations after the training were attended by 4 people (hairdresser - 2, management -2). The consultations were held over the phone. The discussions dealt with practical issues regarding the introduction of simple digital solutions for contacting customers to collect feedback.

The training was not concluded with an exam, participants did not receive certificates.

Immediately after the training, evaluation surveys were forwarded by email. Then two months after the training, surveys with open-ended questions were conducted. Some surveys were completed during phone calls, while others were forwarded to the office via email.

The very low knowledge and skills of the participants proved to be a challenge. Many of the participants have been running their companies invariably for many years and modern methods of contacting customers, collecting feedback or the topic of

innovation are a problem for them. Younger participants are more open-minded on the topic of innovation, while older participants have trouble keeping up with digital progress.

Both strengths and weaknesses of the training were the wide variety of industries, and therefore different customer experiences and a different range of needs. However, it was also possible to find many common topics and digital solutions that can be applied regardless of the company's profile.

Main Findings and Conclusions

The training expanded the participants' awareness and knowledge of innovation. Unfortunately, this is a very difficult topic for micro and small entrepreneurs, who spend all their time maintaining their businesses and do not have time to train further on the topic or introduce specific solutions. Therefore, they can only afford short, quick training sessions such as those conducted by our Chamber. A good solution would be for an expert to work individually with one enterprise, conduct an analysis, be in the environment of the enterprise in question on a daily basis and then focus on its capabilities, development and involvement of its customers in the creation of innovations.

Participants were very satisfied, from the training they brought not only theoretical knowledge but also practical skills, however, they would like the training to last longer. We plan to continue training in this area.

3.24.2 Implementation Report Kolding, Denmark⁷

Introduction

IBC split the project into two training parts. 1) Learning new competences through Digitalization (Computers) and 2) learning new innovative competences through "face-to-face" in a classroom (LiveLearning).

Regarding digital learning, IBC has more than 600 students/course participants, participating in more than 150 different "online"-courses each year, where the student can

⁷ by Michael Christiansen, International Business College

increase her/his competences by having digital teaching by instruction teaching through a computer and also have having a physical teacher around. This product, and way to learn, is unique because the student can learn 1:1. Unique because there can be 50+ students in a classroom and all of those 50 can study their own course.

For this ICIinSMEs program IBC has produced 2 digital courses, see link (Log-in code is needed):

- <https://learn.ibc.dk/course/view.php?id=62> Social Media interaction
- <https://learn.ibc.dk/course/view.php?id=63> Online customer service and sales

IBC has more than 20,000 course-participants receiving learning in a classroom. Normally the courses (digital and physical) are small courses, training in micro skills, with EQF-level from 2 to 5 and mostly with a duration between 2-5 days.

Baseline: The digital and innovative competences in Denmark are in general high, measured on individual level and company level. Swiss Management Academy conclude that Denmark is number one in Europe and number three in the world. Therefore, this report is primarily about the experiences and training of the innovation skills.

This training was included in the WP3 package, many thematic elements of this training were developed by IBC – Kolding. Although the training mainly involved start-up, micro and small businesses, it was also suitable for larger companies in terms of providing them with digital, innovate and marketing skills.

We organized the training mainly for leaders in SMEs. It was only by coincidence that most of the applicants were SME employees, so we had to make a 2-day program best fitted into their needs. Doing so we focused on how to train and raise the skills/competences of Innovation for the participants. Given that an Innovation process is not only thinking of “new products” but also a huge part of (digital) sales- and marketing activities, we also focused on raising the opportunities for SME to sell products and services to customers which are further away through introducing true digital and innovative opportunities.

The two periods (2-days) were in December 2021 and September 2022. Both courses were followed up by a qualitative evaluation/ questionnaire in writing plus a verbally unstructured interview/dialogue, about one month after the course. Here the

participants gave constructive feedback on their own innovative skills in their respective companies.

The 2-days course was planned at a “EQF-level 4” level.

Unfortunately, many of the participants did not have the time or opportunities afterwards to train, focus or work structured with an innovation process in their respective SMEs. (Measured one month after the course).

Admission and organization of the training

All the participants were representative from Danish SMEs and chose this course voluntarily.

All participants are leaders / managers in SMEs in Denmark and the opportunities to develop their own teams. Not only from sales and marketing teams but also teams from production, maintain, craftsmanship, retail, distribution, stock and development of products.

- o First course 2021; 10 participants
- o Second course 2022; 10 participants

All participants are between 30 and 50 years, 18 male and 2 female.

Our advice and recommended preparation 10-15 hours about “what is Innovation?”. One course is a 2-days of training (7,4 hours a day) + 1-2 months of self-study with recommended minimum 10-15 hours praxis training in innovative processes in their organizations. After one month there was a follow-up-, dialogue- and evaluation stage. Afterwards there was an opportunity for the participants to have an individual coaching/talk – “how they can get help from IBC to start an Innovative process in their own little team”.

Organization of the implementation

Everything was carried out by teachers from IBC.

All the participants have a background as managers and leaders in SMEs in Denmark with high professional skills in different areas. But when it comes to micro-skills and competences in innovation, innovation of culture and innovative behavior, the level of knowledge was very low – in average 2,4 (out of 10) before the course.

IBC always gives an opportunity to operate an online counselling / coaching process, depending on what the needs/challenges are for the participants.

One of the biggest challenges for the participants is finding the time and therefore taking advantage of the opportunities these kinds of trainings represent. Many of the participants are busy managers and often do not have the time or/and the opportunity to focus on innovation in their companies. Many of these participants work in daily operations and with teams KPIs, and digital innovation unfortunately does not constitute a priority KPI and is therefore of low interest / focus.

Number of participants

- o First course 2021; 10 participants
- o Second course 2022; 10 participants

All participants were between 30 and 50 years, 18 males and 2 females and Danes with low or middle education.

The participants were from many sectors and primarily from SMEs.

Execution of the Training

Most of the material was pre prepared by IBC. The training was designed by the teacher in an “old fashioned” manner; with high energy, many exercises, and “old fashion” flip charts instead of Power Point presentations. Therefore, the teacher used the whole building/institution like small/micro rooms, halls, classrooms, open places, meeting places etc.

During the course there were multiple opportunities to have dialogues, reflections, and we created a beautiful space to learn new innovative skills.

A funny course with good and eager to learn participants with an interesting and exceptionally good learning environment. Perfect materiel, exercises, and presentations. Good food. The participants were “hungry” for more learning, but also realize that they have huge challenges back in their own companies. The prevailing question was: how can they improve those innovative thoughts in their own SMEs and is the company/organization ready to think and act innovative?

The training was perfect, and the participants were satisfied with the course.

The training was too short. Beside this, it could be interesting to have an innovation process only with one company (and their employees) and then with the customers (B2B or B2C) of this specific company. It could be interesting to see what the output would be.

Main Findings and Conclusions

As mentioned before the training and course were a success. All the participants evaluated themselves to have received, learned and trained their innovative skills and competences.

The strengths were that there were participants from many different companies. But this was also the challenge. My wish is to design a topic scope only for one company and their customers to come closer to “digital customer-centric Innovation”.

The training will be continued by IBC for managers and leaders in SMEs.

3.24.3 Implementation Budapest, Hungary⁸

Introduction

This training was included in the Work package 5, many thematic elements of this training were developed by the Hanse-Parlament, and we tried to take it into account as much as possible when we implemented our training. Although our training has now mainly involved micro and small businesses, this training is also suitable for larger companies in terms of providing them with customer-centered innovations skills with special regard to digital marketing skills.

We organized this training for a very wide circle of entrepreneurs, in which the most diverse professions were present, since this topic affects all professions equally with minor or major differences. The IPOSZ consistently advocated that general knowledge should be combined with the specific needs of different professions., so we had to make a program best fitted to their needs. Doing so we focused on digitalization and the fundamental knowledge on marketing. Given that marketing activities are today

⁸ Prepared by Tamás Rettich, Ipartestületek Országos Szövetsége

largely implemented through digital applications, the marketing activities are practically directly relating to the issue of digitalization. Customer-centered innovations require even more the acquisition of marketing knowledge and segmentation according to customer needs.

The training also helped us to formulate the directions of a more comprehensive counselling system.

Period of implementation

The timing of the trainings was adapted to the economic activities of the participants. We held our first two-afternoon long meeting on 26th and 27th of October. During the organization, the demand arose from our members that this whole issue is already important in the dual training, so we held a special training session for vocational school students on 26th of November. Another request arose that not every-one could attend the first two training days in person due to the distance, so they asked us to hold an online training day as well, which took place on December 1. Then the individual coaching period started with the fifteen companies. During the coaching process, the trainers visited all companies in person, as well as consulted with all companies several times online. After the coaching process, we held the first evaluation day in hybrid form on February 1. We held the second evaluation session in person on February 18. On both occasions, the mentored businesses presented their results achieved during coaching. These results are also summarized in a separate report on entrepreneurial progress.

The training fits into the overall adult-education phase of the national system of trainings, but a direct EQF level cannot be classified to it. It is an out-of-school training taken place at and organized by IPOSZ.

This training perfectly explained the basics of customer-centered innovation and the digital solutions that help this approach, which could then be implemented in detail during the coaching process tailored to the company's needs. The training provided knowledge on digitalization and marketing activities via individual and teamwork. The topics used in the training could be used of course also in the training of enterprises of other sizes. This training is valuable not only for micro-enterprises, but also for medium-sized enterprises. It should be emphasized that the training has elements that can be used to develop certain basic skills among the whole population and thus help to develop a better digitalized relationship between businesses and consumers. The

success of this training also proves that there is a significant demand for practice-oriented training.

Special features of the implementation

The main target group of the training was micro-enterprises, as our members mainly come from them. In this period affected by war and high inflation, this entrepreneurial layer is well characterized by the fact that it waits extremely cautiously with regard to all kinds of development.

Micro-enterprises are the biggest laggards when considering the digital foundations of customer-centered innovation.

They mainly operate in a specific business area. But it is also extremely important for them to be able to expand beyond their usual customer base, using the latest technologies.

It is also important to deal with them, because their role is crucial in services, where the biggest workforce problems exist today.

Such short-term courses must be strengthened in adult education. This project is a huge help in making decision-makers aware of the need to finance similar short-term additional training.

Most of the participating companies were otherwise optimistic about their own activities, and the course and coaching strengthened them in this regard.

Admission and organization of the training

A big advantage of the course was that, although the businesses were small, but they covered a very wide spectrum of the economy, from bakers to photographers. This helped to crystallize the general elements of digitalization, which can then be used for a wide variety of professions and of course supplemented with professional specifics. During the selection, we also focused on broadening the range of women's businesses among the participants.

The training was advertised on the IPOSZ' websites. Four participants applied via these advertisements. Direct marketing strategies (phone calls and e-mails and many face-to-face conversations) were used to reach most of the participants. Our 160 trade associations were notified about the planned course, and we also informed our national

branch organizations about the training several times. The other 11 participants were gathered via this way. The participants came from different regions of the country. By the way, this presented us with a difficult task in terms of organizing the events, as well as the trainer in terms of coaching. The participants were mainly from the member companies of the trade associations, but there were several who applied for the advertisement published on the website of the IPOSZ.

1,5 days of personal training. 5 lessons followed by a half-day online training, 3 lessons + 2-3 months of self-study with minimum 10 hours of individual coaching. Individual coaching started with a personal meeting and was supplemented with further personal or online conversations. The final training provided the opportunity to discuss the coaching experiences together with the group members.

The organization of the implementation was carried out by the staff of the IPOSZ together with the experts of regional and branch member institution of IPOSZ which were involved in the implementation.

The trainer herself came from the University of Miskolc, Tourism and Marketing Department with whom IPOSZ has previously implemented trainings to expand the marketing knowledge of businesses.

Considering the already mentioned difficult circumstances, the large distances, the organization required more time and energy than usually. The organization was also complicated by the fact that we had to carry out extensive background information activities beforehand in order to explain the objectives and essence of the project, since this is considered a new type of activity in the life of most businesses.

We have selected an instructor who is capable of holding similar training in other regions. The selected instructor maintains excellent professional relations with several serious marketing consulting companies. Several experts from consulting companies were involved in certain parts of the training so that the companies participating in the training could gain even broader knowledge of the latest digital methods. All the instructors have appropriate competencies in the fields of marketing, digital communication, business development, business coach and web design.

This part of the project, on the one hand, defined the main digital and partially marketing aspects for the participating businesses and presented them specific implementation methods, based on which they were able to further develop their own business.

During the coaching, this activity was further developed into the examination of the specific applicability at each company, and the counselling took place in the local environment. This opportunity for individual coaching tailored to the business has not ended, as companies can still contact the instructor and also the IPOSZ. As the project provided an extra opportunity, IPOSZ has started to operate an online counselling system which is still running within the frame of this project. This online consulting system relies on the experiences gained during the customer-centered innovation training at many points, although since then its audience now exceeds 100 businesses.

The trainer made notes on each coaching process for each company. See trainer's description on the participants' requirements, possibilities and development, which we attach. As a general comment, it can be stated that for most companies, customer-centric innovation means communicating with customers and adapting products and services to their needs.

Some of the companies regularly attend trainings to learn the tricks of marketing. In these cases, it is often necessary to group the existing marketing tools according to a logical train of thought. When someone is very fixated on one thing, the opinion of an external expert comes in handy, because the company leader him or herself can-not see the forest from the trees.

Companies know their customers, but they often do not take advantage of customer groups (segments). In the context of marketing communications, for example, it pays to create separate content for each segment and treat them separately.

	Name	Sex	Age	Business	Education
1	Vasi Xoda / Gábor Kovács	Male	35	Soda water making	university
2	Hasznosi szóda / Bence Nagy	Male	28	Soda water making	vocational school
3	Szódi bá / Zsuzsanna Bock and György Schweigert	Female and male	45 - 52	Soda water making	university

4	László Szóda / Gábor László	Male	40	Soda water making	university
5	Gondola Cukrászda / Krisztina Garami	Female	40	Confectionery	vocational school
6	Édes Varázs Kft / Tóth János	Male	55	Confectionery	vocational school
7	Stube Étterem / Zsófia Ay	Female	35	Restaurant	university
8	Ma- jordekormix / Bettina Sem- perger	Female	30	Tiler	vocational school
9	Sebi Klíma / Sebestyén Mihály	Male	40	air condition- ing	university
10	Zsolt Lukács	Male	50	Carpenter	vocational school
11	Sinte Trade Ltd. / Kovács Tibor	Male	55	Wholesaler of agricultural machinery	vocational school
12	Csuta and Csuta Ltd. / Csuta Imre	Male	60	Food wholesaler	vocational school
13	Falatka Állate- ledel / Imre Varga	Male	60	Wholesale of pet food	vocational school
14	Csipetkék / Eszter Drávainé	Female	60	Sewing courses, eco- friendly prod- ucts	vocational school

15	Fotoker Ltd. / János Juhos	Male	65	Photographer	university
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Execution of the Training

We must point out that the training materials prepared by the Hanse-Parliament helped us a lot in the designing of the training, the elements of which we took into account in the training in Hungary. We must also note, however, that for the training in Hungary we had to take into account the existing economic environment, the legal regulations and the often-different development level and economic opportunities exist in Hungary for small businesses. We always do our utmost to ensure that the good practices of other countries could be continuously implemented in Hungary, and we consider this to be a priority task and benefit of the project.

The aim of the project was to investigate how customer-centric innovation prevails in Hungarian small businesses, what patterns can be identified and what is the biggest challenge for entrepreneurs.

The concept of customer-centric innovation is very common, the core of which is that product and service developments are carried out by companies together with customers. The demand for development often comes from customers, and they play an active role throughout the process. Then comes commercialization. The types of innovations that impact customers can include the following:

1. customer segmentation,
2. customer analysis,
3. communication with customers,
4. customer interactions with the company,
5. product and service development.

Concentrated on individual development, documented both by the participants and by the trainer. The Hungarian education system centrally regulates which documents the official adult education system can issue and which exams are required for this. We ourselves can issue a certificate to the participants about the training we have implemented, which indicates the content of the training, the fact that it was completed and the project in which the training was carried out.

A diploma was not awarded. According to what was written above, all participants received a certificate.

The instructor was in constant contact with the participants during the entire duration of the training. Therefore, she dealt with them along individual themes. She summarized her experiences in notes, which are attached as the Summary of the company training.

According to our assessment, one of the peculiarities and not a weakness of the training was that it was attended by the smallest enterprises. In this way, we were able to get to know their reactions and test the training at their level of development. It is likely that in companies with more employees, the training could provide many other experiences. We were glad that such small businesses took part in the training, because in Hungary businesses with very few employees make up the largest part of businesses. The use of offline and online digital marketing processes at the same time in the case of such small businesses usually exceeds their financial capabilities, although it is clear that the simultaneous use of both can be really effective. They often do not understand the use of digital tools in a small business. For such digital tasks, they need external service providers who can provide immediate assistance. But short-term, practice-oriented training courses, where small businesses can improve their digital skills, can help a lot here. Having a young person in the family who can bring these digital skills into the operation of the business can help a lot also. There is still a need for many more similar trainings offering industry-specific solutions in order to convince the masses of micro and small enterprises. For this, it would be very important to start state support programs in this area as well.

Summary assessment of implementation

We have already summarized certain conclusions in the points above. In addition, we must emphasize once again that many more projects, support, information, persuasion and services are needed in order to speed up the catching up of the micro business sector in this area. Our very important comment is that this is extremely necessary, because it is precisely the small businesses that are in direct contact with their consumers and are particularly good at developing their products and services by getting to know the consumer needs obtained offline and online.

The strength of the training, in our opinion, is exactly what we explained earlier, that we managed to attract companies working in the most diverse professions to the training and this helped that the general digital elements could be better defined during the training and coaching process. Another strength of the training was that we were able to do this taking into account the experiences of the international project partners.

For this training and coaching, the instructor basically came from the university and research world. It was a very significant experience for us. Small businesses themselves are rarely able to define their own development directions as accurately as a university lecturer can.

This training was a very good example of how the economic life of small businesses can be significantly helped by receiving guidance from a university-level consultant.

In any case, the practice should continue so that university lecturers can help small businesses with their practical advice. Of course, this also helps the work of the universities, as they receive direct confirmation of the usability of the methods, they propose.

During the training, we were able to identify the digital competencies that are still largely missing from the daily operations of small businesses. Based on all these experiences, we were able to start our weekly online consulting system, for which more than 100 businesses have since registered and have been receiving continuous help with digital issues ever since. Of course, we continuously deliver these results to the entire membership of our more than 160 industry associations.

We recommend writing a project that could facilitate the operation of such an online service for organizations like ours. Organizations that include family, micro and small businesses and which do not have a team of experts that can provide specialized services, therefore we have to use these experts on a contract basis from outside.

We also recommend thinking in the direction of how the generally proven digital procedures could be effectively supplemented with the special needs of different professional sectors.

The experiences of the companies participating in the training show that what they learned during the training was associated with concrete economic results and an

increase in their income. These positive experiences are shared with other businesses, so it is expected that similar courses will be organized even after the project.

What we were able to do in this project was to create the opportunity for our entire base of industry associations to carry out similar training in their own region or profession, and we can also provide specialists and topics for this. The extraordinary advantage of our industry associations is that they usually have the necessary premises and infrastructure for such trainings and their network is nationwide.

3.24.4 Implementation Report Wrocław, Poland⁹

Introduction

In connection with the implementation by DIR of the project "Increasing Customer Innovation in Small and Medium Enterprises (ICIinSMEs)", a meeting of representatives of small and medium enterprises was held on 18.11.2022 at the headquarters of the Lower Silesian Chamber of Crafts in Wrocław at Plac Solny 13. These included the owner of a metal and metal construction company, the owner of a laundry, the owner of a pest extermination company, the owner of a hairdressing salon, a restaurant employee, a watchmaker, a stone products company and even a fashion designer. In total, as many as 16 people took part.

The meeting was chaired by academics Dr Magdalena Ornatowska and Dr Maciej Sygit. Participants were introduced to definitions of innovation and creativity. Methods facilitating creative thinking and problem solving include brainstorming, the 635 method, mind mapping and Ishikawa diagram.

Each participant received the following worksheets: value proposition and customer segment, business model and empathy map.

The WP5 training was based on the KAIN method on materials prepared largely by Hanse-Parlament and applied to the learning phases with on-site training and a self-learning phase with potential support from the trainer.

⁹ Prepared by Magdalena Ornatowska and Anna Capik, Lower Silesian Chamber of Crafts in Wrocław

The KAIN method materials were translated into Polish. Subsequently, training materials tailored to the needs and interests of the trainees were prepared on their basis.

In addition to owners of micro, small and medium-sized enterprises, the training on innovation and entrepreneurship was attended by members of the IZBA Board and representatives of the Guilds of Lower Silesia.

Prior to the training, an email with an invitation to participate in the training (flyer) went out to the Guilds affiliated to the Chamber. In addition, the invitation was posted on the Chamber's website and on social media on profiles run by the Chamber. The training, in the form of a workshop, took place on the Chamber's premises, where participants had direct access to presenters, materials and the Internet.

This was followed by consultations (14 times-including seven with the business owner and seven by telephone).

As part of the training, participants contacted the trainers to consolidate the knowledge they had acquired and to implement it directly in their company. On seven occasions the trainers were asked for individual consultations at the participant's workplace or company. Telephone consultations also took place on seven occasions.

COMPANY	BRANCH	CONSULTATION WITH THE COMPANY OWNER	TELEPHONE CONSULTATION
Anna Demediuk GLAMME	health and beauty	2	3
Monika Szymonek Stec " Szymonek Stec Academy"	coaching, competence development	3	2
Aniela Sobierajska EGOLESS PSA,	chemical	2	2
SUM		7	7

After each training, a link to surveys evaluating the usefulness of the training provided was sent to participants. Another survey was sent 3 months after the courses to evaluate the cooperation to date.

The timing of the consultation between 18.11.2022 and 31.03.2023 was aligned with the economic activity of the participants. The training took the form of a one-day workshop. The training was followed by a period of one-to-one coaching with willing participants. In addition, the trainers were available on the indicated telephone numbers for specialist consultations.

Special features of implementation

Company: Anna Demediuk GLAMME, health and beauty industry

After the training, the business owner contacted the trainer to arrange a meeting directly on site to discuss the possibility of acquiring new clients. After an initial needs analysis, an individual customer acquisition training was conducted using the following techniques and materials: a value proposition sheet and the business owner was asked to analyze her existing materials and all the places that potential customers look at - e.g. website, offers, social media profiles, etc. - and think about what the information contained therein says about her. Ms. Anna was asked to answer the following questions herself when analyzing her business:

- Is it possible to learn anything specific and unique from them?
- If so, what kind of picture does it build/represent?
- Which sides of your business are represented?
- Does a distinct style, personality, character shine through - something that allows you to stand out?
- Is this the image you want?
- To someone who doesn't know you completely, is this information enough to understand you better?

Then, after about 5 weeks, there was a second consultation with the owner where we considered several things that may require change: showing my mindset, showing myself what kind of person, I am, attitude, empathy, flexibility.

Ms Ania was given tasks to work through individually:

1. Show the way you think - the customer is looking for information about your point of view. Be sure to show what your style is - how do you approach collaboration and why do you think it's the best way in comparison with other options?

2. Show yourself as a person - you don't have to reveal private details, but it's worth sharing something more personal. It evokes sympathy and gives you character.

3. Be positive - no one likes a fake smile straight out of stock, but a sullen frown is not the best business partner either. Your outgoing attitude can't be negative, as this puts people off.

4. Train empathy - try to understand the other party's perspective. When entering into a collaboration you have certain expectations, but so does your client. Look for win-win solutions, not just what is most convenient for you. Give more than you take or at least the same amount. Nobody likes a person who thinks they are entitled to everything but gives the minimum from themselves.

5. Don't make problems - most clients come to you for solutions, not more problems. I feel that sometimes, in trying to be specialists, we overcomplicate things. The typical customer will choose the solution that is simple and easy to understand.

6. Ask questions, but don't crush them.

After 3 weeks, the owner called back and stated that they together with her team they gradually started changing the approach to the existing business model and starting to implement a new changed approach towards the customer.

Company: Monika Szymonek Stec " Szymonek Stec Academy". Industry coaching, competence development

At the innovation training, Ms. Monika introduced herself as a trainer and certified coach with more than 20 years of experience teaching at universities and individual consultations. She came to the training because of the need to adapt her company to the changing needs of the market and her clients. She was also interested in offering her services to trade schools and wanted to find out how to establish relationships and reach out to young people at vocational schools; what they need and what problems they face. In an initial telephone conversation, it was agreed that individual meetings would focus on marketing and promotion, divided into three areas: product development, branding and communication. During the first face-to-face meeting, the owner

was asked to define what her brand should be about. Ms. Monika replied that she wants her brand to evoke emotions. She wants people to notice it, remember it and like it. We then started to discuss and think how to do this? We started the consultation by looking at the principle of the so-called Focus Illusion. This principle is simple: the longer something attracts our attention, the more important it seems to us. This effect is what psychologists call the Focus Illusion. Monika agreed that this principle also works in business, because even if her offer was objectively better, the recipients did not necessarily perceive it as such. We agreed that the product that is better at attracting attention wins: the one that catches the eye quickly and keeps it there for a long time. It was agreed that the brands that are better at grabbing our attention are the ones that win. Monika was given the task for the following weeks to think about how to make potential customers want to pay attention to us. This task consisted of creating associations (developing a set of elements that are supposed to distinguish you and that will be easily associated with you). The basis, of course, was to be a coherent visual identity, as every good brand must have its own distinct color scheme, typography, style of photographs and illustrations used. Nevertheless, Ms. Monika was also asked to prepare additional elements that could make her stand out, such as

- Sounds, melodies, background music - e.g., the distinctive jingle of her podcast
- Unusual words or phrases, your own hashtag, etc.
- Costume(s)
- Design arrangements for individual consultations
- Fragrance(s)

After about 3 weeks, Monika called back to say that she was working hard on the task and already had some new ideas that she would be implementing, but that she would like additional consultations on marketing and branding. During the second meeting the following issues were discussed: web presence, what distinctive features can we introduce? What distinctive things can we do? The idea is that the more often we see something, the more we like it. We talked about the fact that we prefer things we know well, e.g., a song we've heard 100 times will appeal to us more than one we've heard for the first time. So, it's not just the length of attention that matters - as in the Focus Illusion - but also the frequency of contact. We decided that more frequent contact with a brand makes the customer like it more and more. At the very end, two very

important things were suggested to Ms. Monika from the point of view of creating her own brand: creating a concrete communication plan, as it is worth establishing what, where and when she will publish. The CoSchedule tool was suggested for use as a brand communication planning tool and the use of the Fortify tool to create her own brand book, a so-called Book with guidelines for her brand communication.

The company: Aniela Sobierajska. EGOLESS PSA, chemical industry. The purpose: to raise funding for the creation of a start-up.

During the innovation workshop, Ms. Aniela Sobierajska introduced herself as a mother raising two young children who wants to set up a start-up in the personal care industry for which she needs to raise funding.

During the telephone conversation, it was agreed that a confidentiality agreement would be signed, and we would start a series of several consultations on the creation of the business model. At the first meeting with Ms. Aniela, the assumptions of the business model were discussed and the main principles of creating a so-called Elevator pitch to raise funding from investors were demonstrated. To prepare such a 10-minute pitch, it was recommended to use the LifePlan.com platform, which, based on templates, helps to create both a financial model and a business plan.

Then, after about 8 weeks, a meeting was arranged.

It was agreed that already at this stage it is necessary to organize the work in order to achieve better results in the future. During the second meeting, planning methods, time management and task organization were discussed. With two young children and limited time, Aniela wanted to learn how to work smarter and more consciously.

Organization of training

In the area of planning, the most important was the daily preparation of a checklist per task or project.

In the area of focus and concentration, the most evaluated as most important was getting your task list in order (using an app) and managing your task list

For our part, we were able to recommend a few programs that might be useful.

- Notion, which is superbly designed and very flexible.

- Freedcamp - a more powerful group collaboration tool, I use it for larger projects in the company and it works great.
- Asana - a popular and also very good task management program
- Nose - one of the simpler and cool tools that is based on the Getting Thing Done methodology.

At the end of the second meeting, Ms. Aniela was wished every success and perseverance in developing her innovative project and entering the market with it.

A major strength of the trainees was their diversity both in terms of their profession and their expectations of innovation and digitalization. This was related to the age of the participants and their ease in navigating social media and thus their understanding of the impact of brand building on customer acquisition. When asked how they acquire new customers, the older participants mainly indicated whisper marketing as a tool to expand their customer base.

The younger participants, on the other hand, were open to innovation and participated with great willingness and commitment in all workshop activities.

The training was announced on the website and on social media (Instagram, FB). Information with the invitation was also sent by email. As a result, 16 participants signed up for the first workshop. The trainees came from one region - Lower Silesia.

Training day + 1-2 months of self-study with individual consultations at the participant's workplace or by telephone. The individual consultation started with an in-person meeting and was followed up with further meetings or online discussions. Each time the trainer discussed with willing participants their experiences and needs for further training. A summary of the training is presented in questionnaires from participants and trainers (questionnaires were translated into English and sent to Ms. Monika Zajkowska, in the original and translated version).

The organization of the implementation was carried out by DIR staff employed by the project together with the teachers leading the workshop. The trainers leading the workshop were:

1. Mr. Maciej Sygit, Ph. Former graduate of the Wroclaw University of Technology. Co-author and author of over 50 articles on innovation and business implementation. For over 30 years he has been running his own consulting company, where he

provides economic advice. He is the author of 5 national patents and 2 international patents in the field of biotechnology. In addition, he has been substantive manager in more than 10 national and international projects implemented by companies, universities, local government units, hospitals.

2. Ms. Magdalena Ornatowska, Ph.D., who has been involved in technology transfer and the organization of entrepreneurship and innovation classes in university units and private companies for many years.

The trainer took notes on each consultation process.

"The participants in the training represented on the one hand quite different industries and on the other hand had different skills and experience in managing a small company. This, however, did not cause problems with understanding the material, but once we moved on to 'cases', dedicated to certain industry approaches, it became of little interest to some participants.

Observations of participant activity and conversations during breaks show that such courses are very popular. However, it makes sense to divide participants into groups. E.g. hairdressers, beauticians, "claw painting" in one group and another group would consist of bakers, confectioners and small catering business participants, and the next group would focus on the automobile or building industry.

If I had to think about what is the most important thing to do in order to attract new customers nowadays? I think that the most important thing at the moment is for young entrepreneurs: constantly monitoring the market and peeping into the activities of the leaders to search for good marketing and customer service practices." Maciej Sygit

"The most difficult part of the training, in my opinion, was adapting the material to the knowledge level of the participants. This was due to the very different knowledge of techniques for managing one's own company or personnel by the participants. Some (the younger generation) were up to date and, I would say, even quite familiar with the subject or basic tools, while a fairly large group of people (the older generation) required more time to familiarize themselves with techniques such as brainstorming, mind mapping, Ishikawa's diagram. Nevertheless, these participants were very interested and less stressed and withdrawn as the training went on. The project materials developed by the Danish partners (excellent level, by the way), which we translated

from English into Polish, were far too advanced for our trainees and we prepared our own materials, which were used during the training. This inevitably points to the geographical sophistication of entrepreneurs in using innovation for customer acquisition." Magdalena Ornatowska

Profile of participants

Below is a table of participants broken down by age, gender, education, occupation, country of origin, etc.

L.P.	NAME	SEX	AGE (range)	PROFES- SION	COUNTRY OF ORIGIN
1	Szymonek Stec Monika	F	50-60	Coach	Poland
2	Hall Kamil	M	30-40	Fashion de- signer	Poland
3	Major Jacek	M	40-50	Stonemason	Poland
4	Lobodziec Jan	M	50-60	Stonemason	Poland
5	Zarentowicz Slawomir	M	60-70	Auto Me- chanic	Poland
6	Sobierajska Aniela	F	30-40	Entrepreneur	Poland
7	Maciej Hammer	M	40-50	Auto Me- chanic	Poland
8	Demediuk Anna	F	40-50	Deratisation company	Poland
9	Palczynska-Czop Beata	F	50-60	Hairdresser	Poland
10	Agnieszka Dowbecka	F	50-60	Hairdresser	Poland
11	Kotowski Bartosz	M	50-60	Entrepreneur	Poland
12	Krawczyk Honorata	F	40-50	Renewable energy	Poland
13	Adamski Stanislaw	M	60-70	Carpenter	Poland
14	Jańczak Beata	F	40-50	Hairdresser	Poland
15	Matczak Grażyna	F	40-50	Cook	Poland
16	Michal Firlej	M	40-50	Stonemason	Poland

Delivery of training

Although the materials prepared by the German and Hungarian partner helped us a lot in designing the training, we had to take into account the existing economic environment, legal regulations and the often-different level of development and economic opportunities of Polish small businesses. The participants represented quite different industries on the one hand and had different skills and experience in managing a small business on the other. This initially caused problems with understanding the material for some. And for the advanced group, the presentation of the material from scratch became uninteresting.

Due to the diversity in the level of knowledge of trainees at DIRW, the final exam did not take place as we focused on tailored consultations for each entrepreneur.

No diploma or certificate was awarded as we are in the process of consulting individually with willing entrepreneurs.

Based on the completed evaluation forms, it can be concluded that the participants were largely satisfied with the training. The training was assessed as useful, which encouraged them in their further development plans. However, one peculiarity rather than a weakness of the training was that very young ("start-up") as well as experienced companies took part. In this way, we were able to find out their reactions and test the training at different levels of development. The simultaneous use of digital marketing processes as well as tools for the programming and implementation of process innovation for small companies usually exceeds their financial, and personal capacities. According to the participants, many more similar trainings offering industry-specific solutions are still needed to convince the masses of micro entrepreneurs. To this end, it would be very important to launch state support programs in this area as well or the next joint Erasmus + project.

Main findings and conclusions

In our opinion, a key aspect of the ICIinSME project is its compliance with the implementation of the Fourth Industrial Revolution program, the so-called Industry 4.0, related to the digitalization of the economy and innovation, especially in SMEs. The purpose of conducting two training courses (Innovation and digitalization) was to

encourage representatives of SMEs to develop and strengthen innovation, focused on the implementation of product or process innovation and the digitalization and transformation of enterprises towards sustainable development, as well as the internationalization of enterprises and the increase in human resources competencies (in general, anything that changes business for the better).

Analyzing the statements of our participants, it can be concluded that innovation is not often introduced in SMEs because SMEs rely more on informal, and therefore difficult to measure, R&D activities and use external sources of knowledge (consulting services and licenses) less frequently than corporations. This phenomenon reflects the lower capacity of SMEs to absorb external knowledge. Nevertheless, enterprises from this sector introduce innovations and use this as an element of gaining and maintaining their position on the market.

Brilliant, motivated and experienced employees are an important link in the organization's innovation process and an important role in the implementation of innovation in SMEs is played by the organization's culture.

Employees and managers (owners) of small and medium-sized enterprises should, therefore, be willing, inclined and able to undertake activities as part of the company's innovation process, which requires their acceptance and involvement. Furthermore, innovation should be embedded in the company's strategy - already at the stage of generating new ideas, the company should have clearly defined goals regarding the business areas or market segments in which it would like to develop by creating innovations. A clear strategy based on reliable information allows innovation activities to be properly targeted and reduces the loss of time and other resources. Therefore, a very important prerequisite for creating successful innovations is continuous market research and collecting customer feedback, as well as gaining knowledge about potential innovations from other external sources.

Implementing innovation in SMEs for some of our participants is not easy because:

- SMEs have very limited resources (including financial)
- they must use their resources properly, as failures can cause problems for the survival of the company
- are characterized by a low level of professionalism in innovation management;
- are not strategically oriented

- are often unable to develop an innovation implementation plan due to an excess of daily duties with limited human resources
- do not have innovation competences within their structures
- are dependent on the work of individual employees

Generally speaking, problems with the implementation of innovation in SMEs are often due to the fact that the resources - whether tangible (e.g. machinery, financial resources) or intangible (e.g. employee and owner/manager competencies) that these firms could allocate to the development of innovation - are limited. At the same time, problems with the availability of particular types of resources constrain the innovativeness of these companies in different ways and in different areas:

- marketing. Conquering new markets requires financial resources and knowledge - if a company is unable to obtain these resources for marketing purposes, it cannot enter new markets.
- management - SME owners often do not have adequate managerial training and their management know-how is limited. The lack of such knowledge and skills may result in a lack of innovation, or its incompetent implementation.
- external communication - this in turn is associated with a lack of time and an excessive burden of daily responsibilities, which may result in the non-use of external sources of information and knowledge, e.g., from trade fairs or trade journals.
- highly qualified human resources. Difficulties for SMEs to attract specialists are, among other things, due to the fact that they compete for human resources with large companies, which often offer higher salaries and better general working conditions.
- finance - innovation activities can be costly due to the high failure rate, complexity and non-linearity, and often the significant investment required to carry them out.
- economies of scale - some activities require large-scale production, which SME companies are unable to offer in order to remain competitive in the market.

- growth - innovation can contribute to rapid growth, which in turn requires financial resources that are difficult for small and medium-sized enterprises to access.

In conclusion, it can be stated that the implementation of innovations in the SME sector is becoming a necessity. The types of introduced solutions or the scale of innovativeness may vary, however, one may risk a thesis that achieving a permanent competitive advantage on the market will not be possible in the future if one is not an innovator in a certain field.

Analyzing the statements of trainees, we can conclude that the implementation of each new solution in the enterprise is aimed (in a shorter or longer period) at improving the competitive position of the enterprise and increasing its profitability. When analyzing the expected economic benefits resulting from the implementation of innovations, participants pointed to a very wide range of effects. The most important expected benefits in this respect include an increase in the profitability of the enterprise, an increase in revenue and the acquisition of new customers.

In terms of factors located outside the enterprise and at the same time constituting the greatest barriers to the pace of innovation implementation in an SME enterprise, participants indicated bureaucracy. This is also a "traditional" obstacle indicated at the interface between the private and public sectors in Poland. Managers coming from the group of the smallest enterprises, point to problems lying outside the organization as an obstacle to innovation. In addition to bureaucracy, they indicate e.g., the lack of support from public administration, difficulties in obtaining EU subsidies or unfavorable regulations e.g., the ineligibility of VAT as a cost in EU projects. In addition, participants indicated difficulties in obtaining competent employees.

In summary, companies develop and gain competitive advantages because of their ability to respond to or create customer needs and expectations. This is therefore always done in relation to events taking place in their environment - especially changes on the demand side. Today's customers expect not only innovative products, but also new forms of delivery, an innovative form of communication. Thus, no company wishing to remain on the market in the future can be indifferent to wide-spread digitalization.

Indicating more specific areas of influence of technological solutions in the context of competitiveness, participants singled out the possibility of improving the quality of products offered, increasing productivity, or improving the efficiency of resource use. Due to the application of modern technologies, pre-entrepreneurs expect an increase in the profitability of their own operations through increased revenues. These results show the key role that technological solutions can play in competing through innovation. Business owners and management have a special role in the potential for strategic change. Their knowledge of the potential for technology implementation therefore determines the progress of Polish companies towards digitalization and innovation.

Among the measures taken and planned to be taken for the implementation of innovation and digitalization tools, investing own resources, raising staff competences through training and hiring new qualified people were mentioned. In the area of plans to raise competencies and hire qualified staff, participants showed a decreasing trend, and the same applies to investing own resources. This indicates an increasing problem of lack of human and financial resources in shaping the level of innovation. In addition, the administration and settlement of projects from Operational Programmes significantly reduces the application for this type of support.

We recommend starting a year-long series of industry-specific training courses with pre- and post-training competency testing. We intend to continue the training in the future.

3.25 Evaluation Concept¹⁰

3.25.1 Definition of Training Evaluation

Training is the foundation of a modern organization. Properly selected and carried out, individual team members and the entire organization increase the effectiveness of operations step by step. Nevertheless, a lot depends on the quality of the training itself, so:

- skillful selection of the subject matter to the needs of employees,

¹⁰ Prepared by Dr Monika Zajkowska, Hanseatic Institute for Support of SMEs

- effective teaching methods used to conduct them,
- a well-thought-out training plan tailored to the employee's career path,
- reasonable organization of training in terms of logistics and technology.

And how to assess whether the implemented training solutions are effective? This is what their evaluation is for. It consists in verifying whether the training policy in the company is effective - and therefore whether it allows to achieve the company's development goals.

The evaluation is the final step of the training management cycle (diagram 1). A training management cycle can be divided into three major steps: Step 1: Planning; Step 2: Implementation; and Step 3: Evaluation. The results of the training evaluation are reflected in the next phase of training planning to improve future training programs.

Evaluation of training is one of the main components of a training program. It will not only provide the trainer with useful information in order to further improve the training course, but also creates an impression of completeness.

An evaluation is the systematic and objective assessment of an ongoing or completed project, program or policy, its design, implementation and results. The aim is to determine the relevance and fulfilment of objectives, development efficiency, effectiveness, impact and sustainability. The program evaluation is the systematic collection of information about the activities, characteristics, and outcomes of programs to make judgments about the program, improve program effectiveness, and/or inform decisions about future programming.



Diagram 1. Training Management Cycle

Evaluation of courses including gained results and found problems is essential to be able to develop further the existing training programs as well as to consider the experiences gathered from these programs when building new curricula. The evaluation process has been designed hand in hand with the courses themselves. This concept presents an overview of evaluation process and questionnaire.

3.25.2 Types of Evaluation

There are many different types of evaluations depending on the object being evaluated and the purpose of the evaluation. Perhaps the most important basic distinction in evaluation types is that between formative and summative evaluation. Formative evaluations strengthen or improve the object being evaluated -- they help form it by examining the delivery of the program or technology, the quality of its implementation, and the assessment of the organizational context, personnel, procedures, inputs, and

so on. Summative evaluations, in contrast, examine the effects or outcomes of some object -- they summarize it by describing what happens subsequent to delivery of the program or technology; assessing whether the object can be said to have caused the outcome; determining the overall impact of the causal factor beyond only the immediate target outcomes; and estimating the relative costs associated with the object.

Formative evaluation includes several evaluation types:

- needs assessment determines who needs the program, how great the need is, and what might work to meet the need.
- evaluability assessment determines whether an evaluation is feasible and how stakeholders can help shape its usefulness.
- structured conceptualization helps stakeholders define the program or technology, the target population, and the possible outcomes.
- implementation evaluation monitors the fidelity of the program or technology delivery.
- process evaluation investigates the process of delivering the program or technology, including alternative delivery procedures.

Summative evaluation can also be subdivided:

- outcome evaluations investigate whether the program or technology caused demonstrable effects on specifically defined target outcomes.
- impact evaluation is broader and assesses the overall or net effects -- intended or unintended -- of the program or technology as a whole.
- cost-effectiveness and cost-benefit analysis address questions of efficiency by standardizing outcomes in terms of their dollar costs and values secondary analysis reexamines existing data to address new questions or use methods not previously employed.
- meta-analysis integrates the outcome estimates from multiple studies to arrive at an overall or summary judgement on an evaluation question.

3.25.3 Steps of Training Evaluation

The processes of training evaluation can be divided into five steps: identify purposes of evaluation; select evaluation methods; design evaluation tools, collect data; and analyze and report results.

Step 1: Identify the Purposes of Evaluation

- Before developing evaluation systems, the purposes of evaluation must be determined.
- Why do we want to evaluate training programs?

Step 2: Select Evaluation Method

- Kirkpatrick's four levels of evaluating training programs
- Reaction, learning, behavior, and result

Step 3: Design Evaluation Tools

- Questionnaire
- Pre/Post Test
- Impact Survey

Step 4: Collect Data

- Who, when, how to collect data?

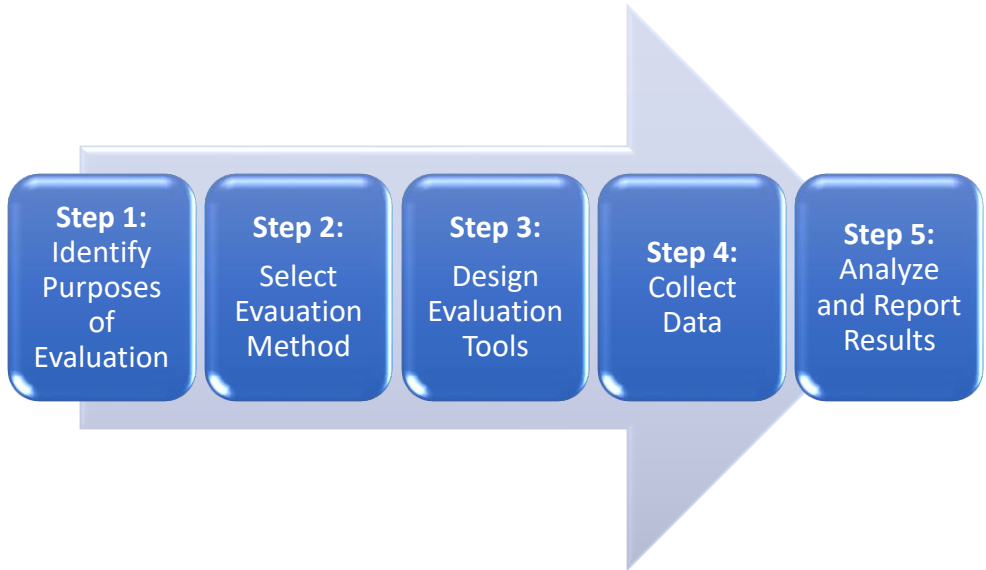


Diagram 2. Steps of training evaluation

Step 5: Analyze and Report Results

- Evaluation data analysis
- Reporting

STEP 1: IDENTIFY PURPOSES OF EVALUATION

Before developing evaluation systems, the purposes of evaluation must be determined. These will affect the types of data and the data collection methods.

Purposes identified by the GDLA Task Force

The GDLA Task Force has identified the following as the purposes of evaluating training programs planned and implemented by the Task Force for public officials in charge of local administration:

- To determine whether the objectives of the training were achieved.
- To see how the knowledge and skills learned in the training are put into practice.

- To assess the results and impacts of the training programs.
- To assess the effectiveness of the training programs.
- To assess whether the training programs were properly implemented.
- To identify the strengths and weaknesses of the training programs.
- To assess whether the training programs were suitable in terms of the training contents, timing, participants and other aspects.
- To find problems of the training programs and solutions for improvement.

STEP 2: SELECT EVALUATION METHOD

One of the most commonly used methods for evaluating training programs is the four levels of evaluation by D. L. Kirkpatrick. According to his concept, capacity development is realized by the four sequential steps: Reaction; Learning; Behavior and Results.

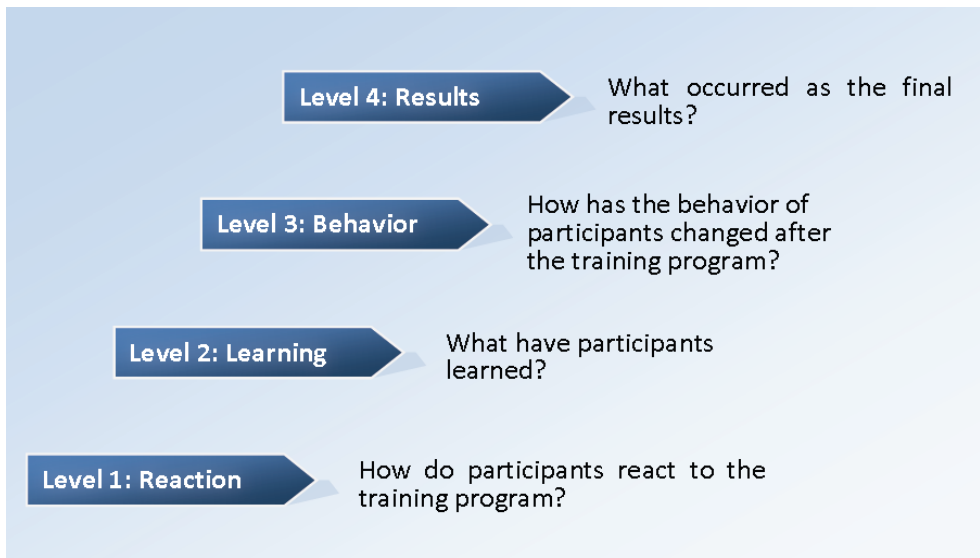


Figure 1. Four levels of evaluation by D. L. Kirkpatrick



Evaluation on this level measures how participants react to the training program. It is important to get a positive reaction. Although a positive reaction may not ensure learning, if participants do not react favorably, they probably will not be motivated to learn.

Level 2: Learning

Evaluation on this level measures the extent to which participants change attitudes, improve knowledge, and/or increase skills as a result of attending the training program. One or more of these changes must take place if a change in behavior is to happen.

Level 3: Behavior

Evaluation on this level measures the extent to which change in participants' behavior has occurred because of attending the training program. In order for change to take place, four conditions are necessary:

- The person must have a desire to change.
- The person must know what to do and how to do it.
- The person must work in the right climate.
- The person must be rewarded for changing.

Level 4: Results

Evaluation on this level measures the final results that occurred because the participants attended the training program. Examples of the final results include increased production, improved quality and decreased costs. It is important to recognize that these results are the reason for having some training programs.

When evaluating courses, the goals and real results should be compared. This is not always possible or fair and just. The evaluation should be targeted only to such measurable issues on which the designer, teacher, facilitator, or student himself/herself has

an impact on. Evaluating the impacts of training programs against the presented main goals would require large societal research including the recording of the initial situation before starting the programs and the long-term follow-up research in which the conducted interventions and actions (In this case new forms of training and education) and their impacts on change of variables is followed. The final conclusions can be drawn just after some years or after decades. In this project this is not possible and the whole evaluation process must be rethought and simplified.

The most important variables, on point of view of achieving the goals set, are the motivation of student, the support he gets, the relevance of issues in curricula, the quality material and training and the ability of facilities to support training and learning. Although most of the variables presented above are so called soft variables, which can't be measured directly by targeting the measurement tool to some point or phase in the process, they can be assessed indirectly by assessing the feelings and comments of participants and other stakeholders.

STEP 3: DESIGN EVALUATION TOOLS

Various evaluation tools can be selected depending on the purposes and methods of evaluation.

- Questionnaires
- Surveys
- Tests
- Interviews
- Focus group discussions
- Observations
- Performance records

For the Train-the-Trainer training evaluation a questionnaire will be used.

The questionnaire is probably the most common form of evaluating training programs and evaluating the reactions of training participants.

The first step of questionnaire design is to determine the information we would like to know.

The following are some questions we wanted to ask the participants.

Contents: Was the content appropriate?

Materials: Were the materials useful?

Teaching method: Was the teaching method appropriate?

Trainer/Facilitator: Was the trainer/facilitator effective?

Motivation to learn: Were you motivated to learn the contents?

Program relevance: Was the program relevant to your needs?

Level of understanding: Did you understand the contents?

Time: Was the time and length of program appropriate?

Length: Was the program length appropriate?

Facilities: Were the training facilities appropriate?

Overall evaluation: What is your overall rating of the program?

Planned improvements: How will you apply what you have learned?

The second step in questionnaire design is to select the types of questions. Questions that might be asked in a questionnaire can be classified into two major categories: open-ended and close-ended.

In the Train the Trainer training questionnaire both categories of questions were used.

The third step in questionnaire design was to develop the questions based on the types of questions planned and the type of information needed.

The fourth step in questionnaire design was to test the questions. They were tested on a group of people on approximately the same job level as the participants.

The following were some of the points to be checked when pre-testing the questionnaire.

Does he/she understand all the questions?

Does he/she have any difficulty in answering the questions?

Do all close-ended questions have an answer applicable to each respondent?

Are the skip patterns followed correctly?

Does any part of the questionnaire suggest bias on your part?

Does the questionnaire create a positive impression to motivate people to respond?

Based on the result of pretest in Step 4, the questionnaire forms were finalized.

STEP 4: COLLECT DATA

To improve the effectiveness of questionnaire data collection were recommended following:

- Keep responses anonymous
- Distribute questionnaire forms in advance
- Explain the purpose of the questionnaire and how the information will be used
- Allow enough time for completing the questionnaire

STEP 5: ANALYZE AND REPORT RESULTS

An evaluation of the Train-the-Trainer is essential to identify problems and the quality of the training in order to be able to develop further the existing training programs as well as to consider the experiences gathered from these programs when building new curricula. The evaluation process of each course has been designed hand in hand with the course itself.

Before summarizing and analyzing the questionnaire, the data needs to be entered into a computer. Many statistical software programs are available for such data. There are many ways to analyze data, but the analysis should be as simple as possible and limited to what is necessary to draw the required conclusions from the data.

The next step is to consider what forms of communication will be most effective to present evaluation findings to the primary users. The following questions may be used as guidance to choose appropriate forms of communication.

- To what extent and in what specific ways is the information relevant to the user's real and compelling problems?
- To what extent is the information practical from the user's perspective?

- To what extent is the information useful and immediately applicable in the user’s situation?
- What information will the user consider credible and what reporting practices will support that credibility?

After knowing what kind of information will be relevant and useful to the primary users, the last step in evaluation process is to develop an evaluation report.

3.25.4 The Concept of Training Evaluation

The Aim of the Training Course

The vocational further education program “Realization of customer-centred Innovations” aims to bring owners, managers and professionals closer to customer-centred innovation, to impart competences and knowledge on the different methods as well as to use digital technologies and tools, and at the same time, during the learning process, to carry out development projects for the realization of customer-centred innovations in the companies involved.

The training course has been designed to fulfil the needs described above. The training, which contains both theoretical lectures, group works, and practical training will be set to EQF- level 5.

TARGET GROUPS

The target groups of this training are:

- founders,
- owners,
- managers,
- employees and
- company consultants / advisors of and for SME companies.

OBJECTIVES

The learning objectives of this course are set to serve SMEs in customer-centred innovations as well as possible. The concrete learning goal is that after attending the course the trainee has at least a sense of what customer-centred innovations and use of digital tools can bring to his / her own business.

The learning objectives are:

- The participant understands the importance and benefits of customer-centred innovations and digitalization.
- The participant knows the contemporary basic concepts of customer-centred innovations and of digitalization – the relevance of topics in this area should be ensured before each training.
- The participant knows the different methods for the realization of customer-centric innovations, they can evaluate, select and apply appropriately.
- The participant knows the various digital technologies and tools for realizing customer-oriented innovations and can select and use them appropriately depending on the task at hand.
- The participants are able to involve employees and colleagues in the development and learning processes while learning on the job and master the most important presentation techniques.
- The participants are able to independently develop and implement projects to implement customer-centric innovations.

SCHEDULE

This course is divided into five units:

Unit A: Classroom teaching “Methods”

Unit B: First teacher-assisted self-study within the trainees’ company or organization

Unit C: Classroom teaching “Digital Tools”

Unit D: Second teacher-assisted self-study within the trainees’ company or organization

Unit E: Classroom teaching “Completion” with individual project presentation and re-reflection

The training begins with a 2-day theoretical part, during which the basic issues of each topic will be clarified by presentations and group work. This part will be followed by a first 8 – 10 weeks practice period in the company, in which the participant gets to know the topics of the course from the point of view of this company. During this phase of on-the-job learning, the participant also creates a presentation about the insights and ideas he/she gained during this time in the company and carries out a development project in the company to realize customer-centric innovations. After the first practice period is completed, a seminar of 1 day will be held. In this seminar the participants acquire skills and knowledge about the various digital technologies and tools. This is followed by a second 8 – 10 weeks practical phase and learning on the job, in which the development project started in the first practical phase is continued and, if possible, a second development project is implemented. The conclusion is a 1.5 days’ workshop. Here the trainees will present their development project as well as their findings, discuss their experiences and ideas, and finally, every-thing will be concluded with a lecture to deepen individual aspects according to the needs of the participants.

A detailed presentation of the KAIN method can be found in Attachment 1 "KAIN Method and Coaching Program" and in Attachment 2 "Power Point KAIN & Coaching".

3.24.5 Evaluation Concept

The objective of the evaluation is to determine whether the goals of the program will be achieved in the implementations evaluated, and how the program has impact on student’s career and opportunities. An evaluation concept consisting of two feedback surveys, one with closed questions and one with open questions.

The evaluation process will be as follows:

1. The participants of the Training will receive an online Semi-structured questionnaire at the end of the training (Appendix A).

2. Time for the survey (approx. 10 minutes) will be allocated in the end of the course.

3. The facilitator of the training informs the participants about the evaluation and its importance for further development actions. The purpose of the questionnaire and how the data will be used should be explained clearly to the participants. This will help to improve the response rate and encourage the participants to make comments that can be useful to improve future programs.

4. The questionnaires are filled online and submitted automatically and anonymously to the evaluator of the training.

5. The evaluator analyses all feedback surveys and summarizes them in a written analysis. Based on that, recommendations for the adjustment and future use of the curriculum result.

The evaluation approach will be based on a combination of qualitative and quantitative methods. The Microsoft Excel package will be used to transcribe the feedbacks and interviews. Open questions will be categorized, and qualitative analysis of the groups will be done.

The final evaluation report will discuss the following issues:

- Did the curriculum reach the targets?
- How well was the knowledge creation and sharing realized?
- Did the participants assimilate knowledge and tools?
- Was the venue and equipment appropriate for the training course?
- What kind of further development will be needed, if any?

The schedule of the evaluation should be matched to the phases of the curriculum. There is no sense to evaluate the course before the students have a true and fair view of the course, its phases and contents. A closer schedule of each evaluation will be agreed later.

APPENDIX A: Evaluation Questionnaire for Participants of the Training “Customer-centred Innovations”

EVALUATION QUESTIONNAIRE FOR THE PARTICIPANT'S TRAINING
 „Customer-centred Innovations”

Dear Participant,

Thank you for taking time to fill out this feedback form on the “Customer-centred Innovations” training, that was developed byin on as part of the Erasmus+ project “ICInSMEs”. We would like to ask you to evaluate the quality of training by filling in the form and giving potential notes. That can help us to im-prove the level of training quality. The information that will be given in the research may contribute to increasing the level of effectiveness and attraction of further train-ings.

This survey is anonymous and will take approx. 5-10 minutes.

Please circle the scale that applies to your opinion on the following aspects of the education you participated.

Gender	female	
	male	
Age	< 20	
	21 - 50	
	> 51	
The size of the enterprise	micro	
	small	
	medium-sized	
The length of service in the enter- prise	under 1 year	
	1 – 2 years	
	over 2 – 5 years	
	over 5 years	
The length of service connected with the topic of the training	under 1 year	
	1 – 2 years	
	over 2 – 5 years	
	over 5 years	

I.	THE EVALUATION OF THE TEACHERS AND THE TRAIN- ING ORGANISATION
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THE LEVEL OF SATISFACTION		very good (5)	good (4)	Satisfactory (3)	Unsatisfactory (2)	bad (1)
1.	the substantive preparation					
2.	the clarity and understandability of the communication					
3.	teaching materials relevance in everyday work					
4.	the accuracy, professionalism and involvement of the answering to the participants' questions					
5.	the ability to attract participants to the topic and engage them to the training					
6.	the level of training programme implementation					
7.	the climate of the training					
8.	the level of communication of the teacher with the group					
9.	the arranging of work and training					

10.	the training back-ground (class-room, tools, etc.)					
II. THE EVALUATION OF THE USEFULNESS OF THE TRAINING FOR THE PARTICIPANT						
THE LEVEL OF SATISFACTION		very good (5)	good (4)	Satisfactory (3)	unsatisfactory (2)	bad (1)
1.	Were your expectations fulfilled with the training?					
2.	Did the training help you to improve the abilities in the topic of the training?					
3.	Did the training improve your knowledge within the topic of the training?					
4.	What is your assessment of the possibility of using acquired knowledge and skills in everyday work?					
5.	What is your assessment of the training programme?					
6.	In your opinion, what kind of changes should be considered in such type of trainings in the future?					

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Thank you for your time !

APPENDIX B: Evaluation Questionnaire for Lecturers of the Training “Customer-centred Innovations”

EVALUATION QUESTIONNAIRE FOR LECTURERS TRAINING
„Customer-centred Innovations”

The lecturer should evaluate the course with overall grade (very good, good, satisfactory, unsatisfactory, bad).

THE LEVEL OF SATISFACTION		very good (5)	good (4)	satisfactory (3)	unsatisfactory (2)	bad (1)
1	How do you evaluate the level of the trainees’ knowledge at the beginning of training?					
2	How do you evaluate the level of the trainees’ knowledge at the end of training?					
3	How do you evaluate trainees’ work and learning organization?					
4	How do you evaluate the cooperation with trainees?					

5	How do you evaluate trainees' engagement?					
6	How do you evaluate trainees' preparation to work independently?					
	How do you evaluate overall atmosphere of the training?					
6	In your opinion, what kind of changes should be considered in such type of trainings in the future?					

Thank you for your time !

APPENDIX C: Evaluation Interview for Enterprises involved in the Training “Customer-centred Innovations”

TRAINING / EDUCATION EVALUATION: FEEDBACK FROM ENTERPRISES

AFTER 1-3 MONTHS FROM TRAINING

The interviewer will ask the following questions from each enterprise’s representant.

1. Usefulness: Was the participation in the training „Digitalization“ useful for your company? Why? Which skills and abilities you improve after participation in the training?

2. Content: Did the training contain issues and topics needed in your business? Was something missing? If, what?

3. Implementation: Have you introduced the solutions proposed during the training to the activities of your company? If not, what were the difficulties?

4. Future activities: What skills, knowledge and resources do you need for your company to implement the solutions presented during the training?

5. Training: What could have been done differently? What should have been done differently? What should not be changed?

Thank you for your answer!

3.26 Evaluation Report¹¹

3.26.1 Methodology of Evaluation

The objective of the evaluation is to determine whether the goals of the program will be achieved in the implementations evaluated, and how the program has impact on student's career and opportunities. An evaluation concept consisting of two feedback surveys, one with closed questions and one with open questions named:

- 1) Written survey of all participants at the end of the face-to-face training (Survey of Participants)
- 2) Written survey of all teachers using at the end of the face-to-face training (Survey of Teachers)
- 3) Interview with selected enterprises after 1-3 months from the training (Interview after 1-3 months from the training)

The evaluation process will be as follows:

1. The participants of the Training will receive an online Semi-structured questionnaire at the end of the training (Appendix A).
2. Time for the survey (approx. 10 minutes) will be allocated in the end of the course.
3. The facilitator of the training informs the participants about the evaluation and its importance for further development actions. The purpose of the questionnaire and how the data will be used should be explained clearly to the participants. This will help

¹¹ Prepared by Dr Monika Zajkowska, Hanseatic Institute for Support of SMEs

to improve the response rate and encourage the participants to make comments that can be useful to improve future programs.

4. The questionnaires are being filled in online and submitted automatically and anonymously to the evaluator of the training.

5. The evaluator analyses all feedback surveys and summarizes them in a writ-ten analysis. Based on that, recommendations for the adjustment and future use of the curriculum result.

6. Teachers complete a questionnaire for teachers immediately after the training.

7. The interviews 1-3 months after the training are conducted with selected training participants within 3 months after the training.

The evaluation approach will be based on a combination of qualitative and quantitative methods. The Microsoft Excel package will be used to transcribe the feedbacks and interviews. Open questions will be categorized, and qualitative analysis of the groups will be done.

The final evaluation report will discuss the following issues:

- Did the curriculum reach the targets?
- How well was the knowledge creation and sharing realized?
- Did the participants assimilate knowledge and tools?
- Was the venue and equipment appropriate for the training course?
- What kind of further development will be needed, if any?

The schedule of the evaluation should be matched to the phases of the curriculum. There is no sense to evaluate the course before the students have a true and fair view of the course, its phases and contents. A closer schedule of each evaluation will be agreed later.

3.26.2 The Aim of the Study and Evaluation Report

General objectives of the project are to:

- a) Develop, promote and strengthen digital competences in SMEs
- b) To continuously implement fully customer-centred innovation in SMEs, thereby
- c) To strengthen the productivity and competitiveness of SMEs, safeguard existing jobs and create new ones

General objectives set in this way will be achieved through, among others: develop, implement and evaluate further training program “Realisation of Customer-centred Innovations”.

The general aim of the study is to evaluate the effectiveness of training “Realisation of Customer-centred Innovations” realized within the Project “Digital methods, toolbox and trainings for increasing customer innovation in SMEs” (ICInSMEs) carried out in Denmark, Hungary and Poland.

The conclusions of the evaluation research will contribute to improve the quality and especially the effectiveness of training, show the limitations of the training model and indicate the direction for further activities.

3.26.3 Data Sources

Trial of the SME specific training and coaching programme was carried out under different national conditions in Denmark, Hungary and Poland with at least 15 owners, managers and professionals of at least 10 SMEs each.

The trainings were carried out in Poland, Denmark and Hungary by 4 project partners:

- Warmińsko-Mazurska Izba Rzemiosła i Przedsiębiorczości (PP4 WIRP), Poland
- International Business College (PP6 IBC), Denmark
- Ipartestületek Országos Szövetsége (PP7 IPOSZ), Hungary
- Dolnośląska Izba Rzemieślnicza we Wrocławiu (PP9 DIRW), Poland

Table 1. Selection of participants, possible admission requirements

PP4 WIRP	All participants are representatives of Polish SMEs. They are employees/entrepreneurs dealing with the topics of digitalization, innovation and customer relations, as the whole project is aimed at introducing digital solutions that will help create innovations with the participation of customers. Participants who applied for participation were qualified for the course.
PP6 IBC	All the participants were representative from Danish SMEs and voluntarily chose this course.
PP7 IPOSZ	A big advantage of the course was that, although the businesses were small, but they covered a very wide spectrum of the economy, from baker to photographer. This helped to crystallize the general elements of digitalization, which can then be used for a wide variety of professions and of course supplemented with professional specifics. During the selection, we also focused on broadening the range of women's businesses among the participants.
PP9 DIRW	The trainees came from one region – Lower Silesia. These included the owner of a metal and metal construction company, the owner of a laundry, the owner of a pest extermination company, the owner of a hairdressing salon, a restaurant employee, a watchmaker, a stone products company and even a fashion designer.

All partners dedicated the training to the SME sector. The employees/entrepreneurs represented various industries. No additional admission requirements were introduced. Any interested employees/entrepreneurs from SMEs could take part in the training.

Table 2. How were the participants approached and won?

PP4 WIRP	Information about the course was sent via email to organizations affiliated with our Chamber of Crafts and cooperating companies, and through them to Craftsmen.
PP6 IBC	All participants are leaders / managers in SMEs in Denmark and the opportunities to develop their own teams. Not only from sales and marketing teams but also teams from production,

	maintain, craftsmanship, retail, distribution, stock and development of products.
PP7 IPOSZ	The training was advertised on the IPOSZ' websites. Four participants applied via these advertisements. Direct marketing strategies (phone calls and e-mails and many face-to-face conversations) were used to reach most of the participants. Our 160 trade associations were notified about the planned course, and we also informed our national branch organizations about the training several times. The other 11 participants were gathered this way. The participants came from different regions of the country. The participants were mainly from the member companies of the trade associations, but there were several who applied for the advertisement published on the website of the IPOSZ.
PP9 DIRW	The training was announced on the website and on social media (Instagram, FB). Information with the invitation was also sent by email.

All partners mainly used digital channels to inform potential participants about the training. Most of them used their own website and social media. The training was also informed using traditional communication channels in the field of Direct marketing strategies, such as: phone calls, e-mails and many face-to-face conversations.

Table 3. Number of participants

PP4 WIRP	23 participants from 20 SMEs
PP6 IBC	First course 2021; 10 participants Second course 2022; 10 participants
PP7 IPOSZ	15 participants from at least 10 SMEs
PP9 DIRW	16 participants from at least 10 SMEs

Each partner complied with the condition at least 15 owners, managers and professionals of at least 10 SMEs each.

Table 4. Number of lessons, amount of self-study learning

PP4 WIRP	The training was divided into two parts. The first was a training meeting, which took place on September 30, 2022. The next stage was self-study, analysing the situation in the enterprise and introducing new solutions in companies. During this time, participants had the opportunity to receive individual consultations.
PP6 IBC	Our advice and recommended preparation 10-15 hours about “What is Innovation?”. One course is a 2-days of training (7,4 hours a day) + 1-2 months of self-study with recommended minimum 10-15 hours praxis training in innovative processes in their organizations. After one month there were a follow-up-, dialogue- and evaluation stage. Afterwards there was an opportunity for the participants to have an individual coaching/talk – “how they can get help from IBC to start an Innovative process in their own little team”
PP7 IPOSZ	1,5 days of personal training. 5 lessons followed by a half-day online training, 3 lessons + 2-3 months of self-study with minimum 10 hours of individual coaching. Individual coaching started with a personal meeting and was supplemented with further personal or online conversations. The final training provided the opportunity to discuss the coaching experiences together with the group members.
PP9 DIRW	Training day + 1-2 months of self-study with individual consultations at the participant's workplace or by telephone. The individual consultation started with an in-person meeting and was followed up with further meetings or online discussions. Each time the trainer discussed with willing participants their experiences and needs for further training.

Project partners divided training into two parts: one of the parts was 1-2 days face-to-face training with at least two blocks and longer (1-3 months) periods of on-the-job learning in the participating SMEs. During this time, individual consultations with SMEs were conducted regarding selected projects to acquire and implement customer innovations. The organizers of the training conducted accompanying coaching by the

teachers who organise the face-to-face teaching and by advisers from the chamber at the workplace.

Table 5. Organization of the implementation

PP4 WIRP	The organisation of the implementation was carried out by teachers from educational institution and WIRP staff employed by the project.
PP6 IBC	All was carried out by teachers from IBC-Curser.
PP7 IPOSZ	The organization of the implementation was carried out by the staff of the IPOSZ together with the experts of regional and branch member institution of IPOSZ which were involved in the implementation. The trainer herself came from the University of Miskolc, Tourism and Marketing Department with whom IPOSZ has previously implemented trainings to expand the marketing knowledge of businesses. Considering the already mentioned difficult circumstances, the large distances, the organization required more time and energy than usually. The organization was also complicated by the fact that we had to carry out extensive background information activities beforehand in order to explain the objectives and essence of the project, since this is considered a new type of activity in the life of most businesses.
PP9 DIRW	The organisation of the implementation was carried out by DIR staff employed by the project together with the teachers leading the workshop.

The employees of the chambers as well as teachers and lecturers from educational institutions who had appropriate competences in the field of customer innovations were involved in the organization of the implementation.

Table 6. Brief notes on lecturers, their qualifications and experience

PP4 WIRP	The training was conducted by a specialist in innovation, a lecturer at the Warsaw School of Economics. The lecturer's
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	academic work includes such issues as innovation, competitiveness and internationalization of enterprises; choice of innovation strategy, sustainable innovation, open innovation, innovation alliances; importance of human resources and leadership in the creation of innovative ideas; knowledge management, consumer involvement in the creation of new products.
PP6 IBC	All the participants have a background as managers and leaders in SMEs in Denmark with high professional skills in different areas. But when it comes to micro-skills and competences in innovation, innovation of culture and innovative behavior, the knowledge was very low – in average 2,4 (out of 10) before the course
PP7 IPOSZ	There were selected an instructor who is capable of holding similar training in other regions. The selected instructor maintains excellent professional relations with several serious marketing consulting companies. Several experts from consulting companies were involved in certain parts of the training so that the companies participating in the training could gain even broader knowledge of the latest digital methods. All the instructors have appropriate competencies in the fields of marketing, digital communication, business development, business coach and web design.
PP9 DIRW	The trainers leading the workshop were: <ol style="list-style-type: none"> 1. Mr. Maciej Sygit, Ph. Former graduate of the Wroclaw University of Technology. Co-author and author of over 50 articles on innovation and business implementation. For over 30 years he has been running his own consulting company, where he provides economic advice. He is the author of 5 national patents and 2 international patents in the field of biotechnology. In addition, he has been substantive manager in more than 10 national and international projects implemented by companies, universities, local government units, hospitals. 2. Ms. Magdalena Ornatowska, Ph.D., who has been involved in technology transfer and the organization of

	entrepreneurship and innovation classes in university units and private companies for many years.
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Each of the project partners ensured a high level of competence of the lecturers who conducted the training. The lecturers had sufficient experience to conduct training and consultations for SMEs on the subject of customer innovations.

Table 7. Participants profile and organisation of the training

PP4 WIRP	10 Male, 13 Female aged 35-70 from 20 different enterprises
PP6 IBC	18 Male, 2 Female aged 30-50, from different enterprises
PP7 IPOSZ	11 Male, 5 Female aged 28-65, from 15 different enterprises
PP9 DIRW	8 Male, 8 Female aged 30-70 from 16 different enterprises

When it comes to the proportions of participation of women and men in the conducted training, the predominance of men in Denmark (18 to 2) and Hungary (11 to 5) is clearly noticeable. On the other hand, in Polish chambers there is a noticeable balance in the proportion of women and men. The age range of training participants ranges from 28 to 70 years. Sectors of the participating SMEs are differential. No dominant sector was identified in the study.

3.26.4 Execution of the Training

All project partners responsible for trial of the training, applied curriculum and carried out the training. Partners used concept and curriculum and teaching materials for SME prepared by Partner 1 HP (Hanse Parliament) on the base on the results of Output O1 “Best Practice customer-centric innovation and digitilization”. In all countries, the training was based on practical exercises, group work, exchange of experiences and also individual consultations. In Denmark, the emphasis was on the way the teacher designed the program, which was in an “old fashioned” manner, high energy and multiple exercises. A didactic wish was to change the learning environment many times. Therefore, the teacher used the whole building/institution like small/micro rooms, halls, classrooms, open places, meeting places etc.

In Hungary and Poland training organizers emphasized, that the materials prepared by the PP 1 (HP) helped a lot in the designing of the training. Both in Poland and in Hungary it was noted, that the existing economic environment, the legal regulations and the often-different development level and economic opportunities existing in these countries for small business were taken into account. The participants represented quite different industries on the one hand and had different skills and experience in managing a small business on the other. Participants in Poland received teaching materials in the form of 10 Modules included in the Training Program “Implementation of customer-centered innovations”, as well as presentations used during the training.

By partner PP4 WIRP consultations after the training were attended by 4 people (hairdresser – 2, management – 2). The consultations were held over the phone. The discussion dealt with practical issues regarding the introduction of simple digital solutions for contacting customers to collect feedback. By Partner PP9 DIRW, after the training some business owner contacted the trainer to arrange a meeting directly on site to discuss the possibility of acquiring new clients.

3.26.5 Results and Analysis

1 Training measure: The Warmia and Mazury Chamber of Crafts and Entrepreneurship, Poland

Training measure: Further training programme Realisation of customer-centered Innovations

Test of the training measure: Warmińsko-Mazurska Izba Rzemiosła I Przedsiębiorczości, Poland

Scope of the training: 1 day face-to-face training

Conducting training – 1 teacher

Data collection: by PP4 WIRP

Survey of Participants

Research tool: Written survey of all participants at the end of the face-to-face training

Participants: 23 people (10 male, 13 female)

Age: from 35 to 70 years old

Count of cases: 19

They were representatives of 20 enterprises from 12 sectors:

- management (managers, office directors) – 6
- car mechanic – 2
- hairdresser – 4
- chimney sweep – 2
- upholsterer – 2
- training/education; auto electromechanics; accounting, vulcanizer; tailor; bio-ergo-therapist; builder – 1 person each.

Table 8 presents the number and gender of participants who took part in the training. The online survey questionnaire was answered immediately after the face-to-face training by 19 respondents; 36,8% percent (7 participants) were male and 63,2% percent (12 participants) were female.

Table 8. Participants by gender

Gender	Number of participants	%
Female	12	63,2%
Male	7	36,8%
Total	19	100%

Table 9 presents the age of participants. Out of all respondents 68,4 percent were age 21-50 (13 participants), 31,6 percent were aged over 51 years old (6 participants).

Table 9. Participants by age

Age	Number of participants	%
< 20	0	0%
21-50	13	68,4%
>51	6	31,6%
Total	19	100%

Table 10 presents the size structure of the company from which the training participants came.

Out of all respondent's 73,7 percent represented micro enterprises (14 participants), 15,8 percent participants came from medium enterprises (3 participants), 10,5 per-cent represented small enterprises (2 participants).

Table 10. Participants by the size of enterprise

The size of the enterprise	Number of participants	%
micro	14	73,7%
small	2	10,5%
medium	3	15,8%
Total	19	100%

Table 11 presents the length of the company's activity on the market. 89,5 percent of respondents work in enterprises operated longer than 5 years on the market (17 participants), 10,5 percent work in enterprises operated between 2 and 5 years on the market (2 participants).

Table 11. Participants by the length of the company's activity on the market

The length of the company's activity on the market	Number of participants	%
< 1 year	0	0%
1-2 years	0	0%
2-5 years	2	10,5%
>5 years	17	89,5%
Total	19	100%

Respondents were asked a number of questions to determine their satisfaction with the teachers and training organisation (Table 12). The overall results indicate that participants were very satisfied with the organisation of the training. The participants evaluated very good (5.0) the substantive preparation of the teacher for the training. They agreed that the clarity and understandability of the communication were very good (4.94). Trainees were very satisfied with Teaching materials relevance in everyday work (4.94). The accuracy, professionalism and involvement of the answering to the participants' questions were evaluated also on the high level (4.88). The lowest level of satisfaction in this part of the study would be the level of training program implementation (4.77). This may be due to too few hours devoted to the training, which was pointed out by the training participants in additional suggestions. Trainees were extremely satisfied with the atmosphere of the training (5.0). The level of communication of the teacher with the group was also rated at a high level (4.88). Participants evaluated also

very high the arranging of work and training (4.94) and the training background (classroom, tools, etc.) (4,94). Total results in this part of the questionnaire (4.92) indicate that participants are very satisfied with the teachers and the training organisation.

Table 12. The evaluation of the teachers and the training organisation (the level of satisfaction).

I part. The evaluation of the teachers and the training organisation (the level of satisfaction)	Level of satisfaction (5-very good, 4-good, 3-satisfactory, 2-unsatisfactory, 1-bad)
The substantive preparation	5.0
The clarity and understandability of the communication	4.94
Teaching materials relevance in everyday work	4.94
The accuracy, professionalism and involvement of the answering to the participants' questions	4.88
The ability to attract participants to the topic and engage them to the training	4.88
The level of training programme implementation	4.77
The atmosphere of the training	5.0
The level of communication of the teacher with the group	4.88
The arranging of work and training	4.94
The training background (classroom, tools, etc.)	4.94
Total	4.92

Table 13 presents participants' evaluation of the usefulness of the training for participants. The results show that the training fulfilled trainees' expectations (4.83). They agree that the training improves their abilities in the topic of the training (4.83) and improves their knowledge within the topic of the training (4.94). Furthermore, it was not agreed highly that the training will be useful for trainees in the job. The results show that trainees found it possible to use acquired knowledge and skills in everyday work (4.55), but the answers were not so optimistic in comparison to others. The overall assessment of the training was very good (4.83). The last question was about opinion, what kind of changes should be considered in such type of trainings in the future. In answers there was one opinion, that the training time should be extended, because all the information was interesting and important. Thank you for conducting the training and I am asking for more. It shows, that one day of the training is not enough for participants and is recommended to expand duration of the training in the future.

Tabel 14. The evaluation of the usefulness of the training for the participant

II part. The evaluation of the usefulness of the training for the participant	Level of satisfaction (5-very good, 4-good, 3-satisfactory, 2-unsatisfactory, 1-bad)
Were your expectations fulfilled with the training?	4.83
Did the training help you to improve the abilities in the topic of the training?	4.83
Did the training improve your knowledge within the topic of the training?	4.94
What is your assessment of the possibility of using acquired knowledge and skills in everyday work?	4.55
What is your assessment of the training program?	4.83
In your opinion, what kind of changes should be considered in such type of trainings in the future?	<i>"In my opinion, the training time should be extended, because all the information was interesting and</i>

II part. The evaluation of the usefulness of the training for the participant	Level of satisfaction (5-very good, 4-good, 3-satisfactory, 2-unsatisfactory, 1-bad)
	<i>important. Thank you for conducting the training and I am asking for more :)"</i>
Total	4.77

Survey of Teachers

Count of cases: 1

Research tool: Written survey of all teachers using at the end of the face-to-face training.

Teachers were asked a number of questions to evaluate participants' knowledge and engagement during the training (table 15). The results indicate that the teacher was not very satisfied with the trainees' knowledge at the beginning of the training (4.0). On the other hand, the trainer was very satisfied with the level of the trainees' knowledge at the end of training (5,0). Moreover, she was content with trainees' work and learning organization (5.0). The cooperation with trainees (5.0), trainees' engagement (5.0) and trainees' preparation to work independently (5.0) were evaluated highly by the teacher. She was very satisfied with the overall atmosphere of the training (5.0). According to the opinion of the teacher, there are any changes they should be considered in such type of trainings in the future.

Table 15. Evaluation questionnaire for teachers

Teacher evaluation of the training	Level of satisfaction (5-very good, 4-good, 3-satisfactory, 2-unsatisfactory, 1-bad)
How do you evaluate the level of the trainees' knowledge at the beginning of training?	4.00
How do you evaluate the level of the trainees' knowledge at the end of training?	5.00
How do you evaluate trainees' work and learning organization?	5.00
How do you evaluate the cooperation with trainees?	5.00
How do you evaluate trainees' engagement?	5.00
How do you evaluate trainees' preparation to work independently?	5.00
How do you evaluate overall atmosphere of the training?	5.00
In your opinion, what kind of changes should be considered in such type of trainings in the future?	<i>"No changes"</i>
Total	4.86

(4,86) in this part of questionnaire indicate that the teacher was very satisfied with the training overall. The satisfaction with the increase in the knowledge of the participants of the training indicates its effective conduct and the effectiveness of the training methods used.

Interview after 1-3 months form the training.

Count of cases: 1

Research tool: Interview with selected enterprises after 1-3 months from the training

In order to assess the effectiveness of the training and obtain feedback in the period after 1-3 months from the training, an interview was conducted with selected participants of the training. As part of the study, the usefulness of the training for the company, the content of the training and possible suggestions for the future, implementation and identification of possible barriers that may have appeared at this stage and possible additions of knowledge in order to successfully implement the concept were assessed.

The WIRP project partner conducted 7 interviews from 1-3 months after the end of the training. The questions were open-ended. The structured interview tool was used to conduct the study.

1. Usefulness: Was the participation in the training „Digitalization“ useful for your company? Why? Which skills and abilities you improve after participation in the training?

1/ “Yes.”

2/ *“The training was useful due to the introduction of IT improvements in the functioning of the Guild office: improvement of Google's business card, better virtual advertising of the association. The acquired knowledge about innovations allows for better communication with members of the Guild and persuading them to introduce novelties in their companies.”*

3/ *“The training turned out to be very useful. It showed me how I can encourage customers to provide feedback. I explored the topic of innovation.”*

4/ *“No, because my company is not very innovative.”*

5/ *“The "Customer-Centered Innovation" training was very useful for my company, because it showed me what skills I can use in dealing with customers to provide them with good and professional service.”*

6/ *“The training turned out to be very useful. I learned how important it is to introduce innovations. I exchanged experiences with entrepreneurs from various industries. During the training, there were many interesting discussions about customer needs and how we can reach them.”*

7/ *“We are satisfied with taking part in the training. We have improved our knowledge of innovation and digitization, which are essential in today's market. We learned about many opportunities*

that we had not heard of before, and they are of great importance, among others with advertising and achieved reach. All doubts were clarified.”

2. Content: Did the training contain issues and topics needed in your business? Was something missing? If so, what?

1/ *“Nothing was missing.”*

2/ *“The training provided all the necessary knowledge.”*

3/ *“Yes, issues related to contact with customers are most useful in my company. There was nothing missing.”*

4/ *“The training was interesting and broadened my knowledge.”*

5/ *“Yes, the training included a lot of topics and issues needed in my company.”*

6/ *“Yes, issues and topics needed in my company were discussed.”*

7/ *“The issues and topics discussed during the training were in line with the needs of our company.”*

3. Implementation: Have you introduced the solutions proposed during the training to the activities of your company? If not, what were the difficulties?

1/ *“Solutions have been introduced.”*

2/ *“All acquired knowledge was put into the activity.”*

3/ *“Not all solutions can be implemented in my company due to the typical service activity and because I run a small plant.”*

4/ *“My company is not very innovative, and the recipients are people who rarely use innovative news.”*

5/ *“Yes, I have implemented personalized services and new technologies that meet the needs of my clients.”*

6/ *“The process of innovating is very difficult, but together with the team we pored over the topic and prepared a roadmap for the future, which assumes collecting feedback from customers and creating personalized services.”*

7/ *“After the training, we introduced and continue to introduce the solutions proposed during the training.”*

4. Future activities: What skills, knowledge and resources do you need for your company to implement the solutions presented during the training?

1/ *“No.”*

2/ *“The solutions have been implemented in the functioning of the office.”*

3/ *“I need more knowledge about new technologies and financial resources to implement innovations.”*

4/ *"Cash injection."*

5/ *"Ability to quickly adapt to the needs of new customers."*

6/ *"I need more training in modern digital technologies and information on funds allocated to co-financing innovative activities in companies."*

7/ *"In the future, our company intends to take advantage of such training opportunities more often, and we also want to involve lower-level employees to take part in the classes to motivate them to develop. We plan to invest in better quality computer equipment."*

5. Training: What could have been done differently? What should have been done differently? What should not be changed?

1/ *"Everything was ok."*

2/ *"The conduct, organization and knowledge provided during the training were at the highest level."*

3/ *"The training could be a bit longer and addressed to participants from one industry, e.g. to hairdressers themselves."*

4/ *"Everything is ok."*

5/ *"The training was very satisfactory and there is no need to change."*

6/ *"In the future, training aimed at entrepreneurs dealing with related professions would be useful."*

7/ *"The training was professional. The organization of the event, the host, the subject, everything met our expectations. All information was provided in a re-liable manner, based on specific examples."*

The analysis of responses received from enterprises in the period of 1-3 months after the training shows the high effectiveness of the training. The assessment of the usefulness of the training for the company's operations was assessed very positively. In particular, attention was paid to the introduction of improvements in the functioning of the company in terms of better communication with customers.

The training showed the company how they can encourage customers to provide feedback. The usefulness of the training was confirmed in the statement that the acquired skills are used in dealing with customers to ensure good and professional service. The respondents also showed that they became interested in the topic of innovation in general and want to deepen their knowledge in this area.

The comments emphasized the importance of introducing innovations in the enterprise. It was recognized that the training was also useful in the context of many interesting discussions on the needs of customers and reaching customers and exchanging

this information between the participants of the training. The interlocutors also emphasized the acquired knowledge, which they use in the field of innovation and digitalization.

Only one of the respondents had a negative opinion on the usefulness of the training for their business, which was justified by the fact that their company is not very innovative.

In assessing the content of the training and possible shortcomings, most of the interlocutors indicated that the issues and topics discussed during the training were in line with the needs of the company. Entrepreneurs indicated that the training was interesting and broadened their knowledge in the subject. None of the participants of the training reported proposals for changes or possible deficiencies in the training.

In the next part of the interview, the question was asked whether the proposed concept had been implemented in the company of the training participant. In this regard, opinions were divided. Some of the respondents definitely stated that the learned solutions were implemented in the company's operations. The limitation resulting from the size of the enterprise is noteworthy. Small enterprises emphasized that not all solutions can be implemented in their operations due to the typical service activity and because they run a small plant. Another indicated limitation is the low innovativeness of enterprises. One of the respondents emphasized that his company is not very innovative and the recipients are people who rarely use innovative novelties. Some of the respondents are in the phase of preparing to implement the solution learned during the training. For this purpose, a team was formed to deal with the topic and prepare a plan for future action. In addition, the team has started collecting customer feedback and intends to create personalized services.

The next part of the interview was devoted to future activities. The question was what skills, knowledge and resources are needed for companies to implement the solutions presented during the training. Most of the training participants indicated that they needed more knowledge about new technologies and financial resources to implement innovative solutions. Entrepreneurs also expect funds allocated for co-financing innovative activities. Attention was also paid to the ability to quickly adapt to the needs of new customers. In addition, it was indicated that it is necessary to involve employees from lower levels of the organization in this type of training.

The last question in the interview was about suggestions for changes and improvements to improve the training in the future. The vast majority of interviewees expressed very positive opinions about the training. It was pointed out that in the future it is worth paying attention to industry diversity and tailoring training to specific industries.

2 Training measure: International Business College, Denmark

Training measure: Further training program Realization of customer-centered Innovations

Test of the training measure: International Business School, Denmark (PP6 IBC)

Scope of the training: 2 days face-to-face training

Conducting training – 1 teacher

Data collection: by PP6 IBC

Research tool: Follow up after the face-to-face training.

Participants: 20 people (18 male, 2 female)

Age: from 30 to 50 years old

Count of cases:

- First course 2021: 10 participants
- Second course 2022: 10 participants

All participants are leaders / managers in SMEs in Denmark and the opportunities to develop their own teams. Not only from sales and marketing teams but also teams in the following areas: production, maintain, craftsmanship, retail, distribution, stock and development of products.

Project partner PP6 IBC who organized the training pointed some strengths of the training as seen by the participants: “The training was perfect, and the participants were satisfied with the course.” Also, according to the opinion of the participants: “One of the biggest challenges for the participants is the time and the opportunity. Many of the participants are busy managers and often do not have the time or/and the opportunity to focus on innovation in their companies. Many of those participants are working in daily days operations with personally and teams KPIs where digital innovation unfortunately is not one of them and therefore with low interest / focus.”

Weaknesses of the training as seen by the participants:

“The training was too short. Beside this, it could be interesting to have an innovation process only with one company (and their employees) and then some customers (B2B or B2C) to this one company. It could be interesting to see what the output would be.”

As mentioned before the training and course were a success. All the participants evaluated themselves to have received, learned and trained their innovative skills and competences.

The strengths were that there were participants from many different companies. But this was also the challenge. My wish is to design a topic scope only for one company and their customers to come closer to “digital customer-centric Innovation”.

In addition, the training organizer conducted a study on the increase in knowledge about innovations. Before the training, the participants had to determine their level of knowledge about innovations on a scale from 1 to 10. The average of the submitted declarations was 2.4. Then, after the training, the participants were again asked what level they assessed their level of knowledge about innovations on the same scale. The average level of knowledge indicated was 10. This means that the training was successful. The increase in knowledge is the best measure of training and indicates the high effectiveness of the adopted method of training as well as the methods and training techniques used.

Follow Up (after one month)

When you look back at the Innovation course, what is the best learning you take with you (can remember) from the course here 1-2 months later? (Please also write on the back).

Keywords are here: Brainstorming, thinking out of the box, new opportunities, Innovation model (3xC (Collect, Create, Customize)), Long drink challenge and De Bonos Hats.

Are the learning points from the module something that you have also applied/implemented yourself?

Keywords are here: Funny, experiences, different and curious.

How would you rate yourself and your own innovative competence before vs. after the module?

It has increased. All 20 participants chose this.

What extra is needed for you to use the thinking behaviours skills and competences “innovation” in your practice to an even greater extent?

Keywords are here: time, courage and experience.

What will it take, which initiatives/measures, for your company to work more with in-novation?

Keywords are here: time and accept from the organizations.

Survey of Teachers

Count of cases: 1

Research tool: Written survey of all teachers using at the end of the face-to-face training.

Teachers were asked a number of questions to evaluate participants’ knowledge and engagement during the training (table 16). The results indicate that the teacher was very satisfied with the trainees’ knowledge at the beginning of the training (5.0). On the other hand, the trainer was very satisfied with the level of the trainees’ knowledge at the end of training (5.0). Moreover, she was content with trainees’ work and learning organization (5.0). The cooperation with trainees (5.0), trainees’ engagement (5.0) and trainees’ preparation to work independently (5.0) were evaluated highly by the teacher. She was very satisfied with the overall atmosphere of the training (5.0). According to the opinion of the teacher, there are any changes they should be considered in such type of trainings in the future.

Table 16. Evaluation questionnaire for teachers (PP6 IBC)

Teacher evaluation of the training	Level of satisfaction (5-very good, 4-good, 3-satisfactory, 2-unsatisfactory, 1-bad)
How do you evaluate the level of the trainees' knowledge at the beginning of training?	5.00
How do you evaluate the level of the trainees' knowledge at the end of training?	5.00
How do you evaluate trainees' work and learning organization?	5.00
How do you evaluate the cooperation with trainees?	5.00
How do you evaluate trainees' engagement?	5.00
How do you evaluate trainees' preparation to work independently?	5.00
How do you evaluate overall atmosphere of the training?	5.00
In your opinion, what kind of changes should be considered in such type of trainings in the future?	More time
Total	5.00

Total results (5.00) in this part of questionnaire indicate that the teacher was very satisfied with the training overall. As part of the proposed changes in the training for the future, it was proposed to extend the time during the training, which shows the great interest in the subject of the training.

The training organizer IBC also added other observations and feedback from lecturers in the training summary:

“A funny course with good and eager to learn participants. Interesting and exceptional good learning environment. Perfect materiel, exercises, and presentations. Good food. The participants were “hungry” for more learning, but also realize that they have huge challenges back in their own companies. Because how can they improve those innovative thoughts in their own SMEs and is the company/organization ready to think and act innovative?”

Interview after 1-3 months form the training.

Count of cases: 1

Research tool: Interview with selected enterprises after 1-3 months from the training

1. Usefulness: Was the participation in the training „Digitalization“ useful for your company? Why? Which skills and abilities you improve after participation in the training?

In general, is it difficult already to express whether it has yielded anything. Measured in terms of the individual innovation skills of those participants, the answer is yes. But transferred to their teams/organizations, the answer is limited.

And why; simply because we still did not have the time or/and opportunity to arrange a workshop regarding innovation. (But when the time and opportunity is there, we will).

For the persons who participant we are ready to improve an innovation workshop for their colleges/teams.

3. Content: Did the training contain issues and topics needed in your business? Was something missing? If, what?

It could of course be more industry oriented, but the basic innovative skills to carry out an innovative process have been acquired.

Nothing was missing.

3. Implementation: Have you introduced the solutions proposed during the training to the activities of your company? If not, what were the difficulties?

No unfortunately because there was no time and opportunity.

4. Future activities: What skills, knowledge and resources do you need for your company to implement the solutions presented during the training?

A great idea will be to arrange together with IBC to managing the process.

5. Training: What could have been done differently? What should have been done differently? What should not be changed?

The training could have been longer, but in general everything was good, perfect and not least - funny.

In order to assess the effectiveness of the training and obtain feedback in the period after 1-3 months from the training, an interview was conducted with selected participants of the training. As part of the study, the usefulness of the training for the company, the content of the training and possible suggestions for the future, implementation and identification of possible barriers that may have appeared at this stage and possible additions of knowledge in order to successfully implement the concept were assessed.

The IBC project partner conducted 2 interviews from 1-3 months after the end of the training. The questions were open-ended. The structured interview tool was used to conduct the study.

The way this "feedback after 3 months" was carried out was through a digital invitation on Facebook or/and by e-mail to an online workshop where we used the software; TEAMS. The participants had after 3 month the opportunity to participate in a semi-structured feedback-meeting on the 2-day innovation course.

Only 2 participants showed up for this digital workshop.

It is considered that two participants are better than none, but that the answers from the participants present were probably of limited validity.

3 Training measure: Ipartestületek Országos Szövetsége, Hungary

Training measure: Further training program Realization of customer-centered Innovations

Test of the training measure: Ipartestületek Országos Szövetsége, Hungary

Scope of the training: 1,5-day face-to-face training (5 lessons followed by a half-day online training, 3 lessons + 2-3 months of self-study with minimum 10 hours of individual coaching)

Conducting training – 1 teacher

Data collection: by PP7 IPOSZ

Survey of Participants

Research tool: Written survey of all participants at the end of the face-to-face training

Participants: 16 people (11 male, 5 female)

Age: from 28 to 65 years old

Count of cases: 16

They were representatives of 15 enterprises from at least 10 different enterprises:

- Soda water making
- Confectionery
- Restaurant
- Tiler
- Air conditioning
- Carpenter
- Wholesaler of agricultural machinery
- Food wholesaler
- Wholesale of pet food
- Sewing courses, eco-friendly products
- Photographer

Table 17 presents the number and gender of participants who took part in the training. The online survey questionnaire was answered immediately after the face-to-face training by 15 respondents; 73.3 percent (11 participants) were male, and 26.7 percent (4 participants) were female.

Table 17. Participants by gender

Gender	Number of participants	%
Female	4	26,7%
Male	11	73,3%
Total	15	100%

Table 18 presents the age of participants. Out of all respondents 66.4 percent were age 21-50 (10 participants), 33.3 percent were aged over 51 years old (5 participants).

Table 18. Participants by age

Age	Number of participants	%
< 20	0	0%
21-50	10	66,4%
>51	5	33,3%
Total	15	100%

Table 19 presents the size structure of the company from which the training participant came.

Out of all respondent's 80 percent represented micro enterprises (12 participants), 20 percent participants came from small enterprises (3 participants).

Table 20. Participants by the size of the enterprise

The size of the enterprise	Number of participants	%
micro	12	80%
small	3	20%
medium	0	0%
Total	15	100%

Table 21 presents the length of the company's activity on the market. 66,7 percent of respondents work in enterprises operated longer than 5 years on the market (10 participants), 26,7 percent work in enterprises operated between 2 and 5 years on the market (4 participants), 6,6 percent work in enterprises operated between 1 and 2 years (1 participant).

Table 21. Participants by the length of the company's activity on the market

The length of the company's activity on the market	Number of participants	%
< 1 year	0	0%
1-2 years	1	6,6%
2-5 years	4	26,7%
>5 years	10	66,7%
Total	15	100%

Respondents were asked a number of questions to determine their satisfaction with the teachers and training organisation (Table 22). The overall results indicate that participants were very satisfied with the organisation of the training. The participants evaluated very good (4.87) the substantive preparation of the teacher for the training. They agreed that the clarity and understandability of the communication were very good (4.93). Trainees were very satisfied with teaching materials relevance in everyday work (5.0). The accuracy, professionalism and involvement of the answering to the participants 'questions were evaluated also on the high level (5.0). Also, high level of satisfaction in this part of the study is the level of training program implementation (5.0). Trainees were extremely satisfied with the atmosphere of the training (5.0). The level of communication of the teacher with the group was also rated at a high level (5.0). Participants evaluated also very high the arranging of work and training (4.93) and the training background (classroom, tools, etc.) (4.93). Total results in this part of the questionnaire (4.97) indicate that participants are very satisfied with the teachers and the training organisation.

I part. The evaluation of the teachers and the training organisation (the level of satisfaction)	Level of satisfaction (5-very good, 4-good, 3-satisfactory, 2-unsatisfactory, 1-bad)
The substantive preparation	4.87
The clarity and understandability of the communication	4.93
Teaching materials relevance in everyday work	5.0
The accuracy, professionalism and involvement of the answering to the participants 'questions	5.0
The ability to attract participants to the topic and engage them to the training	5.0
The level of training programme implementation	5.0

I part. The evaluation of the teachers and the training organisation (the level of satisfaction)	Level of satisfaction (5-very good, 4-good, 3-satisfactory, 2-unsatisfactory, 1-bad)
The atmosphere of the training	5.0
The level of communication of the teacher with the group	5.0
The arranging of work and training	4.93
The training background (classroom, tools, etc.)	4.93
Total	4.97

Table 22. The evaluation of the teachers and the training organisation (the level of satisfaction).

Table 23 presents participants' evaluation of the usefulness of the training for participants. The results show that the training fulfilled trainees' expectations (4.8). They agree that the training improve their abilities in the topic of the training (4.87) and improve their knowledge within the topic of the training (5.0). Furthermore, it was not agreed highly that the training will be useful for trainees in the job. The results show that trainees found it possible to use acquired knowledge and skills in everyday work (5.0). Overall assessment of the training was very good (4.93). The last question was about opinion, what kind of changes should be considered in such type of trainings in the future. In answers there were many opinions, especially about more similar training, which would be needed. Then enterprises would be able to use what they have learned very well and effectively.

Table 23. The evaluation of the usefulness of the training for the participant

II part. The evaluation of the usefulness of the training for the participant	Level of satisfaction (5-very good, 4-good, 3-satisfactory, 2-unsatisfactory, 1-bad)
Were your expectations fulfilled with the training?	4.8
Did the training help you to improve the abilities in the topic of the training?	4.87
Did the training improve your knowledge within the topic of the training?	5.0
What is your assessment of the possibility of using acquired knowledge and skills in everyday work?	5.0
What is your assessment of the training program?	4.93
In your opinion, what kind of changes should be considered in such type of trainings in the future?	<p><i>“I had already thought a lot about how I could develop my business. How can I better reach my target audience? I received a lot of useful advice for this, and I can already see the results. I learned that I need to be in constant communication with my clients. This will require a lot of my energy.”</i></p> <p><i>“I am very curious about the results of the solutions learned in the training. I'm hopeful, but I'd like to see concrete results.”</i></p> <p><i>“Everything was perfect.”</i></p>

II part. The evaluation of the usefulness of the training for the participant	Level of satisfaction (5-very good, 4-good, 3-satisfactory, 2-unsatisfactory, 1-bad)
	<p><i>“A lot of similar training would be needed. I will be able to use what I have learned very well and effectively.”</i></p> <p><i>“It would have been great if I could have concentrated on the training the whole time, because the instructor shared a lot of practical knowledge. Unfortunately, I had to deal with my company's affairs more than once, instead of being able to concentrate on the training. Two of my colleagues were also out due to illness, so I had to work instead of them. But the instructor was very patient and helped me tailor the learned information to my company.”</i></p> <p><i>“The training was very good, but I will have to work a lot more to implement all the advice I received.” “It was definitely good to learn completely new knowledge. I am lucky, because at the moment I have continuous orders thanks to customer satisfaction. But if my orders were to decrease in the future, I now know what new methods I can use to acquire new customers.” “I received very useful advice to implement my old development plans.” “The entire training was very well structured. I am glad to have participated in the project.” “We can already see how much benefit and new business the advice we received has brought.”</i></p> <p><i>“The training was very useful. I look forward to the improved economic results.”</i></p>
Total	4.92

Survey of Teachers

Count of cases: 1

Research tool: Written survey of all teachers using at the end of the face-to-face training.

Teachers were asked a number of questions to evaluate participants' knowledge and engagement during the training (table 24). The results indicate that the teacher was not very satisfied with the trainees' knowledge at the beginning of the training (3.0). On the other hand, the trainer was very satisfied with the level of the trainees' knowledge at the end of training (4.0). Moreover, she was content with trainees' work and learning organization (4.0). The cooperation with trainees (5.0), trainees' engagement (5.0) and trainees' preparation to work independently (4.0) were evaluated highly by the teacher. She was very satisfied with the overall atmosphere of the training (5.0). The teacher also noted that the knowledge, skills, abilities, and background of the trainees are very different. Therefore, something was completely new to one, while it was familiar to another.

Total results (4.14) in this part of questionnaire indicate that the teacher was satisfied with the training overall. The satisfaction with the increase in the knowledge of the participants of the training indicates its effective conduct and the effectiveness of the training methods used (from 3,0 to 4,0). The assessment of knowledge at level 4 indicates the need to deepen knowledge in the subject of the training.

Table 24. Evaluation questionnaire for teachers

Teacher evaluation of the training	Level of satisfaction (5-very good, 4-good, 3-satisfactory, 2-unsatisfactory, 1-bad)
How do you evaluate the level of the trainees' knowledge at the beginning of training?	3.00

Teacher evaluation of the training	Level of satisfaction (5-very good, 4-good, 3-satisfactory, 2-unsatisfactory, 1-bad)
How do you evaluate the level of the trainees' knowledge at the end of training?	4.00
How do you evaluate trainees' work and learning organization?	4.00
How do you evaluate the cooperation with trainees?	5.00
How do you evaluate trainees' engagement?	5.00
How do you evaluate trainees' preparation to work independently?	4.00
How do you evaluate overall atmosphere of the training?	5.00
In your opinion, what kind of changes should be considered in such type of trainings in the future?	<i>“The knowledge, skills, abilities, and background of the trainees are very different. Therefore, something was completely new to one, while it was familiar to another.”</i>
Total	4.14

Interview after 1-3 months form the training.

Count of cases: 15

Research tool: Interview with selected enterprises after 1-3 months from the training

In order to assess the effectiveness of the training and obtain feedback in the period after 1-3 months from the training, an interview was conducted with selected participants of the training. As part of the study, the usefulness of the training for the company, the content of the training and possible suggestions for the future, implementation and identification of possible barriers that may have appeared at this stage and possible additions of knowledge in order to successfully implement the concept were assessed.

The project partner IPOSZ conducted 15 interviews from 1-3 months after the end of the training. The questions were open-ended. The structured interview tool was used to conduct the study.

1. Usefulness: Was the participation in the training „Customer-centered Innovations“ useful for your company? Why? Which skills and abilities you improve after participation in the training?

1/ *“The training was very interesting, and it means a great support to understand consumer behaviour better.”*

2/ *“Yes, it was helpful because it provided tangible help that helped me move forward. My communication with customers has improved. I know that how I should approach different target groups.”*

3/ *“Actually, everything was good. I received very strong confirmation and assistance to implement an old business plan. As a simple entrepreneur, even if my products are good and if I have good ideas about where I could sell my products. Something was still missing for successful sales. The advice received during the training proved that often a small thought is missing for success. An external expert's eye will immediately see this small yet necessary step, which I have not noticed for months. The instructor's advice helped a lot.”*

4/ *“I learnt how to segment the market, how to make the targeting, and how I should position the different product categories.”*

5/ *“It was very useful because it showed a new approach to better serve customers, which of course showed up in our revenues. Our customers left satisfied and have come back with confidence since then.”*

6/ *“Our telecommunication skills improved, and it was very important. Our appearance on social media has improved a lot.”*

7/ *“I have learned a lot about the way consumers think about their behaviour. How they think, how they act, and how I can communicate with them more effectively.”*

8/ *“It was useful. The instructor definitely wanted me to do everything via computer, he tried to bring me into the world of the Internet at all costs. He constantly encouraged me to advertise myself*

online, but today I still have so much work to do, orders keep coming in, so I don't need that yet. I learned a lot.”

9/ “I use the various marketing tools braver. I have learned a lot.”

10/ -

11/ “It was very helpful. The marketing image and my attitude towards marketing have changed, I consider it much more important than before. Regarding the appearance of the website, I received advice with which I can make my website even more visited.”

12/ “Yes, it was very helpful. The methods used in our 25 years of operation have now received scientific confirmation. It is a good feeling to know that we have instinctively followed a workable marketing policy.”

13/ “I have started to be more intentional about using the different types of customer-facing innovation tools. How we communicate with our customers is important. I teach my employees the same thing.”

14/ “We are new in the market, and marketing has a great importance in this time. I have learned how to combine the different tools and that the simple is the better.”

15/ “It was useful. Our perspective has changed a little, broadened.”

2. Content: Did the training contain issues and topics needed in your business? Was something missing? If, what?

1/ “The training was actual and relevant. I do not miss anything.”

2/ “It was also very well structured in terms of content. It was great that we could cooperate on a personalized basis. It would have been good if the coaching could have lasted longer, an entrepreneur always has new obstacles, and it would be good if I could always get help with them. For a micro company, this would be very good. Facebook's algorithm is also constantly changing, it would be nice if I could follow it with professional support. Even though I have a website and many people say that it should be done one way or another, it would be nice if a professional could tell me what and how to develop.”

3/ “The training provided useful knowledge that can be applied in the everyday life of my business.”

4/ “We are in the process of creating our new homepage and the training offers us a new aspect to it.”

5/ “Even upon his arrival, the trainer was surprisingly well prepared about the company's operational area and the company's profile. After that, based on the conversation, he formulated targeted proposals by learning about new information, problems, successes, communication with customers, and work organization influencing the image of the company, which we have been using with results ever since. We didn't miss anything.”

6/ *"Yes, I need everything I've learned."*

7/ *"Marketing is a big priority in my business. Now I am working on reaching out to more B2B partners. Time, deliberate planning, and a good unique sell-ing proposition are very important."*

8/ -

9/ *"The training contains current and well-defined topics. This is a great help."*

10/ *"I learned a lot about the market and the importance of segmentation. And how to align the 4Ps with segmentation."*

11/ -

12/ -

13/ *"This training was complex. But of course, we can always expand the digital tools. Now, for example, I would like to get to know the advertising platform tik tok better."*

14/ *"No, it was complex."*

15/ *"For us, the topics of the training and marketing were very good and suit-ed the needs of our company. I don't feel like I missed anything. I received a perfect marketing plan at the end of the training."*

3. Implementation: Have you introduced the solutions proposed during the training to the activities of your company? If not, what were the difficulties?

1/ *"We start to plan the content marketing. Time is the biggest difficulty. Inflation and price increase in the raw materials and overheads mean a great problem now."*

2/ *"The truth is that there was an event in which I asked for help. I prepared for this with the help of the instructor. He had tips that helped a lot. For ex-ample, what should I do in terms of image and appearance."*

3/ *"Yes. Our business is food wholesale, we have our own branded products, these products have been on the market since 1991, which means that our products are viable. What I wanted, but somewhere I always ran into walls to get into the wholesale networks as a supplier. For example, the Metro wholesaler had a product similar to ours, but it sold out once, so I immediately tried to contact Metro and present them our products and our modern packaging technique. I wrote to them, but they didn't call me back. I couldn't break into new markets for a long time. The instructor gave me a very practical advice, with which I immediately managed to contact this multi and I was able to present my product to them, and a cooperation with them as a supplier began. I owe all of this to the instructor's fresh, experienced eyes."*

4/ *"We started to create additional groups (segments) for dog food: hunting dogs, working dogs, small pets (minis), allergic dogs."*

5/ *"All the solutions proposed to the company proved to be useful. The appearance of the website, information content, customer service, the afterlife of given orders, the further nurturing of existing relationships, the review of the sequence of interdependent work processes, the more reasonable use of the available human capacity, we received positive forward-looking advice everywhere. It is difficult to get rid of previous bad habits, but persistent attention to each other brings success step by step."*

6/ *"Yes, I have launched thematic campaigns several times. I used to make all the cakes every day, but they didn't always sell out. Now I only make certain cakes 1 or 2 times a week, but I announce them in advance on social media."*

7/ *"Yes, I started to look for a legend about the settlement of the company, to separate the different logos. And now the biggest project is the renewal of the homepage."*

8/ *"I received a sample quote that would help me present myself better to customers. I will have to slowly enter the digital world."*

9/ *"I started planning and preparing the different advertising spaces, the thematic leaflet and the content marketing in the Facebook posts."*

10/ *"We have started planning our homepage, which will be structured as follows: company profile, products and services, references, news, web shop, frequently asked questions (FAQ)."*

11/ *"I received a lot of good, useful advice. I received good advice regarding online media, Facebook, Google ads, and Tik-Tok. We have already implemented these in our ads. We used to have open sales, but as a result of the advice, we now advertise short-term sales. Colour composition, we changed this too, it also affects how popular our ser-vice is on online platforms. Since then, we have created a frequently asked questions and answers inter-face. We give customers the opportunity to rate our service. Since then, we have put photos of our employees on the website, so we create a more personal feeling in our customers."*

12/ *"We started an advertising newsletter on Facebook. For companies based on address list. We started it in January-February and there is already a lot of positive feedback."*

13/ *"Yes, we started to plan the product descriptions for the private label products. Product descriptions on the tables in a unified design and according to the picture elements would draw the guests' attention to the parlour favourites, grandmother's pantry and the treasures of the forest."*

14/ *"Yes, we have started to implement the coupon booklet and the leaflet. But the biggest result is the conscious planning of content marketing. We have also started negotiating with local small businesses to build a strategic collaboration."*

15/ *"We have implemented and continuously apply almost all the advice and suggestions that we discussed with the instructor, and the suggested ones are already working."*

4. Future activities: What skills, knowledge and resources do you need for your company to implement the solutions presented during the training?

1/ *"I would need a specialist who deals with digital marketing."*

2/ *"I am a digital immigrant and I need an external specialist. A lot of time passes before I write a post. It is very important to improve my communication. My products are good, but I feel that my communication should be improved. How can I reach my target audience outside of the online space? I can't place my ads where my target group goes. I can only reach them online."*

3/ *"Continuous consultation would be a great support."*

4/ -

5/ *"Professional knowledge is needed to act confidently, to get to know the customer's wishes better, to "talk" to the customer, to solve their problems, to draw attention to new products. There are many areas where we received useful advice. Computer knowledge and, in our case, the ability to handle different telephones is an advantage that they cannot get very much in a store that provides a similar service, or they regret the time spent. To move forward, you need a constant curiosity about the latest techniques."*

6/ *"Fortunately, my daughter, due to her age, can help me a lot on various online platforms."*

7/ *"It would be a dream if I could manage my homepage and social media pages on my own."*

8/ *"I have a lot of work; I don't need to advertise. My good work is my advertisement. On the instructor's advice, I started working with a digital designer, because in the future this could also help me to serve my customers better."*

9/ *"I have to think in small terms, and I think I can do that slowly. The biggest problem is the time I have to spend on manufacturing and delivery, and I only have time for marketing in the evenings."*

10/ *"I need a professional to create our website."*

11/ *"Everything is available to implement the proposals. Everything is there, we just have to work on it a lot."*

12/ *"Additional training, online or offline, would definitely be helpful. It would be especially good if the company's employees could be trained as well."*

13/ *"Improve the digital marketing skills of my company."*

14/ *"We are a small one-man business. We cannot afford to employ a marketing employee. But that thinking is needed from manufacturing to sales."*

15/ *"There is none, because we implement every suggestion in 100%."*

5. Training: What could have been done differently? What should have been done differently? What should not be changed?

- 1/ *"Nothing."*
- 2/ *"It would be nice if it lasted longer, as I wrote above."*
- 3/ *"Nothing. It is perfect."*
- 4/ -
- 5/ *"Nothing. We all took advantage of the opportunities available today. This practice should be continued and made available to all businesses."*
- 6/ *"Everything was very good; nothing needs to be changed. In fact, I have never been on such a useful course. It would be even more useful if I could find two confectioner colleagues for the long term, because then I would be able to satisfy the customer's needs really well."*
- 7/ *"I think the structure of education is good. I would not change anything. From my side, more time and effort would be needed to implement every-thing."*
- 8/ -
- 9/ *"I would not change anything."*
- 10/ *"I like the training and I am waiting for the following."*
- 11/ *"I think everything went well from the beginning. Accuracy and attentive-ness characterized the entire process."*
- 12/ *"I don't think anything needs to be changed. The training was good."*
- 13/ *"I think a longer period of collaboration is needed for better results. We have started to implement the proposed tools and we have received good feedback. But after a few months it would be good to continue the marketing consultation."*
- 14/ *"A regular, monthly marketing consultation would be a great support."*
- 15/ *"I think it was good because it was both personal and online. Everyone could participate, which was important to them."*

The analysis of responses received from enterprises in the period of 1-3 months after the training shows the high effectiveness of the training. The assessment of the usefulness of the training for the company's operations was assessed very positively. In particular, attention was paid to the introduction of improvements in the functioning of the company in terms of better communication with customers.

The training showed the company how they can encourage customers to provide feedback. The usefulness of the training was confirmed in the statement that the acquired skills are used in dealing with customers to ensure good and professional service. The respondents also showed that they became interested in the topic of innovation in general and want to deepen their knowledge in this area.

The comments emphasized the importance of introducing innovations in the enterprise. It was recognized that the training was also useful in the context of many interesting discussions on the needs of customers and reaching customers and exchanging this information between the participants of the training. The interlocutors also emphasized the acquired knowledge, which they use in the field of innovation and digitalization.

Only one of the respondents had a negative opinion on the usefulness of the training for their business, which was justified by the fact that their company is not very innovative.

In assessing the content of the training and possible shortcomings, most of the interlocutors indicated that the issues and topics discussed during the training were in line with the needs of the company. Entrepreneurs indicated that the training was interesting and broadened their knowledge in the subject. None of the participants of the training reported proposals for changes or possible deficiencies in the training.

In the next part of the interview, the question was asked whether the proposed concept had been implemented in the company of the training participant. In this regard, opinions were divided. Some of the respondents definitely stated that the learned solutions were implemented in the company's operations. The limitation resulting from the size of the enterprise is noteworthy. Small enterprises emphasized that not all solutions can be implemented in their operations due to the typical service activity and because they run a small plant. Another indicated limitation is the low innovativeness of enterprises. One of the respondents emphasized that his company is not very innovative, and the recipients are people who rarely use innovative novelties. Some of the respondents are in the phase of preparing to implement the solution learned during the training. For this purpose, a team was formed to deal with the topic and prepare a plan for future action. In addition, the team has started collecting customer feedback and intends to create personalized services.

The next part of the interview was devoted to future activities. The question was what skills, knowledge and resources are needed for companies to implement the solutions presented during the training. Most of the training participants indicated that they needed more knowledge about new technologies and financial resources to implement innovative solutions. Entrepreneurs also expect funds allocated for co-financing innovative activities. Attention was also paid to the ability to quickly adapt to the needs

of new customers. In addition, it was indicated that it is necessary to involve employees from lower levels of the organization in this type of training.

The last question in the interview was about suggestions for changes and improvements to improve the training in the future. The vast majority of interviewees expressed very positive opinions about the training. It was pointed out that in the future it is worth paying attention to industry diversity and tailoring training to specific industries.

4 Training measures: Dolnośląska Izba Rzemieśnicza we Wrocławiu, Poland

Training measure: Further training program Realization of customer-centered Innovations

Test of the training measure: Dolnośląska Izba Rzemieśnicza we Wrocławiu, Poland

Scope of the training: 1-day face-to-face training

Conducting training – 2 teachers

Research tool: Written survey of all participants at the end of the face-to-face training

Participants: 16 people (8 male, 8 female)

Age: from 30 to 70 years old

Count of cases: 16

They were representatives of different sectors: owner of a metal and metal construction company, the owner of a laundry, the owner of a pest extermination company, the owner of a hairdressing salon, a restaurant employee, a watchmaker, a stone products company and even a fashion designer.

Table 25 presents the number and gender of participants who took part in the training. The online survey questionnaire was answered immediately after the face-to-face training by 16 respondents (13 correctly completed questionnaires were re-turned); 30,8 percent (4 participants) were male, and 69,2 percent (9 participants) were female.

Table 25. Participants by gender

Gender	Number of participants	%
Female	9	69.2%
Male	4	30.8%
Total	13	100%

Table 26 presents the age of participants. Out of all respondents 46.2 percent were age 21-50 (6 participants), 53,8 percent were aged over 51 years old (7 participants).

Table 26. Participants by age

Age	Number of participants	%
< 20	0	0%
21-50	6	46.2%
>51	7	53.8%
Total	19	100%

Table 27 presents the size structure of the company from which the training participant came.

Out of all respondent's 84.6 percent represented micro enterprises (11 participants), 15,4 percent participants came from small enterprises (2 participants).

Table 27. Participants by the size of the enterprise

The size of the enterprise	Number of participants	%
micro	11	84.6%
small	2	15.4%
medium	0	0%
Total	13	100%

Table 28 presents the length of the company's activity on the market. 69,2 percent of respondents work in enterprises operated longer than 5 years on the market (9 participants), 15,4 percent work in enterprises operated between 2 and 5 years on the market (2 participants), 7,7 percent work in enterprises operated between 1 and 2 years on the market (1 participant), 7,7 percent work in enterprises operated between under 1 years on the market (1 participant).

Table 28. Participants by the length of the company's activity on the market

The length of the company's activity on the market	Number of participants	%
< 1 year	1	7.7%
1-2 years	1	7.7%
2-5 years	2	15.4%
>5 years	9	69.2%
Total	13	100%

Respondents were asked a number of questions to determine their satisfaction with the teachers and training organisation (Table 29). The overall results indicate that participants were very satisfied with the organisation of the training. The participants evaluated good (4.77) the substantive preparation of the teacher for the training. They agreed that the clarity and understandability of the communication were very good (4.62). Trainees were rather satisfied with teaching materials relevance in everyday work (4.38). The accuracy, professionalism and involvement of the answering to the participants 'questions were evaluated also on the high level (4.69). The lowest level of satisfaction in this part of the study would be the level of training program implementation (4.50). This may be due to too few hours devoted to the training, which was pointed out by the training participants in additional suggestions. Trainees were satisfied with the atmosphere of the training (4.84). The level of communication of the teacher with the group was also rated at a high level (4.84). Participants evaluated also very high the arranging of work and training (4.77) and the training back-ground (classroom, tools, etc.) (4.61). Total results in this part of the questionnaire (4.67) indicate that participants were satisfied with the teachers and the training organisation.

Table 29. The evaluation of the teachers and the training organisation (the level of satisfaction).

I part. The evaluation of the teachers and the training organisation (the level of satisfaction)	Level of satisfaction (5-very good, 4-good, 3-satisfactory, 2-unsatisfactory, 1-bad)
The substantive preparation	4.77
The clarity and understandability of the communication	4.62
Teaching materials relevance in everyday work	4.38
The accuracy, professionalism and involvement of the answering to the participants 'questions	4.69
The ability to attract participants to the topic and engage them to the training	4.64

I part. The evaluation of the teachers and the training organisation (the level of satisfaction)	Level of satisfaction (5-very good, 4-good, 3-satisfactory, 2-unsatisfactory, 1-bad)
The level of training programme implementation	4.50
The atmosphere of the training	4.84
The level of communication of the teacher with the group	4.84
The arranging of work and training	4.77
The training background (classroom, tools, etc.)	4.61
Total	4.67

Table 30 presents participants' evaluation of the usefulness of the training for participants. The results show that the training fulfilled trainees' expectations to a good degree (4.23). They agree that the training improves their abilities in the topic of the training (4.23) and improves their knowledge within the topic of the training (4.46). Furthermore, it was not agreed highly that the training will be useful for trainees in the job. The results show that trainees found it possible to use acquired knowledge and skills in everyday work (4.46), but the answers were not so optimistic in comparison to others. Overall assessment of the training was good (4.61). The last question was about opinion, what kind of changes should be considered in such type of trainings in the future. In answers there was one opinion, that the training time should be extended, because all the information was interesting and important. Thank you for conducting the training and I am asking for more. It shows, that one day of the training is not enough for participants and is recommended to expand duration of the training in the future.

Tabel 31. The evaluation of the usefulness of the training for the participant

II part. The evaluation of the usefulness of the training for the participant	Level of satisfaction (5-very good, 4-good, 3-satisfactory, 2-unsatisfactory, 1-bad)
Were your expectations fulfilled with the training?	4.23
Did the training help you to improve the abilities in the topic of the training?	4.23
Did the training improve your knowledge within the topic of the training ?	4.46
What is your assessment of the possibility of using acquired knowledge and skills in everyday work?	4.46
What is your assessment of the training program ?	4.61
In your opinion, what kind of changes should be considered in such type of trainings in the future?	<p><i>“Spread the material out over more hours so that it can be explained in more depth and technically practiced.”</i></p> <p><i>“Larger room, transparent slides.”</i></p> <p><i>“More practice.”</i></p> <p><i>“More specifics”.</i></p>
Total	4,40

Survey of Teachers

Count of cases: 2

Research tool: Written survey of all teachers using at the end of the face-to-face training.

The organization of the implementation was carried out by DIR staff employed by the project together with the teachers leading the workshop. The trainers leading the workshop were:

1. Mr. Maciej Sygit, Ph. Former graduate of the Wroclaw University of Technology. Co-author and author of over 50 articles on innovation and business implementation. For over 30 years he has been running his own consulting company, where he provides economic advice. He is the author of 5 national patents and 2 international patents in the field of biotechnology. In addition, he has been substantive manager in more than 10 national and international projects implemented by companies, universities, local government units, hospitals.

2. Ms. Magdalena Ornatowska, Ph.D., who has been involved in technology transfer and the organization of entrepreneurship and innovation classes in university units and private companies for many years.

Teachers were asked a number of questions to evaluate participants' knowledge and engagement during the training (table 32). The results indicate that the teacher was rather satisfied with the trainees' knowledge at the beginning of the training (4,5). On the other hand, the trainer was very satisfied with the level of the trainees' knowledge at the end of training (5,0). Moreover, she was content with trainees' work and learning organization (5,0). The cooperation with trainees (5,0), trainees' engagement (5,0) and trainees' preparation to work independently (5,0) were evaluated highly by the teacher. She was very satisfied with the overall atmosphere of the training (5,0). According to the opinion of the teacher, there are any changes they should be considered in such type of trainings in the future.

Total results (4,92) in this part of questionnaire indicate that the teacher was very satisfied with the training overall. The satisfaction with the increase in the knowledge of the participants of the training indicates its effective conduct and the effectiveness of the training methods used.

Additionally, the trainers took notes on each consultation process.

Table 32. Evaluation questionnaire for teachers

Teacher evaluation of the training	Level of satisfaction (5-very good, 4-good, 3-satisfactory, 2-unsatisfactory, 1-bad)
How do you evaluate the level of the trainees' knowledge at the beginning of training?	4.50
How do you evaluate the level of the trainees' knowledge at the end of training?	5.00
How do you evaluate trainees' work and learning organization?	5.00
How do you evaluate the cooperation with trainees?	5.00
How do you evaluate trainees' engagement?	5.00
How do you evaluate trainees' preparation to work independently?	5.00
How do you evaluate overall atmosphere of the training?	5.00
In your opinion, what kind of changes should be considered in such type of trainings in the future?	No changes
Total	4,92

Below are the reports of the trainers conducting the training.

"The participants in the training represented on the one hand quite different industries and on the other hand had different skills and experience in managing a small

company. This, however, did not cause problems with understanding the material, but once we moved on to 'cases', dedicated to certain industry approaches, it became of little interest to some participants.

Observations of participant activity and conversations during breaks show that such courses are very popular. However, it makes sense to divide participants into groups. E.g. hairdressers, beauticians, "claw painting" one group, another group would be bakers, confectioners and small catering, and another group would be the automobile or building industry.

If I had to think about what is the most important thing to do in order to attract new customers nowadays? I think that the most important thing at the moment is for young entrepreneurs to constantly monitor the market and peep into the activities of the leaders to search for good marketing and customer service practices." Maciej Sygit

"The most difficult part of the training, in my opinion, was adapting the material to the knowledge level of the participants. This was due to the very different knowledge of techniques for managing one's own company or personnel by the participants. Some (the younger generation) were up to date and, I would say, even quite familiar with the subject or basic tools, while a fairly large group of people (the older generation) required more time to familiarise themselves with techniques such as brainstorming, mind mapping, Ishikawa's diagram. Nevertheless, these people were very interested and less stressed and withdrawn as the training went on. The project materials developed by the Danish partners (excellent level, by the way), which we translated from English into Polish, were far too advanced for our trainees and we prepared our own materials, which were used during the training. This inevitably points to the geo-graphical sophistication of entrepreneurs in using innovation for customer acquisition." Magdalena Ornatowska

Interview after 1-3 months form the training.

Count of cases: 11

Research tool: Interview with selected enterprises after 1-3 months from the training

In order to assess the effectiveness of the training and obtain feedback in the period after 1-3 months from the training, an interview was conducted with selected participants of the training. As part of the study, the usefulness of the training for the

company, the content of the training and possible suggestions for the future, implementation and identification of possible barriers that may have appeared at this stage and possible additions of knowledge in order to successfully implement the concept were assessed.

The project partner DIRW conducted 11 interviews from 1-3 months after the end of the training. The questions were open-ended. The structured interview tool was used to conduct the study.

1. Usefulness: Was the participation in the training „Digitalization“ useful for your company? Why? Which skills and abilities you improve after participation in the training?

1/ *“Yes.”*

2/ *“Yes. I manage the company better.”*

3/ *“Innovative content.”*

4/ *“Yes.”*

5/ *“It was useful, interestingly delivered training. I was most interested in artificial intelligence AI. I will make use of its resources.”*

6/ *“No, because I have not heard of any innovations needed by my company.”*

7/ *“Yes, there are differences in the approach to online vs. traditional purchasing, which were discussed at length in the training course.”*

8/ *“Yes. Capabilities and skills - showcasing the company's existence online.”*

9/ *“Yes, a broader view of customer needs.”*

10/ *“Yes.”*

11/ *“Of course.”*

2. Content: Did the training contain issues and topics needed in your business? Was something missing? If, what?

1/ *“Yes.”*

2/ *“Yes. Topics needed.”*

3/ *“For me it was enough.”*

4/ *“No.”*

5/ *“Yes, it contained the necessary issues. Nothing was missing It was substantive. Super.”*

6/ *“The training was too general.”*

7/ *“Yes, definitely the content of the training contained the necessary topics.”*

8/ *“Yes.”*

- 9/ *"Yes, very useful."*
- 10/ *"Topics interesting, no time to go in depth."*
- 11/ -

3. Implementation: Have you introduced the solutions proposed during the training to the activities of your company? If not, what were the difficulties?

- 1/ *"No."*
- 2/ *"Yes. Mainly website positioning."*
- 3/ *"No difficulties."*
- 4/ *"We implement. We build the team."*
- 5/ *"Yes, I had no difficulties."*
- 6/ *"No, because I had nothing to implement."*
- 7/ *"The company is still in the process of building a website. It plans to apply digit-ization strategies in the next step."*
- 8/ *"Yes. A google browser has posted information about the company, also on google maps. The company is developing its profile on FB."*
- 9/ *"No, time is needed."*
- 10/ *"During."*
- 11/ *"We work with our IT specialist."*

4. Future activities: What skills, knowledge and resources do you need for your company to implement the solutions presented during the training?

- 1/ *"Not applicable."*
- 2/ *"More people understanding innovation and digitalisation."*
- 3/ -
- 4/ *"Facebook, Instagram."*
- 5/ *"Implementing and learning new artificial intelligence."*
- 6/ *"Specific information on internet positioning e.g."*
- 7/ *"Human resources."*
- 8/ *"Management of advertisements and sponsored posts on FB."*
- 9/ *"1:1 or more workshop-based training on introducing innovation and digitisation solutions, follow -up."*
- 10/ *"During."*
- 11/ *"We implement."*

5. Training: What could have been done differently? What should have been done differently? What should not be changed?

1/ "No."

2/ *"Longer practical exercises were missing."*

3/ *"For me it was enough."*

4/ *"Everything is ok."*

5/ *"The gentleman in charge has extensive knowledge and presented it in an in-teresting way. I enjoyed it very much, thank you."*

6/ -

7/ *"I have no comments."*

8/ *"More practical activities. More hours of training so that the material is spread over a longer period of time."*

9/ *"The training was very interesting but would have been more effective if there had been more time for individual trades or companies, more concrete exercises or mentoring."*

10/ *"More training hours."*

11/ *"The final survey should be online."*

The analysis of responses received from enterprises in the period of 1-3 months after the training shows the high effectiveness of the training. The assessment of the usefulness of the training for the company's operations was assessed very positively. In particular, attention was paid to the introduction of improvements in the functioning of the company in terms of better communication with customers.

The training showed the company how they can encourage customers to provide feedback. The usefulness of the training was confirmed in the statement that the acquired skills are used in dealing with customers to ensure good and professional service. The respondents also showed that they became interested in the topic of innovation in general and want to deepen their knowledge in this area.

The comments emphasized the importance of introducing innovations in the enterprise. It was recognized that the training was also useful in the context of many interesting discussions on the needs of customers and reaching customers and exchanging this information between the participants of the training. The interlocutors also emphasized the acquired knowledge, which they use in the field of innovation and digitalization.

Only one of the respondents had a negative opinion on the usefulness of the training for their business, which was justified by the fact that their company is not very innovative.

In assessing the content of the training and possible shortcomings, most of the interlocutors indicated that the issues and topics discussed during the training were in line with the needs of the company. Entrepreneurs indicated that the training was interesting and broadened their knowledge in the subject. None of the participants of the training reported proposals for changes or possible deficiencies in the training.

In the next part of the interview, the question was asked whether the proposed concept had been implemented in the company of the training participant. In this regard, opinions were divided. Some of the respondents definitely stated that the learned solutions were implemented in the company's operations. The limitation resulting from the size of the enterprise is noteworthy. Small enterprises emphasized that not all solutions can be implemented in their operations due to the typical service activity and because they run a small plant. Another indicated limitation is the low innovativeness of enterprises. One of the respondents emphasized that his company is not very innovative, and the recipients are people who rarely use innovative novelties. Some of the respondents are in the phase of preparing to implement the solution learned during the training. For this purpose, a team was formed to deal with the topic and prepare a plan for future action. In addition, the team has started collecting customer feedback and intends to create personalized services.

The next part of the interview was devoted to future activities. The question was what skills, knowledge and resources are needed for companies to implement the solutions presented during the training. Most of the training participants indicated that they needed more knowledge about new technologies and financial resources to implement innovative solutions. Entrepreneurs also expect funds allocated for co-financing innovative activities. Attention was also paid to the ability to quickly adapt to the needs of new customers. In addition, it was indicated that it is necessary to involve employees from lower levels of the organization in this type of training.

The last question in the interview was about suggestions for changes and improvements to improve the training in the future. The vast majority of interviewees expressed very positive opinions about the training. It was pointed out that in the future it is worth paying attention to industry diversity and tailoring training to specific industries.

3.26.6 Conclusions and Recommendations

The conclusions of the evaluation research will contribute to improve the quality and especially the effectiveness of training, show the limitations of the training model and indicate the direction for further activities.

Interpretation of data based on the survey results we can conclude that the final results of the training, by the scope of the evaluation questions, indicate that the trainings were very successful, and teachers and students were totally satisfied with the training program.

All aspects that were evaluated improved after the end of the training and then after 1-3 months from the training. The overall atmosphere was encouraging in all trainings (trainees 4.94, teachers 5.0) for all project partners. In all trainings trainees were satisfied with the training program in all training (4.79). In addition to that, the organization of the training was satisfactory (4,85). Respondents' opinions indicated that the training fulfilled the expectations of the trainees (4.62) and the skills acquired during the training can be useful to trainees' everyday work (4,67). The trainees in every training agreed that the training improved trainees' knowledge within the topic of the training (4,8). The teachers were satisfied with trainees' knowledge at the end of the training (4.75).

In the analysis of the answers obtained, it is worth paying attention to the rather low level of satisfaction regarding the use of the acquired knowledge in everyday work. It can be considered that these were the lowest scores compared to other evaluated aspects. Participants of the training at PP4 WIRP assessed the prospect of using the acquired knowledge in everyday work at the level of 4.55. Similar results at the level of 4.46 were recorded in PP9 DIRW also in Poland in the assessment of the possibility of using acquired knowledge and skills in everyday work. This may be due to other limitations indicated in the study conducted 1-3 months after the training. Only participants from PP7 IPOSZ from Hungary evaluated for 5.0 opportunity for using knowledge from the training. In this case there were also some comments according to future possibility for implementation new solution: "I am very curious about the results of the solutions learned in the training. I'm hopeful, but I'd like to see concrete results."

The trainees pointed changes, which should be considered in such type of trainings in the future. The main comments concerned the too short duration of the training:

“In my opinion, the training time should be extended, because all the information was interesting and important. Thank you for conducting the training and I am asking for more:).” and other comment: “Spread the material out over more hours so that it can be explained in more depth and technically practiced.”

The trainees expected fast economic results after training: “The training was very useful. I look forward to the improved economic results.” and other: “I am very curious about the results of the solutions learned in the training. I'm hopeful, but I'd like to see concrete results.” The teachers were moderately satisfied (4.0) with trainees' knowledge at the beginning of the training, which is actually presumable. Teachers were very satisfied with the close cooperation with trainees (5.0) in the beginning of the training. Although, highlighted the different levels of knowledge: “The knowledge, skills, abilities, and background of the trainees are very different. Therefore, something was completely new to one, while it was familiar to another.” All the teachers were convinced that trainees acquired enough knowledge (5.0). The training improved trainees' ability (total trainees 4.64, in contrast in PP9 – 4.23). This declaration is important taking about practical using of the concept.

The trainers were contented with the training program in total (4.79), but in contrast in some trainings like in PP4 – 4.83, PP7 – 4.93, PP9 – 4.61. Participants of the training, apart from the indicated comments regarding the extension of the duration of the training, did not indicate any other proposals for changes that should be introduced in the training program in the future.

The effectiveness of the training was also evaluated in the perspective of 1 - 3 months after the training. This approach was aimed at evaluating the effects of the training, which translated into practical results in the company's operations.

The analysis of responses received from enterprises in the period of 1-3 months after the training shows the high effectiveness of the training. The assessment of the usefulness of the training for the company's operations was assessed very positively in every country. In particular, attention was paid to the improvements in the functioning of the company in terms of better cooperation with customers by innovation development. Some statements from the participants in training PP4 stated that: “The "Customer-Centered Innovation" training was very useful for my company, because it showed me what skills I can use in dealing with customers to provide them with good and professional service.”

Entrepreneurs emphasized in their statements the need to introduce innovations taking into account the needs of the consumer. This approach ultimately leads to the optimization of the company's innovation strategy because new solutions are designed to meet the needs of the consumer. Often it is the consumer who initiates the creation of a new solution: "The training turned out to be very useful. I learned how important it is to introduce innovations. I exchanged experiences with entrepreneurs from various industries. During the training, there were many interesting discussions about customer needs and how we can reach them."

The trainee's declarations were not so optimistic in all countries. Participants from the PP6 IBC partner in Denmark were sceptical about the possibilities of implementation and the usefulness of the training for business. They stated: "In general, is it difficult already to express whether it has yielded anything. Measured in terms of the individual innovation skills of those participants, the answer is yes. But transferred to their teams/organizations, the answer is limited. And why; simply because we still did not have the time or/and opportunity to arrange a workshop regarding innovation. (But when the time and opportunity is there, we will). For the persons who participant we are ready to improve an innovation workshop for their colleges/teams."

Participants from Hungary and Poland were more optimistic. PP6 IPOSZ participants already implemented some ideas they learned during the training: "Yes, it was helpful because it provided tangible help that helped me move forward. My communication with customers has improved. I know that how I should approach different target groups. "or "It was very helpful. The marketing image and my attitude towards marketing have changed, I consider it much more important than before. Regarding the appearance of the website, I received advice with which I can make my website even more visited."

Polish enterprises from PP9 DIRW had similar opinions. All answers about usefulness of the training were positive. All interviewees use knowledge and ability from the training in business activity. Some enterprises chose topics they were interested in that e.g.: "It was useful, interestingly delivered training. I was most interested in artificial intelligence AI. I will make use of its resources."

The training showed the company how they can encourage customers to provide feedback. The usefulness of the training was confirmed in the statement that the acquired skills are used in dealing with customers to ensure good and professional service. The respondents also showed that they became interested in the topic of innovation in general and want to deepen their knowledge in this area. Participants from PP4 WIRP stated: “We are satisfied with taking part in the training. We have improved our knowledge of innovation and digitalization, which are essential in today's market. We learned about many opportunities that we had not heard of before, and they are of great importance, among others with advertising and achieved reach. All doubts were clarified.”

The comments emphasized the importance of introducing innovations in the enterprise. It was recognized that the training was also useful in the context of many interesting discussions on the needs of customers and reaching customers and exchanging this information between the participants of the training. The interlocutors also emphasized the acquired knowledge, which they use in the field of innovation and digitalization.

Only one of the respondents had a negative opinion on the usefulness of the training for their business, which was justified by the fact that their company is not very innovative.

In assessing the content of the training and possible shortcomings, most of the interviewees indicated that the issues and topics discussed during the training were in line with the needs of the company. Entrepreneurs indicated that the training was interesting and broadened their knowledge in the subject. None of the participants of the training reported proposals for changes or possible deficiencies in the training. Almost all participants from PP4 WIRP answered the question, whether anything is missing - “There was nothing missing.”

Participants from other project partners had the same opinion. Participants from PP6 IBC pointed that: “It could of course be more industry oriented, but the basic innovative skills to carry out an innovative process have been acquired.”

Participants of the Hungarian PP7 IPOSZ training drew attention to the current technological trends and new solutions that can be added to the next editions of the training, e.g.: “This training was complex. But of course, we can always expand the

digital tools. Now, for example, I would like to get to know the advertising platform Tik Tok better.”

In the next part of the interview, the question was asked whether the proposed concept had been implemented in the company of the training participant. In this regard, opinions were divided. Some of the respondents definitely stated that the learned solutions were implemented in the company's operations, e.g., participants from training realized by PP4 WIRD stated: “The process of innovating is very difficult, but together with the team we pored over the topic and prepared a roadmap for the future, which assumes collecting feedback from customers and creating personalized services.” The enterprises from PP7 IPOSZ from Hungary try to implement new solution known from the training, but there are other barriers: “We start to plan the content marketing. Time is the biggest difficulty. Inflation and price increase in the raw materials and overheads mean a great problem now.”

Similarly, to the Hungarian partner, also Polish enterprises tried to introduce new solution in their business activity. Participants from PP9 DIRW stated: “Yes. A google browser has posted information about the company, also on google maps. The company is developing its profile on FB.”

Participants from PP6 IBC from Denmark were less optimistic and answered the question about implementation: “No unfortunately because there was no time and opportunity.”

The limitation resulting from the size of the enterprise is noteworthy. Small enterprises emphasized that not all solutions can be implemented in their operations due to the typical service activity and because they run a small plant. Another indicated limitation is the low innovativeness of enterprises. One of the respondents emphasized that his company is not very innovative, and the recipients are people who rarely use innovative novelties. Some of the respondents are in the phase of preparing to implement the solution learned during the training. For this purpose, a team was formed to deal with the topic and prepare a plan for future action. In addition, the team started collecting customer feedback and intends to create personalized services.

The next part of the interview was devoted to future activities. The question was what skills, knowledge and resources are needed for companies to implement the solutions presented during the training. Most of the training participants indicated that

they needed more knowledge about new technologies and financial resources to implement innovative solutions. Participants from PP4 WIRP stated: “In the future, our company intends to take advantage of such training opportunities more often, and we also want to involve lower-level employees to take part in the classes to motivate them to develop. We plan to invest in better quality computer equipment.” Entrepreneurs also expect funds allocated for co-financing innovative activities. Attention was also paid to the ability to quickly adapt to the needs of new customers. In addition, it was indicated that it is necessary to involve employees from lower levels of the organization in this type of training.

The last question in the interview was about suggestions for changes and improvement to improve the training in the future. The vast majority of interviewees expressed very positive opinions about the training. It was pointed out that in the future it is worth paying attention to industry diversity and tailoring training to specific industries. The participants of the training in Denmark PP6 IBC pointed that: “The training could have been longer, but in general everything was good, perfect and not least - funny.” Generally, opinion about training in every country was very optimistic, e.g., in Hungarian participants from PP7 IPOSZ stated: “Everything was very good, nothing needs to be changed. In fact, I have never been on such a useful course. It would be even more useful if I could find two confectioner colleagues for the long term, because then I would be able to satisfy the customer's needs really well.”

The participants of the training in each country did not report any changes to the substantive scope and program of the training.

Based on respondents’ opinions the „Realisation of Customer-centred Innovations“, curriculum is effective, adaptable and sustainable and it can be implemented whether as a whole or by set of modules. To continue implementing further training program “Realisation of Customer-centred Innovations” curricula in tested countries and chambers/educational institutions and recommend the training and curriculum to other chambers and educational institutions.

What must be kept in mind that the survey results of teachers’ reflect usually only one teacher’s opinions and cannot be taken as a final conclusion.

Current curriculum and training program for “Customer-centred Innovations” training can be used not only nationally but also internationally. Country’s specifications

and regulations need to be followed. Different demands in regard to practical training quality expectations in different countries must be taken into consideration. The motivation of training of the participants in the company is directly related to the level of digitalisation in different countries.

Implementing the curriculum entirely will raise the number of true professionals in the field of innovation development. Knowledge-based learning outcomes indicate that a person possess after graduating the training successfully professional job-related knowledge and business and managerial skills for co-creation innovation involving customer for all process from idea to commercialization. This kind of ability is extremely necessary and awaited in building competitiveness and improve innovative-ness of the SMEs in the tested countries.

Training processes need to be effective, and the practical tasks should be in accordance with theory. According to the survey results, definitely use not only theoretical but also practical methods. The participants highly evaluated discussions, practical cases and real-life examples as teaching methods.

The length of the training and the continuation through coaching of the ideas submitted by the participants of the training must definitely be considered.

The results also indicated topics that should be added to the curricula and trainings e.g. artificial intelligence, Tik Tok abilities. By selecting future training topics, the specificity of the sector and industry in which potential training participants operate should also be taken into account.

Some suggestions for improving the effectiveness of the training for this topic were also provided by project partners. According to the PP9 DIRW opinion, a key aspect of the ICIinSME project is its compliance with the implementation of the Fourth Industrial Revolution program, the so-called Industry 4.0, related to the digitalization of the economy and innovation, especially in SMEs. The purpose of conducting two training courses (Innovation and Digitilization) was to encourage representatives of SMEs to develop and strengthen innovation, focused on the implementation of product or process innovation and the digitalization and transformation of enterprises towards sustainable development, as well as the internationalization of enterprises and the increase in human resources competencies (in general, anything that changes business for the better).

Analysing the statements of training participants, it can be concluded that innovation is not often introduced in SMEs because SMEs rely more on informal, and therefore difficult to measure, R&D activities and use external sources of knowledge (consulting services and licenses) less frequently than corporations. This phenomenon reflects the lower capacity of SMEs to absorb external knowledge. Nevertheless, enterprises from this sector introduce innovations and use this as an element of gaining and maintaining their position on the market.

Brilliant, motivated, and experienced employees are an important link in the organization's innovation process and an important role in the implementation of innovation in SMEs is played by the organization's culture.

Employees and managers (owners) of small and medium-sized enterprises should, therefore, be willing, inclined, and able to undertake activities as part of the company's innovation process, which requires their acceptance and involvement. Further-more, innovation should be embedded in the company's strategy - already at the stage of generating new ideas, the company should have clearly defined goals regarding the business areas or market segments in which it would like to develop by creating innovations. A clear strategy based on reliable information allows innovation activities to be properly targeted and reduces the loss of time and other resources. Therefore, a very important prerequisite for creating successful innovations is continuous market research and collecting customer feedback, as well as gaining knowledge about potential innovations from other external sources.

Implementing innovation in SMEs for some of training participants is not easy because:

- SMEs have very limited resources (including financial),
- they must use their resources properly, as failures can cause problems for the survival of the company,
- are characterized by a low level of professionalism in innovation management,
- are not strategically oriented,
- are often unable to develop an innovation implementation plan due to an excess of daily duties with limited human resources,
- do not have innovation competences within their structures,
- are dependent on the work of individual employees,

Generally speaking, problems with the implementation of innovation in SMEs are often due to the fact that the resources - whether tangible (e.g., machinery, financial resources) or intangible (e.g. employee and owner/manager competencies) that these firms could allocate to the development of innovation - are limited. At the same time, problems with the availability of particular types of resources constrain the innovativeness of these companies in different ways and in different areas:

- marketing. Conquering new markets requires financial resources and knowledge - if a company is unable to obtain these resources for marketing purposes, it cannot enter new markets.
- management - SME owners often do not have adequate managerial training and their management know-how is limited. The lack of such knowledge and skills may result in a lack of innovation, or its incompetent implementation.
- external communication - this in turn is associated with a lack of time and an excessive burden of daily responsibilities, which may result in the non-use of external sources of information and knowledge, e.g. from trade fairs or trade journals.
- highly qualified human resources. Difficulties for SMEs to attract specialists are, among other things, due to the fact that they compete for human resources with large companies, which often offer higher salaries and better general working conditions.
- finance - innovation activities can be costly due to the high failure rate, complexity and non-linearity, and often the significant investment required to carry them out.
- Economies of scale - some activities require large-scale production, which SME companies are unable to offer in order to remain competitive in the market.
- growth - innovation can contribute to rapid growth, which in turn requires financial resources that are difficult for small and medium-sized enterprises to access.

In conclusion, it can be stated that the implementation of innovations in the SME sector is becoming a necessity. The types of introduced solutions or the scale of innovativeness may vary, however, one may risk a thesis that achieving a permanent

competitive advantage on the market will not be possible in the future if one is not an innovator in a certain field.

Project partner PP7 IPOSZ also emphasized an observation during the realization of the training and classified it as a weakness of the training as seen by the participants. In fact, it is not about the weaknesses of the training, but rather about the weaknesses of the SME sector in the implementation of the concept of "Customer-centred Innovation" as well as in building and implementing an innovation strategy in general:

“According to our assessment, one of the peculiarities and not a weakness of the training was that it was attended by the smallest enterprises. In this way, we were able to get to know their reactions and test the training at their level of development. It is likely that in companies with more employees, the training could provide many other experiences. We were glad that such small businesses took part in the training, because in Hungary businesses with very few employees make up the largest part of businesses. The use of offline and online digital marketing processes at the same time in the case of such small businesses usually exceeds their financial capabilities, although it is clear that the simultaneous use of both can be really effective. They often do not understand the use of digital tools in a small business. For such digital tasks, they need external service providers who can provide immediate assistance. But short-term, practice-oriented training courses, where small businesses can improve their digital skills, can help a lot here. Having a young person in the family who can bring these digital skills into the operation of the business can help a lot also. There is still a need for many more similar trainings offering industry-specific solutions in order to convince the masses of micro and small enterprises. For this, it would be very important to start state support programs in this area as well.”

The quoted observations show, on the one hand, the weaknesses of smaller enterprises, and on the other hand, a certain advantage in flexibility and speed of operation. It can be concluded that the SME sector will still need a lot of educational support, in particular, with the fast-paced technological changes.

4 Two Train the Trainer programs

The following two Train the Trainer programs

- Training Program Consulting & Qualification Digitalization and
- Training Program Consulting & Qualification of Customer- Centric Innovations

were developed, tested and evaluated, revised and finalized on the basis of the evaluation results. In the following subchapters, concepts, curricula as well as summaries and recommendations of the evaluations and implementations are summarized for both trainings. The detailed results including teaching materials, implementation and evaluation reports can be found with free access on the project website <https://ci-smes.eu/>.

4.1 Training Program Consulting & Qualification Digitalization¹²

4.11 Introduction

The project ICIinSMEs aims to strengthen the innovation capacity of SMEs in Eastern Europe. In the frame of the project, two training programs for SMEs are developed, one focusing on the application of digital skills and technologies and the other on customer-centric innovation. Through the development of two specific training and coaching programs, SMEs gain digital skills and are enabled to continuously realise comprehensive customer-centric innovations.

These programs are organised by chambers and their training and technology centres, which have direct access to SMEs. To qualify teacher and consultants to be able to advise SMEs on a high-quality level in the application of digital technologies and the acquisition, processing and realisation of customer innovations, two trains the trainer programs for teachers and consultants were developed. The objective was to help

¹² Prepared by: Ádám Bereczk, Noémi Hajdú, PhD, Ágnes Horváth, PhD, László Molnár, PhD, Klára Szűcsné Markovics, PhD, University of Miskolc (PP8-MU)

Reproduced is a short version of the training concept. A detailed curriculum with teaching materials, instructions, etc. can be found on the project website <https://ci-smes.eu/>.

trainers master the curriculum using modern teaching methods. The goal of these programs is a comprehensive qualification for teachers and consultants for SMEs.

4.12 Concept and Curriculum

The curriculum of the Train the Trainer Program focusing on Digitalization is based on the results and experiences of the project, supplemented with modern teaching methods and case solutions. The project results are as follows:

An empirical study was conducted among SMEs which, on the one hand, underpinned the legitimacy of the planned training courses and, on the other hand, incorporated the experience gained by them into the curriculum of the training courses. The first part of the empirical research consisted of a questionnaire survey in which the awareness and diffusion of customer-centric innovations in SMEs, as well as the use of digital solutions that support their implementation, were measured. In addition to the questionnaire survey best practices were collected and investigated, on how SMEs generate, process and realise customer-centric innovation approaches and which digital technologies they can use doing so. A toolbox with instruments, methods and procedures for the realisation of customer innovations in SMEs was also developed. The teaching material of the training programme for SMEs “Digital competence” is also built in the TTTTP-A. Best practices from training institutions serve with a useful contribution to the concept and material design.

As a starting point for this curriculum, it is worth describing what we exactly mean by Customer-centric innovation.

“Customer-centric innovation describes a change from innovating for customers to innovating with customers. Therefore, the customer takes an active role in innovation processes and becomes the primary source of ideas to initiate innovation activities. By integrating the customer-centric innovation philosophy, companies open their research and development activities, meaning that the innovation process happens with input from inside and outside of the company. Customers are involved in all stages of the innovation process.” (Desouza et al. 2020; Steinhoff & Breuer, 2014; Zajkowska, 2017)

The Train the Trainer program includes the following elements:

- Presentation, consulting and mediation aspects of the content of the SME specific training programme "Digital Skills"

- Presentation, advice and mediation aspects of the various digital technologies, namely
 - Best practices in the use of digital technologies
 - Digital technologies for the realization of customer innovations
- Presentation, consulting and training of the coaching process
- Pedagogical issues

Teaching methods

The training programme consists of a combination of presentations, consultations and discussions in plenary, work in small groups and role-plays, case studies, and examples.

Teaching materials

PPT presentations, case studies, examples, best practices, question guides, checklists

Objectives, Target Groups and Duration of the training

This Training is a three-day train the trainer program for teachers and consultants of SMEs, who receive knowledge, skills, and pedagogy which enable them to

- train employees of SMEs to successfully use digital technologies in the acquisition, processing and implementation of customer innovations,
- transfer digital technologies to SMEs and provide sound advice on implementation.

The Train the Trainer Program aims:

- strengthening and promoting the knowledge and skills of teachers and consultants on using digital technologies in the acquisition, processing and implementation of customer innovations,
- providing them with modern teaching methodologies.

Target Groups

The target group of the program is lecturers and consultants of SMEs from (or delegated by) chambers or other institutions.

The Train the Trainer program does not include a final examination, the participants receive a qualified certificate of participation.

Duration of the training: Three days of training, from 09:00-17:00 all-day

4.13 Program and Content

Module 1: Welcome and ice breaker activity

- Greetings
- Objectives and execution of the training - Introduction to Train-the-Trainer Program
- Self-presentation of the participants
- Determination of the participants' previous knowledge

Module 2: The importance of digital capabilities for SMEs

- Trends driving SMEs' digital transformation.
- Digital skills
- Digital marketing

Module 3: Digital tools in business operation

- Applied info-communication tools and technologies supporting business processes in SMEs
- Digital communication channels used for communicating and collaborating with customers
- Digital tools supporting customer-centric innovations.
- The role of digital tools in Customer-centric innovation in SMEs - Experiences of a survey and best practices

Module 4: Criteria for a good training - important factors for success.

- Criteria for a good training
- Specialities in training for SMEs.
- Generation gap in education.

- Best Practices in the Transfer of Digital Skills and Technologies used in Customer-centric Innovations to SMEs - Experiences of Best Practices from Training Institutions.
- How to build an effective training? ADDIE Model

Module 5: Modern teaching methods, Effective Teaching and Training Techniques

Module 6: Digital tools for teaching and learning

Module 7: Project task on topic Digitalization supporting Customer-centric Innovations in SMEs

- Introduction to the project task
- Case study
- Group work
- Presentation of participants or groups

Schedule

Program for the Train the Trainer Program A „Digitalization“

3 days training

1st Day –Digitalization, Digital tools in business operation	
09:00 – 09:30	Module 1 - Welcome and ice breaker activity, Introduction to Train-the-Trainer Program, self-presentation of the participants
09:30 – 10:30	Module 2 – The importance of digital capabilities for SMEs
10:30 – 11:00	Coffee break
11:00 – 12:30	Module 3 – Digital tools in business operation - Applied info-communication tools and technologies supporting business processes in SMEs
12:30 – 13:30	Lunch
13:30 – 15:00	Module 3 Digital communication channels used for communicating and collaborating with customers. Digital tools supporting customer-centric innovations
15:00 – 15:30	Coffee break
15:30 – 17:00	Module 3 The role of digital tools in Customer-centric innovation in SMEs - Experiences of a survey and best practices

	Dinner and exchange of experience (optional)
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2nd Day – Modern teaching methodology	
09:00 – 09:30	Welcome day 2
09:30 – 10:30	Module 4 Criteria for a good training - important factors for success. How to build an effective training? ADDIE Model
10:30 – 11:00	Coffee break
11:00 – 12:30	Module 4 Specialties in training for SMEs. Generation gap in education. Best Practices in the Transfer of Digital Skills and Technologies used in Customer-centric Innovations to SMEs - Experiences of Best Practices from Training Institutions.
12:30 – 13:30	Lunch
13:30 – 15:00	Module 5 – Modern Teaching Methods
15:00 – 15:30	Coffee break
15:30 – 17:00	Module 6 – Digital tools for teaching and learning
	Dinner and exchange of experience (optional)

3rd Day – Project task	
09:00 – 09:30	Welcome day 3
09:30 – 10:30	Module 7 – Introduction to the Project task on topic Digitalization supporting Customer-centric Innovations in SMEs
10:30 – 11:00	Coffee break
11:00 – 12:30	Module 7 – Independent work, or working in groups
12:30 – 13:30	Lunch
13:30 – 15:00	Module 7 – Presentation of participants or groups
15:00 – 15:30	Coffee break
15:30 – 17:00	Summary and conclusion of the Train-the-Trainer

4.14 Summary of Evaluation Results¹³

An area that was analyzed was the overall assessment of the training. Responses in this area were varied. 40% of participants assessed that the training absolutely met their expectations. One participant indicated the answer "somewhat agree", while 40% of the respondents slightly disagreed with the statement that the TTT glazing met their expectations. Total results in this part of questionnaire indicate that TTT training met expectations of participants on average level (2,4). The answers to the question about the suitability of the training for their work were obtained in a similar distribution. 80% of participants assessed the training as "absolutely" (40%) and "somewhat" (40%) useful for their work. For 20% of the participants, the training is only slightly useful in their work. Total results in this part of questionnaire indicate that TTT training was useful for participants in middle level (2.0).

The participants of the training were asked if they would recommend this training. 60% of respondents indicated that they would absolutely recommend training others. 20% of participants did not have an opinion on this subject, while 20% would recommend this training to others only to a small extent. Total results in this part of questionnaire indicate that TTT training was useful for participants on the middle level (2.0). Based on the results obtained, it can be concluded that the training did not fully meet the expectations of the participants (40% somewhat disagree), but the vast majority (80%) found the training useful in their professional work. This justifies the need to implement such training in the area of professional work performed by training participants. The legitimacy of such training is also indicated by the high percentage of respondents (60%) who would recommend the training to others.

Recommendations: better identification of the needs and expectations of participants at the stage of preparation of the scope of the training and recognition of the professional profiles of training participants in order to increase the usefulness of the training for their professional work.

The assessment of the participants in the area "Content and Methods" of training is high. All training participants agreed with the statement that the content of the TTT

¹³ Prepared by Dr Monika Zajkowska, Hanseatic Institute for Support of SMEs

was interesting and informative (40% absolutely agree, 60% somewhat agree). Similarly, in terms of the selection of training methods, the participants found that the training methods were properly selected for the scope of the training (40% absolutely agree, 60% somewhat agree). Regarding the assessment of the training content, 60% of respondents considered that the training contents were relevant to their needs (absolutely agree), 20% somewhat agree with this statement, and 20% do not have an opinion on this part of the evaluation. There was a positive response to the use of knowledge and skills gained from the training. 60% of respondents absolutely agree with this statement, while 40% somewhat agree, that they expect to use the knowledge and skills gained from this training.

Recommendations: a more detailed identification of the participants' needs and adapting the training content to their needs.

The lecturers / trainers were very high evaluated in the context of communication, friendliness and approach. All training participants assessed these areas positively (80% absolutely agree, 20% somewhat agree). The goal- and result-orientation of lecturers / trainers was likewise highly rated. 60% absolutely agreed with the statement that the lecturers / trainers were goal- and result-oriented, 20% of the participants somewhat agreed with this statement, while the remaining 20% did not have an opinion in this regard. The same distribution of responses was obtained for the assessment of competences and the preparation of lecturers / trainers for the training (60% absolutely agree, 20% somewhat agree, 20% neither agree nor disagree). The final aspect in this part of the questionnaire was to assess whether the lecturers / trainers responded well to questions and queries from the participants. The participants assessed this area highly, indicating the answers absolutely agree 40% and somewhat agree 60%.

Recommendations: maintaining a high level of competence, preparation, kindness and activity of lecturers / trainers.

The last element to be assessed in the training evaluation was the issue of training organization. "The overall organization was good" - absolutely all participants of the training agree with this statement (100% absolutely agree). The overall atmosphere of the train-the-trainer was likewise highly rated (80% absolutely agree, 20% somewhat agree).

The evaluation of the training venue and environment was at the highest level by all training participants (100% absolutely agree). All participants of the training agreed that the training venue and environment was comfortable and conducive to the learning process. Regarding the assessment of the duration of the training, 60% of the participants absolutely agree that the duration of the training was appropriate. 40% of the respondents somewhat agree that the duration of the training was appropriate. The overall assessment of the training was very good. 60% of overall participants are very satisfied with the training and would recommend it to other counsellors. 20% of respondents somewhat agree with this statement, while the remaining 20% do not have an opinion in this regard. The overall rating of this evaluation element was 1.60.

Recommendations: maintaining the level of training organization at the same level.

The prepared questionnaire also includes open-ended questions that give the participants the opportunity to speak more broadly and to share other comments. The survey asked what kind of changes, in your opinion, should be included in a future train-the-trainer of this type. Two comments were made in response: more of a real training and less of an explorative exchange and the second that there is the huge difference in basic understanding what digital innovation is - perhaps because the huge difference in the culture. These are important considerations that will enable you to improve your training in the future.

Recommendations: In future training, more attention should be paid to the level of input knowledge to training in each country and a uniform understanding of the concepts by all participants. Before the main topic of the training, an introduction should be added with basic definitions of concepts that will be discussed in the main part of the training. In addition, the conditions and development of a given concept in each of the participants' countries should be analyzed in order to level the differences and adjust the level of training for all participants. It is also worth paying attention to adjusting the training methods in such a way that the participants have a sense of participation in real training, i.e., they gain knowledge that they will actually use in their professional work.

4.2 Training Program Consulting & Qualification of Customer- Centric Innovations¹⁴

4.21 Concept and Curriculum of the Train the Trainer Program

As a starting point for this curriculum, it is worth describing what we exactly mean by Customer-centric innovation.

“Customer-centric innovation describes a change from innovating for customers to innovating with customers. Therefore, the customer takes an active role in innovation processes and becomes the primary source of ideas to initiate innovation activities. By integrating the customer-centric innovation philosophy, companies open their research and development activities, meaning that the innovation process happens with input from inside and outside of the company. Customers are involved in all stages of the innovation process.” (Desouza et al. 2020; Steinhoff & Breuer, 2014; Zajkowska, 2017)

The curriculum of the Train the Trainer Program B focusing on Customer-Centric Innovation is based on the results and experiences of the project, supplemented with modern teaching methods and case solutions. The project results are as follows:

An empirical study was conducted among SMEs which, on the one hand, underpinned the legitimacy of the planned training courses and, on the other hand, incorporated the experience gained by them into the curriculum of the training courses. The first part of the empirical research consisted of a questionnaire survey in which the awareness and diffusion of customer-centric innovations in SMEs, as well as the use of digital solutions that support their implementation were measured. In addition to the questionnaire survey best practices were collected and investigated, on how SMEs generate, process and realise customer-centric innovation approaches and which digital

¹⁴ Prepared by: Ádám Bereczk, Noémi Hajdú, PhD, Ágnes Horváth, PhD, László Molnár, PhD, Klára Szűcsné Markovics, PhD, University of Miskolc (PP8-MU)

Reproduced is a short version of the training concept. A detailed curriculum with teaching materials, instructions, etc. can be found on the project website <https://ci-smes.eu/>.

technologies they can use doing so. A toolbox with instruments, methods and procedures for the realisation of customer innovations in SMEs was also developed. The teaching material of the training programme for SMEs “Realisation customer centred innovations” is also built in the TTTP-B. Best practices from training institutions serve with a useful contribution to the concept and material design.

The Train the Trainer program includes the following elements:

- Presentation, consulting and mediation aspects of the content of the SME specific training programme "Realisation of customer-centred innovations
- Presentation, advice and mediation aspects of the tools, methods of the toolbox
- Presentation, consulting and training of the coaching process
- Pedagogical issues

Teaching methods

The training programme consists of a combination of presentations, consultations and discussions in plenary, work in small groups and role-plays, case studies, and examples.

Teaching materials

PPT presentations, case studies, examples, best practices, question guides, checklists

4.22 Objectives, Target Groups and Duration of the Training

This Training is a three-day train the trainer program for teachers and consultants of SMEs, who receive knowledge, skills, and pedagogy which enable them to

- qualify and advise employees of SMEs about the acquisition, processing and implementation of customer innovations, including all areas, possibilities and instruments and so on (independent of the use of digital technologies),
- transfer a toolbox of instruments, and methods to SMEs and provide sound advice on implementation.

The Train the Trainer Program aims:

- strengthening and promoting the knowledge and skills of teachers and consultants on the realisation of customer-centric innovations,
- providing them with modern teaching methodologies,
- constantly qualified teachers and consultants on a broad regional basis.

Target Groups

The target group of the program is lecturers and consultants of SMEs from (or delegated by) chambers or other institutions.

The Train the Trainer program does not include a final examination, the participants receive a qualified certificate of participation.

Duration of the training: Three days of training, from 09:00-17:00 all-day

4.23 Programme and Content

Module I: Welcome and ice breaker activity

- Greetings
- Objectives and execution of the training - Introduction to Train-the-Trainer Program
- Self-presentation of the participants
- Determination of the participants' previous knowledge

Module II: Innovation in general

Module III: Customer-centric innovation

- What is customer-centric innovation?
- Benefits and barriers for companies
- How to involve customers in product innovation?
- Methods and digital tools supporting customer-centric innovation.
- Tools for customer-feedback collection

Module IV: Customer-centric innovation in SMEs - Experiences of a survey and best practices.

- Customer-centric Innovation in SMEs - Results of an Empirical Research
- Best Practices in the use of digital technologies supporting customer innovations by SMEs
- Best Practices in the Transfer of Digital Skills and Technologies used in Customer-centric Innovations to SMEs - Experiences of Best Practices from Training Institutions

Module V: Quality Function Deployment (QFD) and House of Quality (HOQ)

Module VI: Interactive case study solution

Module VII: Modern teaching methods, Effective Teaching and Training Techniques

Module VIII: Digital tools for teaching and learning

Module IX.: Project task on topic Customer-centric innovation

Module X: Presentation of participants or groups

Schedule

Program for the Train-the-Trainer Program B on “Customer-Centric Innovations”

3 days training

1st Day – Innovation and Customer-centric innovation	
09:00 – 09:30	Module 1 - Welcome and ice breaker activity, Introduction to Train-the-Trainer Program, self-presentation of the participants
09:30 – 10:30	Module 2 – Innovation in General
10:30 – 11:00	Coffee break
11:00 – 12:30	Module 3 – What is Customer-centric innovation? Benefits and barriers.
12:30 – 13:30	Lunch
13:30 – 15:00	Module 3 – How to involve customers in product innovation? Methods and digital tools supporting customer-centric innovation. Tools for customer-feedback collection
15:00 – 15:30	Coffee break
15:30 – 17:00	Module 4 – Customer-centric innovation in SMEs - Experiences of a survey and best practices.
	Dinner and exchange of experience (optional)

2nd Day – Modern teaching methodology	
09:00 – 09:30	Welcome day 2
09:30 – 10:30	Module 5 – Quality Function Deployment (QFD) and House of Quality (HOQ)
10:30 – 11:00	Coffee break
11:00 – 12:30	Module 6 – Interactive case study solution
12:30 – 13:30	Lunch
13:30 – 15:00	Module 7 – Modern Teaching Methods
15:00 – 15:30	Coffee break
15:30 – 17:00	Module 8 – Digital tools for teaching and learning
	Dinner and exchange of experience (optional)

3rd Day – Project task	
09:00 – 09:30	Welcome day 3
09:30 – 10:30	Module 9 – Introduction to the Project task on topic Customer-centric innovation

10:30 – 11:00	Coffee break
11:00 – 12:30	Module 9 – Independent work, or working in groups
12:30 – 13:30	Lunch
13:30 – 15:00	Module 10 – Presentation of participants or groups
15:00 – 15:30	Coffee break
15:30 – 17:00	Summary and conclusion of the Train-the-Trainer

4.24 Summary of Evaluation Results¹⁵

The overall training organization was evaluated very high. 71% of participants assessed that the training absolutely met their expectations. One participant indicated the answer "agree", one participant had no opinion on this. Total results in this part of questionnaire indicate that TTT training met expectations of participants on average level 4.57. The answers to the question about the facilities of the training were varied. 43% of participants assessed the training as "strongly agree" and 14% "agree" that the facilities (location, room etc.) were suitable for the training. 29% of respondents did not have an opinion on this subject. of the participants, the duration and the schedule for the training were appropriate. 14% agreed with that statement and 14% of respondents did not have an opinion on this subject.

Respondents were asked a question to determine their expectations about the training. 43% of respondents strongly agreed with the statement that the training met their expectations (strongly agree). 29% stated that they agreed with the statement (agree), while 14% did not have an opinion on this subject. The overall atmosphere of the training was rated very highly and unanimously. 100% of participants indicated that the overall atmosphere of the training was encouraging.

Next, the participants of the training were asked if they would recommend this training. 57% of respondents indicated that they would strongly recommend the training to the others. 43% of participants would recommend this training to others to a smaller extent (agree). Last question in this part of questionnaire concerned the usefulness of

¹⁵ Prepared by Dr Monika Zajkowska, Hanseatic Institute for Support of SMEs

the training in the work. Responses in this section were split: 43% of participants strongly agree with that statement and 43% only agree that the training was useful for their work. Results in this part of questionnaire indicate that TTT training was useful for participants in middle level 4.43.

Based on the results obtained, it can be concluded that the training did not fully meet the expectations of the participants (29% agree and 14% neither disagree nor agree), but the vast majority (43% strongly disagree and 43% agree) found the training useful in their professional work. This justifies the need to implement such training in the area of professional work performed by training participants.

Recommendations: better identification of the professional profiles of training participants in order to increase the usefulness of the training for their professional work and getting to know expectations better.

Another area of training evaluation was content and topics of the training. The training program was divided into individual thematic areas and was assessed during the evaluation. The first topic of the training was to define the concept of "Customer-centric Innovations". Participants assessed the presentation of the topic in three areas: clarity and understanding of the presentation, the suitability of the issues for their professional work and the topicality of the issues.

Most of the respondents (40% strongly agree and 40% agree) agree that the presentation was clear and understandable. 20% of participants do not have an opinion on this subject, which may mean that some content was not understandable and clear to the participants. The same group of respondents indicated answers in the next area of analysis. Most of the respondents (40% strongly agree and 40% agree) agree with the statement that the issue were relevant and useful for their work. 20% of participants do not have an opinion on this, which indicates that the content of the training may not be useful for some of the participants. All participants agreed that the information presented was up to date (40% strongly agree, 60% agree).

The next topic of the training was the topic "How to involve customers in product innovation?" Participants assessed the presentation of the topic in three areas: clarity and understanding of the presentation, the suitability of the issues for their professional work and the topicality of the issues.

Most of the respondents (20% strongly agree and 60% agree) agree that the presentation was clear and understandable. 20% of participants do not have an opinion on this subject, which may mean that some content was not understandable and clear to the participants. The participants were then asked if the issue were relevant and useful for their work. Most of the respondents (20% strongly agree and 40% agree) agree with the statement that the issue were relevant and useful for their work. 20% of participants do not have an opinion on this, which indicates that the content of the training may not be useful for some of the participants. All participants agreed that the information presented was up to date (40% strongly agree, 60% agree).

The next topic of the training was “Introduction to Further training program B”. Participants assessed the presentation of the topic in three areas: clarity and understanding of the presentation, the suitability of the issues for their professional work and the topicality of the issues.

Most of the respondents (60% strongly agree and 40% agree) agree that the presentation was clear and understandable. The participants were then asked if the issue were relevant and useful for their work. Most of the respondents (60% strongly agree and 40% agree) agree with the statement that the issue were relevant and useful for their work. All participants agreed that the information presented was up to date (60% strongly agree, 40% agree).

The next topic of the training was the Guest lecture “From Open Source Innovation to Lead User Innovation and Design Thinking”. Participants assessed the presentation of the topic in three areas: clarity and understanding of the presentation, the suitability of the issues for their professional work and the topicality of the issues. The assessment of the training participants was of the highest level in all respects (100% strongly agree). A high rating on this topic indicates that participants are open to the participation of interesting guests or lecturers who enrich the training program as a whole.

The next topic of the training was the topic “Coaching during the training program – KAIN method”. Participants assessed the presentation of the topic in three areas: clarity and understanding of the presentation, the suitability of the issues for their professional work and the topicality of the issues.

Most of the respondents (83% strongly agree and 17% agree) agree that the presentation was clear and understandable. The participants were then asked if the issue

were relevant and useful for their work. Most of the respondents (66% strongly agree and 33% agree) agree with the statement that the issue were relevant and useful for their work. All participants agreed that the information presented was up to date (66% strongly agree, 33% agree).

The next topic of the training was the Guest lecture “Workshop on applied Customer-centered Innovations”. Participants assessed the presentation of the topic in three areas: clarity and understanding of the presentation, the suitability of the issues for their professional work and the topicality of the issues. The assessment of the training participants was of the highest level in all respects (100% strongly agree). A high rating on this topic indicates that participants are open to the participation of interesting guests or lecturers who enrich the training program as a whole.

Recommendations: inviting outside guests to present part of the training, before the main topic of the training, an introduction should be added with basic definitions of concepts that will be discussed in the main part of the training, more detailed identification of the participants' needs and adapting the training content to their needs.

In response to the last open question, there was one remark: “More time for free speak with the other participants. I would have enjoyed that the dinner was planned on day 2”. This means that more time for participant opinion exchange should be considered in the future within the Train the Trainer framework.

5 Online Consulting for SMEs¹⁶

5.1 Introduction

The two training programs of the ICIinSMEs project are linked to innovation support and the implementation of development projects in SMEs during the longer phases of on-the-job learning with accompanying coaching. Linked to this, the Hungarian partner Ipartestületek Országos Szövetsége (IPOSZ) has very successfully developed and regularly implemented regular online guidance for SMEs. This regular online counselling service for SMEs combined with 20-part further training courses was included in the WPs 3 and 5. The thematic elements of this training were developed by the IPOSZ and took the experiences of the previous trainings that IPOSZ implemented in the project into account, namely WP3 Digitalization training and WP5 Customer-centered innovations training. The regular online counselling service consisted relevant information for micro and small businesses, providing them with up-to-date digital skills. Each counselling day, at first, we held an introductory lecture on a designated digital topic, which was followed by a Questions-Answers session where the participants received answers to their questions. They received individual counselling service from the trainer.

IPOSZ organized this consulting for a wide circle of entrepreneurs, where many different professionals were present, since the investigated topics affect all professions equally with minor or major differences. We named twenty training topics in advance, which we updated even during the implementation period. We focused on useful digital solutions available for free, but we also presented some digital solutions available for payment. Given that many business activities are today largely implemented through digital applications, the improving of digital skills is useful for all entrepreneurs.

¹⁶ Prepared by Tamás Rettich, Ipartestületek Országos Szövetsége, Hungary

The weekly online counselling service covered the following topics:

- Digital options for business operations
- Online customer acquisition
- Website operation, structure, responsive web design
- How do we treat our customers? Customer relationship management systems
- Introducing the free-to-use platform: Google Company Profile (formerly Google My Company) in practice
- Operation and possibilities of the paid Google search advertising campaigns
- Website traffic data. How can we measure visitors?
- Presentation of free-to-use platforms: G-mail, Google calendar
- Introducing the free-to-use platform: Google DRIVE (Sheets, Docs) Online file storage and office applications
- Presentation of a free-to-use platform: Google FORM
- E-mail marketing operation, newsletter sending systems. Advantages, possibilities and problems of a newsletter sending system.
- GDPR in the digital space (data protection, imprint, etc.)
- Security awareness, data security
- Search engine optimization
- Paid Google search ads in practice
- Operation of web shops - Rent or develop?
- Landing page anatomy. - What does a well-structured landing page look like?

5.2 Period of Implementation

The timing of the regular online counselling system was adapted to the previous two trainings implemented in the project as we wanted to incorporate those experiences into this new online service.

After the necessary preparatory, organizational, and advertising steps, we held the first online counselling session on Thursday, February 02, 2023. After that, for 20 weeks, every Thursday from 9 a.m., we held online counselling combined with training. Each time, the service usually lasts two hours. Of course, we generated a separate email address for this service, where the participants could send their questions and from which they received direct answers from the instructor.

During the implementation, the demand arose from our members that, as not everyone could attend the online counselling days in person due to the early morning time, we were asked to repeat the entire online counselling days and to continue the online counselling system as well. This will therefore be continued as a permanent service, independently from the project.

A brief explanation of how the training is to be classified in the national system of continuing vocational training, EQF level, significance of usability on the labour market, significance for activities in companies, etc.,

The regular online counselling and the related training fits into the overall adult-education phase of the national system of trainings, but a direct EQF level cannot be classified to it. It is an out-of-school training organized by IPOSZ.

This regular online counselling perfectly explained the basics digital solutions that could help the everyday processes of SMEs, tailored to the company's needs. The counselling service combined with training provided knowledge on digitalization and marketing activities via individual and teamwork. The topics used in the training could be used of course also in the training of enterprises of other sizes. This training is valuable not only for micro-enterprises, but also for medium-sized enterprises. It should be

emphasized that this service has elements that can be used to develop certain basic digital skills among the whole population and thus help to develop a better digitalized relationship between businesses and consumers. The success of this training also proves that there is a significant demand for practice-oriented training.

5.3 Special Features of the Implementation

The main target group of this online service combined with training were micro-enterprises, as our members mainly come from this sector. In this period affected by war and high inflation, this entrepreneurial layer is well characterized by the fact that it waits extremely cautiously with regard to all kinds of development.

Micro-enterprises are the biggest laggards when considering the digital foundations of everyday business operation. Or on the other side: if they manage to modernize their business processes with the digitalization toolkit, then they have the greatest development potential.

This weekly online counselling system was a completely new service of IPOSZ in the field of digitalization. However, it already had precedents in other areas. It is typical for the entire world that the Covid epidemic has transferred a wide range of activities into the online space. This also happened in the world of corporate training and business consulting.

The distinct development and promotion need of SMEs have led IPOSZ to organize a weekly online consultancy specifically in the field of digitalization, where companies can learn, week by week, about completely new, modern digital solutions that can improve their own business and increase the efficiency of their processes. The micro and small companies mainly operate in a specific business area, but it is extremely important for them to be able to expand beyond their usual customer base, by using the latest digital technologies.

Such short-term courses combined with tailor-made consultation must be strengthened in company further education. This project was a huge help to get decision-makers aware of the need to finance similar short-term additional trainings, online counselling systems.

The range of companies participating in the weekly sessions was constantly changing, but there was a central core that participated in the counselling every week.

5.4 Admission and Organization

A big advantage of the regular online counselling service was that, although the majority of the participating companies were small, they covered a very wide spectrum of the economy, from baker to photographer and even virtual assistant. The general elements of digitalization can be used for a wide variety of professions and of course supplemented with professional specifics. During the selection, we also emphasized that both older and younger people can participate in this course. Everyone can get answers to their questions during the online counselling service.

The regular online counselling service was advertised on many different channels. First of all, we prepared a 25-minute interview on one of the popular televisions' channels with the leading expert of the consultancy, as well as with the owner of a modern small business which already use digital solutions in their daily business life. Secondly, we prepared a half-minute radio advertisement, which was played dozens of times over 3 days on the two most popular radio stations in Hungary. Of course, we also announced the new online service on the IPOSZ website, as well as we informed IPOSZ member organizations by email. Altogether 121 registered participants applied via these advertisements' channels. Direct marketing strategies (phone calls and e-mails and many face-to-face conversations) were also used to reach the participants. Our 160 trade associations were notified about the planned regular online counselling, and we

also informed our national branch organizations about it several times. The 121 registered participants came from different regions of the country.

We continuously provided information on the topic of the current week on the IP-OSZ website and Facebook page.

At various conferences and industry meetings, we constantly informed business managers and craftsmen that it is worth joining the 20-week counselling series, even at a later stage.

On the application form, we asked everyone if they had a website or a Facebook page. The answers received show a very interesting reflection on the digital development of Hungarian small businesses.

Of the 121 registered participants, 92 were women and 29 were men. Which means that 76% of registered participants were women.

This is quite an astonishing figure. Today, when digital development is one of the most important indicators of our economic development, we could experience that women entrepreneurs are predominantly more interested in digitalization than male entrepreneurs. This is a special data about micro and small enterprises in Hungary.

This is data that we definitely need to think about further.

What could be the reasons of this, what trends does this show?

The development of the digital skills of businesses is a primary issue in order to increase their competitiveness. These participation figures show that women entrepreneurs will be the shapers of the economic life of the future to a much greater extent than we think today. These data also show that much more attention should be paid to address male entrepreneurs and educate them with modern digital skills.

Each online counselling day started at 9:00 a.m. and dealt with a given digitalization topic each week. The topics of each counselling day were announced in advance. All participants knew exactly which topic they will learn about that week.

The instructor at first gave a 45 - 60-minute introductory lecture. Afterwards, the participants could ask their questions about the topic, but of course they could also ask questions during the presentation. This informal consultation lasted 1-1.5 hours each time. It was also possible for the participants to ask their questions by email. We have created a separate email address for this consulting service. The instructor answered these questions by email. And on the next counselling day he presented the answers given to the most important questions to the other participants for education purposes.

After the counselling days, the slides of the introductory presentation were sent to the registered participants.

During the 20 educational days, a total of approx. 20 hours of lectures were held. This was followed by about 20-25 hours of counselling in the online group, and a total of approx. 40-45 hours of individual counselling via the designated email address.

On Monday mornings before each counselling day, we sent the current week's topic and the online login password to those who registered.

We then sent this login password to everyone on early Thursday mornings so that everyone could easily find it at 9 a.m., when the counselling started.

The weekly online counselling service started on February 2 and lasted for 20 weeks on the following days with the following topics:

- 02 February Digital options for business operations
- 09 February Online customer acquisition
- 16 February Website operation, structure, responsive web design
- 23 February How do we treat our customers? Customer relationship management systems
- 02 March Introducing the free-to-use platform: Google Company Profile (formerly Google My Company) in practice.

09 March	Operation and possibilities of the paid Google search advertising campaigns
23 March	Website traffic data. How can we measure visitors?
30 March	Presentation of free-to-use platforms: G-mail, Google calendar
06 April	Introducing the free-to-use platform: Google DRIVE (Sheets, Docs) Online file storage and office applications.
13 April	Presentation of a free-to-use platform: Google FORM
20 April	E-mail marketing operation, newsletter sending systems. Advantages, possibilities and problems of a newsletter sending system.
27 April	GDPR in the digital space (data protection, imprint, etc.)
04 May	Security awareness, data security
11 May	Search engine optimization
18 May	Paid Google search ads in practice.
25 May	Operation of web shops - Rent or develop?
01 June	Landing page anatomy. - What does a well-structured landing page look like?
08 June	Customer acquisition online
15 June	Website operation, structure, responsive web design

Originally, we planned to present a separate topic for each counselling. But in the end, on the last two counselling days, we repeated the two most popular lectures, as this was specifically requested by the participants.

The trainer himself came from the University of Győr, department of IT with whom the local organization of IPOSZ had previously implemented company-oriented trainings to expand the IT and digital knowledge of businesses. This previous relationship

guaranteed that the instructor is aware of the digital knowledge, and the needs and possibilities of micro and small businesses.

We selected an instructor who is capable of holding similar trainings online later, if there is a need for it.

The organization of the implementation was carried out by the staff of IPOSZ together with the experts of regional and branch member institution of IPOSZ which were involved in the implementation.

The experiences of the two trainings implemented in the project and the coaching program that followed them clearly showed that the digital skills of Hungarian micro and small businesses still need to be developed. We also received a clear request from our member companies to help develop their digital skills with targeted, short-term training.

Based on the answers received during the counselling days, many businesses were able to start the digital development of their own businesses. They learned new methods how to reach new markets and increase their digital presence.

This opportunity for individual coaching tailored to the business has not ended, as companies can still contact the instructor and also the IPOSZ. The project provided an extra opportunity for IPOSZ to start a new service, an online counselling system. It became clear that businesses need this help. This service must be continued.

5.5 Main Findings and Conclusions

We have already summarized certain conclusions in the points above. In addition, we must emphasize once again that much more projects, support, information, persuasion and services are needed in order to speed up the catching up of the micro business sector in this area. Our very important comment is that this is extremely necessary, because precisely the small businesses that are in direct contact with their consumers

and are particularly good at developing their products and services by getting to know the consumer needs obtained by digital solutions.

The strength of the training, in our opinion, is exactly what we explained earlier, that we managed to attract companies working in the most diverse professions to the training and this helped that the general digital elements could be better defined during the training and counselling process.

For this training and counselling, the instructor basically came from the university and research world. It was a very significant experience for us. Small businesses themselves are rarely able to define their own development directions as accurately as a university lecturer can.

This training was a very good example of how the economic life of small businesses can be significantly helped by receiving guidance from a university-level consultant.

Hints for future use, suggestions for possible improvements or further developments.

In any case, the practice should continue that university lecturers help small businesses with their practical advice. Of course, this also helps the work of the universities, as they receive direct confirmation of the usability of the methods they propose.

During the counselling, we were able to identify the digital competencies that are still largely missing from the daily operations of small businesses. Based on all these experiences, we will be able to continue our weekly online counselling system.

We recommend applying for a project that could facilitate the operation of such online services for organizations like IPOSZ. Organizations that represent family, micro and small businesses do not have a team of experts that can provide specialized services, so we have to use external experts on a contract basis from outside.

We also recommend thinking in the direction of how the generally proven digital procedures could be effectively supplemented with the special needs of different professional sectors.

During the course, there was constant feedback that, on the one hand, this training should be continued, and even more detailed, more practical knowledge should be given to the participating businesses. It was also clearly stated that this 20-week training and counselling must be repeated during the fall.

6 Other Results

During the implementation of the ICIinSMEs project, activities not originally planned were carried out and additional results were achieved. All other results can be found on the project website <https://ci-smes.eu/>. As examples of additional results, the results of three studies are reproduced below.

6.1 Customer-Centric Innovation: Driving Business Success in the Digital Era¹⁷

6.11 Abstract

In the digital era, advancements in technology and changing consumer behaviour have necessitated a paradigm shift in business strategies. Traditional business models are being disrupted and customer expectations are continuously evolving. To remain competitive, organizations must embrace customer-centric innovation, which entails leveraging digital technologies to understand and meet customer needs effectively. Customer-centric innovation has emerged as a key approach for organizations to thrive in this dynamic environment. By placing the customer at the centre of their operations, companies can gain a competitive edge and drive sustainable growth. This research paper explores the concept of customer-centric innovation, its significance in the digital era, highlighting its importance, challenges and implications for businesses. By examining relevant literature and case studies, this paper provides valuable insights and practical recommendations for organizations aiming to adopt customer-centric innovation strategies. Additionally, the paper discusses potential challenges and provides recommendations for overcoming obstacles to successful implementation.

¹⁷ Prepared by Monika Zajkowska, PhD Eng, Hanseatic Institute for Support of Small and Medium Enterprises

6.12 Understanding Customer-centric Innovation

Innovation has now become one of the main elements of the knowledge-based economy and is gaining strategic importance in the context of generating economic growth and, consequently, the well-being of societies. The ability to create innovation is becoming one of the key factors determining the ability and development potential of enterprises. The approach to innovation and the way of creating innovations in enterprises is changing with the emergence of new concepts and methods that capture the process of creating and implementing innovations in an increasingly comprehensive way.

The key role in building innovative activity is played by consumers, who more and more often cease to be only buyers satisfied with the proposed commercial offer. Customers often themselves, sometimes unknowingly, participate in the creation and development of products that they would later like to purchase. A satisfied but still demanding consumer is therefore an extremely important and recently gaining in importance link in shaping the commercial offer of enterprises, and as a result in creating innovations. In this case, the proper identification of its needs and new ideas becomes crucial in the context of a new approach to innovation. It can be said that the ability to perceive new consumer needs determines the process of searching for new solutions, while responding to their needs.

In today's hyperconnected world, where consumers have access to vast amounts of information and a multitude of choices, organizations must adopt a customer-centric approach to innovation to stay ahead of the competition. Traditional product-centric approaches are no longer sufficient to meet the evolving needs and expectations of customers. Customer-centric innovation involves placing the customer at the center of the innovation process, ensuring that products, services, and experiences are designed and delivered based on deep customer insights (Brown, 2008).

One of the concepts recognizes the key role and importance of customers in the processes of improving new products and solutions (Hippel & Thomke, 2002). This approach is based on the active inclusion of customers, on a partnership basis, in permanent cooperation. Christensen (2010) points out that innovation means anticipating consumer expectations. In order to introduce innovations, companies must know well in advance what criteria customers will use to assess the value of a product, and

accordingly design new products that will meet these criteria. A company that has the right information can significantly increase the likelihood of success in the entire innovation process, including the search for growth opportunities, market segmentation, competitor analysis, idea generation and evaluation, informing customers about the value created and measuring customer satisfaction (Ulwick, 2009). The concept correlates closely with the idea of customer involvement reflecting the extent to which a developer firm's key customers engage with and provide input in different phases of the New Product Development process (Anning-Dorson, 2018; Cui & Wu, 2017; Lin & Germain, 2004).

Customer-centric innovation refers to a strategic approach in which business focus on creating and delivering products, services and experiences that meet the evolving needs and preferences of their customers. It involves deeply understanding customer behaviours, expectations, pain points and leveraging that knowledge to drive the development and improvement of offerings (Prahalad & Ramaswamy, 2004). This approach emphasizes the customer as the central driving force behind innovation, with the goal of enhancing customer satisfaction, loyalty and ultimately, business growth.

Customer-centric innovation refers to an approach where organizations prioritize the needs, preferences, and experiences of customers throughout the entire innovation process. It involves actively engaging with customers to gain insights, co-create solutions, and deliver value that aligns with their expectations. Customer-centric innovation places the customer at the centre of decision-making, driving the design, development, and delivery of products, services, and experiences (Chesbrough, 2010; Osterwalder et al., 2005). It requires organizations to adopt a proactive mindset that seeks to anticipate customer demands and stay ahead of market trends. By aligning their innovation efforts with customer insights, businesses can create solutions that address real problems and deliver value to customers.

Overall, customer-centric innovation is a mindset that permeates the entire organization, influencing strategic decisions, resource allocation and the overall culture. By prioritizing the customer and actively involving them in the innovation process, businesses can create more relevant, meaningful and impactful solutions that drive customer satisfaction and long-term business success.

6.13 The Digital Era and its Impact on Customer Expectations

The digital era has significantly transformed customer behaviour and expectations. With the advent of advanced technologies, customers have access to abundant information, increased connectivity and personalized experiences. They expect seamless interactions, tailored solutions and rapid responses from organizations. The digital era has empowered customers and their elevated expectations have necessitated a shift towards customer-centric innovation.

Customer-centric innovation enables organizations to gain a deep understanding of customer needs, preferences and pain points. By designing and delivering products, services and experiences that truly address customer desires, organizations can significantly enhance customer satisfaction. Satisfied customers are more likely to become loyal advocates, promoting the organization's offerings through positive word-of-mouth and repeat purchases. Customer loyalty not only leads to increased revenue but also reduces customer churn, ensuring long-term business sustainability (Johnson et al., 2008; Kotler & Keller, 2016). In the highly competitive digital landscape, organizations must differentiate themselves from their competitors. Customer centric innovation provides a means to stand out by offering unique, tailored solutions that precisely meet customer expectations.

By continuously gathering customer insights and incorporating them into the innovation process, organizations can develop offering that outperform those of their competitors. This competitive advantage enables organizations to capture a larger market share and maintain a strong position in the industry (Chesbrough, 2010; Prahalad & Ramaswamy, 2004). The digital era has brought about rapid changes in customer behaviour, preferences and market trends. Organizations that fail to adapt to these changes risk being left behind.

Customer-centric innovation allows organizations to stay attuned to evolving customer needs and market dynamic. By actively engaging with customers, analysing their feedback and monitoring emerging trends, organizations can quickly respond to shifts in the market, proactively addressing customer demands and preferences. This responsiveness fosters agility, ensuring that organizations remain relevant and adaptable in a rapidly changing business environment (Ries, 2011; Ulwick, 2005). Traditional innovation approaches often suffer from a lack of customers focus, resulting in products or

services that fail to resonate with the target market. Customer centric innovation, on the other hand, places the customer at the centre of the design and development process. By involving customers from the early stages, organizations can gain valuable insights and feedback, ensuring that the final offerings align with customer needs and expectations. The result is a better product or service fit, leading to higher customer adaption rates, reduced product/service failure rates, and increased overall customer satisfaction.

Organizations that embrace customer-centric innovation are well-positioned for sustainable business growth and expansion. By consistently delivering customer-centric solutions, organizations can attract new customers and retain existing ones, driving revenue growth. Customer-centric innovation enables organizations to identify unmet customer needs and develop innovative offerings that tap into new market segments or create entirely new markets. This expansion into new markets not only fuels revenue growth but also strengthens the organization's competitive position in the industry.

Customer-centric innovation is particularly important in the digital era because it leverages the power of digital technologies. The availability of data analytics, artificial intelligence, social media and mobile platforms enables organizations to gather real-time customer insights, engage in meaningful customer interactions and co-create value with customers. Digital technologies facilitate the seamless integration of customer feedback into the innovation process, allowing organizations to respond quickly to changing customer needs and preferences (Ries, 2011). In the digital era, customer experience has become a crucial differentiator for organizations. Customer-centric innovation plays a pivotal role in delivering exceptional customer experiences. Organizations need to foster a culture that values and prioritizes customer-centricity. Customer-centric innovation requires a shift mindset and organizational practices. It involves breaking traditional silos and encouraging collaboration across departments to ensure a holistic understanding of customer needs (Scharmer, 2016). Organizations that cultivate a customer-centric culture empower employees at all levels to actively engage with customers, gather feedback, and contribute to the innovation process. This customer-centric culture creates an environment where innovation flourishes and customer-centricity become embedded in the organization's DNA.

6.14 Key Dimensions of Customer-centric Innovation

Customer-centric Innovation encompasses several key dimensions that organizations should consider to effectively implement this approach. Understanding and integrating these dimensions into innovation process can enhance the organization's ability to meet customer needs and deliver value. The following dimensions are particularly critical.

Gaining deep customer insights and understanding is the foundation of customer-centric innovation. Organizations should leverage qualitative and quantitative research method to gather comprehensive and up-to-date information about customer preferences, behaviours and pain points. These insights can be obtained through methods such as in-depth interviews, focus groups, ethnographic studies and data analytics. By using advanced analytics techniques, such a predictive modelling and machine learning, organizations can uncover hidden patterns and trends in customer data, enabling them to develop solutions that align with customer needs (Homburg et al., 2018; Jain & Sinha, 2020).

Next dimension for integrating them in innovation process is co-creation and collaboration. Co-creation involves actively involving customers in the innovation process, allowing them to contribute their ideas, insights and feedback. Collaboration with customers enables organizations to tap into the collective intelligence and creativity of the customer community. Co-creation can be facilitated through various channels, such as online platforms, innovation contests and customer advisory panels. By engaging customers in ideation, solution design and testing, organizations can ensure that the resulting offerings are customer-driven and provide value. Co-creation also fosters a sense of ownership and loyalty among customers, leading to stronger customer relationships (Bettencourt, 2020; Nambisan & Nambisan, 2018). Effective co-reaction and collaboration with the consumer allow to interactive experimentation and rapid prototyping. Customer-centric innovation requires organizations to adopt an iterative and experimental approach. Instead of relying solely on traditional linear product development processes, organizations should embrace agile methodologies that allow for rapid experimentation and learning. By developing prototypes or minimum viable products (MVPs), organizations can gather early customer feedback, test assumptions and refine their solutions based on real-world usage. This iterative experimentation approach

reduces the time and cost of development while increasing the likelihood of success in the market. It also enables organizations to adapt quickly to changing customer needs and market dynamics (Gallouj & Djellal, 2018; West & Bogers, 2019). Customer-centric innovation is an ongoing process that requires continuous customer engagement throughout the innovation lifecycle. Organizations should establish channels for ongoing customer dialogue and engagement such as online communities, social media platforms and customer feedback mechanisms. By maintaining a constant feedback loop with customers, organizations can stay informed about evolving needs, emerging trends and changing preferences (Fueller et al., 2018; Zott et al., 2018). This continuous customer engagement allows organizations to co-evolve with their customers, ensuring that the solutions they develop remain relevant and valuable over time. It also enhances customer satisfaction, loyalty and advocacy.

These key dimensions collectively contribute to continuous customer engagement, which is crucial for maintaining a customer-centric approach. By establishing channels for ongoing customer dialogue and feedback, organizations can stay informed about evolving needs, emerging trends and changing preferences. This enables organizations to co-evolve with their customers, ensuring that the solutions they develop remain relevant and valuable over time.

Incorporating these key dimensions into the innovation process can help organizations truly embrace customer-centric innovation in the digital era. By aligning their efforts with customer needs, actively involving customers, embracing agility and maintaining continuous customer engagement, organization can differentiate themselves in the market, enhance customer satisfaction and achieve long-term success. However, it is important to recognize that implementing these dimensions require a shift in mindset, organizational culture and processes. Organizations must be committed to embracing customer-centricity and fostering a customer-centric innovation ecosystem to fully realize the benefits of these dimensions.

6.15 Strategies for Implementing Customer-centric Innovation

Implementing customer-centric innovation requires organizations to adopt specific strategies and approaches that foster a customer-centric mindset and drive innovation

efforts. The following strategies can be key to successfully implementing customer-centric innovation. One of the approaches are design thinking and user-centred design methodologies, which place the customer at the centre of the innovation process. These approaches involve empathizing with customers, defining their needs, ideating potential solutions, prototyping and testing them iteratively. By embracing design thinking, organizations can gain a deep understanding of customer preferences and aspirations, leading to the development of innovative solutions that meet their needs (Brown, 2018; Kolko, 2015).

Next proposed approaches use agile and lean innovation methodologies, which promote flexibility, rapid experimentation and continuous learning (Cohn, 2014; Maurya, 2012). These strategies involve breaking down projects into small, manageable increments, fostering cross-functional collaboration and delivering value incrementally. By adopting agile and lean principles, organizations can quickly adapt to changing customer needs and market dynamics, reducing the time to market and increasing the chances of success.

The approach based on open innovation deserves special attention. Open innovation involves leveraging external sources of knowledge, ideas and resources to drive innovation. Organizations can collaborate with customers, suppliers, partners and even competitors to co-create solutions, share expertise and access a wider pool of innovative ideas. By embracing open innovation, organizations can tap into diverse perspectives, leverage external expertise and accelerate the innovation process (West & Bogers, 2019). Customer-centric innovation requires organizations to embrace a continuous feedback loop with customers. This involves actively seeking and incorporating customer feedback throughout the innovation process. By iterating and refining solutions based on customer insights, organizations can ensure that their offerings remain relevant and valuable. Continuous feedback and iteration also foster a customer-centric culture and demonstrate an organization's an organization's commitment to meeting customer needs.

Organization that prioritizes the needs and preferences of their customers are more likely to develop innovative solutions that create value and deliver exceptional customer experiences. This part of paper explores several strategies for implementing customer-centric innovation, highlighting their importance and providing real-world examples where applicable. These strategies have been widely acknowledged in the literature as

effective approaches for driving customer-centric innovation (Bryson & Sullivan, 2018, Mathur, 2018; Piller, West & Ihl, 2019; Nambisan, 2020; Zott & Amit, 2013).

Deep Customer Understanding: To implement customer-centric innovation successfully organizations must develop a deep understanding of their customers (Mathur, 2018). This involves gathering and analysing customer data, conducting market research and leveraging various techniques. By gaining insights into customer preferences, businesses can identify opportunities for innovation. This approach ensures that innovation efforts are aligned with customer expectations and deliver meaningful solutions. Amazon (Davenport, 2019) is renowned for its customer-centric approach to innovation. The company continually collects and analyses vast amounts of customer data to understand individual preferences, buying patterns and interests. This data-driven approach enables Amazon to personalize recommendations, develop new features and anticipate customer needs, leading to enhanced customer experiences and increased loyalty.

Co-Creation with Customers: Engaging customers directly in the innovation process can yield invaluable insights and foster a sense of ownership (Nambisan, 2020). Co-creation involves collaborating with customers to generate ideas, design products and test prototypes. By involving customers in the early stages, organizations can ensure that their innovations are customer-driven, resulting in higher adoption rates and customer satisfaction. LEGO (Hagberg-Andersson & Berggren, 2020) utilizes a co-creation strategy through its “LEGO Ideas” platform, where customers can submit their own designs for new LEGO sets. The community then votes on these ideas, and if a design receives enough support, LEGO considers producing it as an official set. This approach empowers LEGO enthusiasts to shape the economy’s product offerings, ensuring that the company stays connected to its passionate customer base.

Agile and Iterative Development: Customer-centric innovation requires an agile and iterative approach to development (Piller, West & Ihl, 2019). Instead of long development cycles, organizations should adopt rapid prototyping and testing methodologies to gather feedback and make necessary adjustments quickly. This iterative process allows organizations to validate assumptions, uncover potential issues and refine their solutions based on customer feedback, ensuring that the final product or service meets customer needs effectively. Spotify (Pollock & Williams, 2018), the popular music streaming platform, regularly updates its user interface and features based on customer

feedback and usage data. Through continuous iterations, Spotify has been able to improve the user experience, personalize recommendations and introduce innovative features such as collaborative playlists and personalized playlists for workouts. This agile approach has contributed to Spotify's significant market share and customer loyalty.

Embracing Emerging Technologies: The adoption of emerging technologies can significantly enhance customer centric innovation (Zott & Amit, 2013). Technologies such as artificial intelligence, machine learning, data analytics and the Internet of Things (IoT) enable organizations to gather and analyse vast amounts of customer data, personalize experiences and deliver tailored solutions. By leveraging these technologies, businesses can gain a competitive edge and provide innovative offerings that address specific customer needs. Nike's NikePlus platform (Kavaliauskė et al., 2018) utilizes technology to deliver personalized experiences to its customers. The platform collects data from various sources, including wearables and mobile apps, to provide personalized workout recommendations, track performance and offer customized product recommendations. By embracing technology, Nike has created a customer-centric ecosystem that strengthens its brand and deepens customer engagement.

The strategies for implementing customer-centric innovation discussed in the paper provide a solid foundation for organizations seeking to create value, meet customer expectations and thrive in today's highly competitive market. By combining deep customer understanding, co-creation, agile development and the integration of emerging technologies, businesses can position themselves at the forefront of customer-centric innovation, driving success and creating lasting customer value.

6.16 Challenges Organizations Face in Implementing Customer-centric Innovation

Implementing customer-centric innovation can be a complex task for organizations, especially for SMEs, due to various challenges they may encounter. Some of the key challenges are as follows taking into account not only specific to the challenges of implementing customer-centric innovation, but they are relevant in understanding the broader concepts related to the customer-centricity and organizational change:

1. **Lack of Customer Understanding:** Organizations often struggle with truly understanding their customer's needs, preferences, and expectations. This can be attributed to inadequate customer research, limited interaction with customers, or relying solely on internal assumptions. Without a deep understanding of customers, organizations may develop products or services that fail to address their actual needs (Payne, Storbacka & Frow, 2008).

2. **Internal Resistance to Change:** Implementing customer-centric innovation requires organizations to change their internal processes, structures, and culture. However, resistance to change is common as it disrupts established routines and may challenge existing power dynamics within the organization. Overcoming resistance and gaining buy-in from employees at all levels is crucial for successful implementation (Kotter & Schlesinger, 2008).

3. **Siloed Organizational Structure:** Many organizations have functional or departmental silos that hinder effective collaboration and communication. Customer-centric innovation requires cross-functional cooperation to integrate customer insights and ideas into different areas of the organization. Siloed structures can impede this collaboration, making it difficult to align efforts towards a customer-centric approach (Srivastava, Shervani & Fahey, 1998).

4. **Risk Aversion and Short-term Focus:** Organizations may be risk-averse, preferring to maintain the status quo rather than taking risks associated with customer-centric innovation. Additionally, organizations focused on short-term results and immediate financial gains may struggle to allocate resources and invest in longer-term customer-centric initiatives, which require patience and a strategic outlook (McGrath & MacMillan, 2000).

5. **Inadequate Measurement and Metrics:** Evaluating the success and impact of customer-centric innovation can be challenging if organizations do not have appropriate measurement systems and metrics in place. Traditional financial metrics may not capture the full value of customer-centric initiatives, necessitating the development of new metrics that align with customer-centric objectives (Anderson & Narus, 2004).

Addressing these challenges requires a combination of customer-centric leadership, a focus on employee engagement, and a commitment to fostering a customer-centric culture within the organization.

6.17 Conclusion

In the digital era, customer-centric innovation is no longer an option but a necessity for organizations aspiring to thrive in a fiercely competitive marketplace. Consumers have already realized that they are in a better position and how powerful they are. Companies have to come to terms with the fact that instead of controlling customer behavior as before, they themselves are under control. This makes existing marketing strategies and distribution channels fail, because it is often difficult to identify the target consumer. The rules governing relations with the client have changed and now it is said that those who will be successful will be those who will be able to co-create the values expected by the client, jointly shape the service offer or create products.

Several future trends and emerging technologies are poised to make significant impact on evolving landscape of customer-centric innovation. Artificial Intelligence (AI) and Machine Learning technologies are transforming customer experiences by enabling personalized interactions, predictive analytics and automation. AI-powered chatbots, virtual assistants and recommendation systems are examples of how these technologies enhance customer engagement. The Internet of Things (IoT) connects devices, sensors and objects to the internet, creating vast amounts of data. This data can be leveraged to gain insights into customer behaviour, preferences and usage patterns. IoT-driven applications can enable proactive service, real-time monitoring and seamless integration across various touchpoints. Augmented Reality (AR) and Virtual Reality (VR) technologies enhance customer experiences by providing immersive and interactive content. They enable customers to visualize products in real-world environments, try virtual experiences and receive personalized demonstrations. Voice Technology and Natural Language Processing (NLP) technologies are becoming increasingly popular. Virtual assistants like Amazon Alexa, Google Assistant and Apple's Siri have gained widespread adoption. Voice-based interactions allow for hands-free and intuitive experiences, enabling customers to interact with brands more naturally. Blockchain technology offers decentralized, transparent and secure transactions. It has the potential to transform various industries, including finance, supply chain and healthcare. In customer-centric innovation, blockchain can enable trust, data privacy and secure transactions, enhancing customer confidence. Big Data Analytics form various sources provides opportunities for businesses to gain valuable insights into customer behaviour and preferences. Big data analytics tools and techniques help organizations understand

customer needs, personalize offerings and make data-driven decisions to optimize customer experiences.

By embracing customer-centricity and leveraging digital technologies, organizations can unlock new growth opportunities, improve customer satisfaction and build enduring customer relationships. In this transformative era, organizations that prioritize customer needs and preferences in their innovation endeavours are more likely to stay ahead of the curve and secure long-term success.

6.2 Customer-centric Innovation in SMEs¹⁸

6.21 Abstract

Today, businesses are facing increasingly fierce competition. The sources of competitive advantage have been constantly changing in recent years. Creativity and the search for innovative solutions are becoming increasingly important in competition, alongside ever-tighter cost management. Customer-centric innovation is also crucial success factor for SMEs. This study investigated through empirical research how SMEs create and implement customer-based innovations, what kind of methods and digital tools they use, and what benefits and barriers the company realises in involving customers in innovation processes. The study states that customer-centric innovation can be applied successfully to companies regardless of size and in almost any sector. Using digital solutions, social media platforms, and data analysis tools makes it much easier to collect and process customer feedback. The companies saw the most significant benefit in increased customer satisfaction, which is associated with an image gain for the company. There is a lower benefit on the financial side and in terms of their operational efficiency. They have been less able to monetise the results of innovations involving customers in a short term. When implementing customer-centric innovations, companies face several difficulties in engaging customers; the need for digital skills and knowledgeable professionals was the most aggravating factor.

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Keywords: customer centric innovation, SMEs, digital tools, customer engagement

6.22 Introduction and Literature Review

In the following introductory part, we review the theoretical approaches to defining innovation and the practical applicability of innovation narratives for SMEs. In this way, we also examine the small business explanation of customer-centric innovation (CCI). Accordingly, we demonstrate researchers' previous findings about the practical utilization of CCI. Last, we provide the advantages and challenges of introducing and applying CCI (as a concept and method).

Management studies define innovation as the purposeful and systematic process of introducing new ideas, products, services, or business models that create value, drive competitiveness, and fuel growth within an organization. It encompasses a range of activities and requires a supportive organizational context, strategic management, and a willingness to take risks and learn from successes and failures. Innovation encompasses the creation, implementation, and diffusion of new ideas, processes, products, or services within an organization. It is a strategic tool for gaining a competitive advantage, driving growth, and adapting to changing market conditions. (Dymitrowski and Mielcarek, 2021)

There are critical criteria that define innovation in business organizations. Innovation involves introducing new or significantly improved ideas, approaches, or solutions that depart from the status quo. It encompasses both radical breakthroughs and incremental improvements (novelty). The innovation aims to create value by developing new products or services that meet customer needs, enhancing operational processes to improve efficiency, or introducing new business models that generate revenue and drive profitability (value creation). Innovation is a structured process encompassing various stages, including idea generation, evaluation, development, implementation, and diffusion. It requires systematic management and coordination to navigate these stages (systematic process) effectively. Innovation is embedded within the organizational context and is influenced by factors such as leadership, culture, resources, structures, and strategies. Innovation is closely tied to learning and knowledge creation. (McKinsey/a, 2022) Organizations that foster a culture of continuous learning,

experimentation, and knowledge sharing are likelier to succeed in their innovation efforts (learning and knowledge creation). Management studies recognize the importance of external collaboration in innovation. (Albuquerque, 2013) Engaging with external stakeholders such as customers, suppliers, research institutions, and other organizations can provide valuable insights, resources, and opportunities for collaboration (external collaboration). (Itonics, 2023)

Innovation is vital for enterprises seeking to stay competitive, adapt to changing market dynamics, and drive growth. The practical aspects of innovation that are important for enterprises to consider are summarized in Table 1.

ATTRIBUTE	REASONING	IMPLEMENTATION
Strategic Vision	Enterprises should have a clear strategic vision that aligns with their overall goals and objectives.	This vision should explicitly incorporate innovation as a core element and communicate the organization's commitment to fostering a culture of innovation.
Innovation Culture	Building an innovation culture is crucial for any innovation goals.	It involves fostering an environment that encourages creativity, risk-taking, and learning.
Innovation Leadership	Effective leadership plays a crucial role in driving innovation within an enterprise.	Leaders should champion and support innovation initiatives, provide resources and support, and create an atmosphere that encourages employees to generate and implement ideas.
Dedicated Resources	Allocating dedicated resources, including funding, personnel, and time, is essential for fostering innovation.	Enterprises should establish mechanisms, such as innovation budgets or dedicated innovation teams, to ensure that innovation efforts receive the necessary support and attention.
Cross-Functional Collaboration	Collaboration across different functions and departments within an	Enterprises should facilitate „innovation conversations” between the leaders of different departments and/or

	enterprise is key to successful innovation.	establish „innovation groups” of various experts.
Idea Generation and Capture	Enterprises should establish processes and platforms for idea generation and capture.	Techniques such as brainstorming sessions, suggestion boxes, innovation contests, or online collaboration platforms.
Continuous Learning and Adaptation	Innovation is an ongoing process that requires continuous learning and adaptation.	Enterprises should embrace a learning mindset, actively seek feedback and insights, and use data and analytics to evaluate the success of innovation initiatives.
Customer-Centric Approach	Adopting a customer-centric approach is crucial in innovation. Enterprises should prioritize understanding customer needs, pain points, and preferences.	Conducting market research, gathering customer feedback, and involving customers in the co-creation process can help ensure that innovations are relevant and meet market demands.

Table 1. The elements and development of the customer-centric approach in innovation practice

Source: Itonics, 2023 & McKinsey/a, 2022 & Albuquerque, 2013

By focusing on these practical aspects of innovation, enterprises can create an environment that nurtures and supports innovative ideas, enhances competitiveness, and drives sustainable growth.

Customer-centric innovation refers to designing, developing, and implementing new products, services, or solutions with a primary focus on understanding and meeting the target customers' specific needs, preferences, and desires. It helps actively involve customers in innovation, gathering insights and feedback and using that information to create offerings that directly address their requirements and deliver superior value. By prioritising the customer in the innovation process, enterprises can drive growth, build customer loyalty, and achieve sustainable success.

Nowadays, the concept of customer-centric innovation is widespread, the core of which is that product and service developments are carried out by companies together with customers. It emphasises that companies should actively involve their customers in developing products and services. This strategy recognises that customers significantly impact a company's performance and that their opinions, suggestions and demand should be considered when developing new products and services. Customers are involved in customer-centric innovation at many stages of the innovation lifecycle, including brainstorming, concept generation, prototyping, testing, and refinement. Customer input at these stages enables companies to develop goods and services that appeal to their target audience by learning more about their preferences, problems, and desires. Companies develop customer-centric innovations using a variety of tactics and methods. These include gathering customer feedback through focus groups, interviews, and surveys; studying trends in customer usage and behaviour; analysing customer data and insights; and engaging customers directly in co-creation sessions or beta testing initiatives. (Zajkovska and Melosh 2021)

Companies can benefit from customer-centric innovation in several ways. First, they can create goods and services that better meet consumers' needs, increasing loyalty and satisfaction. Second, involving customers in the innovation process can foster a sense of co-creation and ownership, strengthening the bond between the company and its customers. Finally, customer-centric innovation can lead to a competitive advantage by enabling companies to stand out in the marketplace with distinctive offerings tailored to customer preferences. Customer-centric innovation demonstrates a shift toward customer-centric business practices, where companies prioritise understanding and satisfying customer needs to drive innovation and business expansion.

The demand for development often comes from customers, who play an active role throughout the process. Then comes commercialisation. The types of innovations that impact customers can include the following (Desouza et. al, 2008):

1. customer segmentation,
2. customer analysis,
3. communication with customers,
4. customer interactions with the company,

5. product and service development.

The first step toward customer-centric innovation is customer segmentation, i.e., grouping the customer base according to common characteristics, requirements or preferences. Companies can better understand the different needs of their customers by segmenting them, and they can then develop products and services specifically for those segments. Since different consumer segments may have different needs and expectations, this enables more targeted and efficient innovation activities. (Zajkowska and Melosh 2021)

Customer analytics is gathering and studying consumer behaviour, preferences, and feedback. Many techniques, including surveys, interviews, social media monitoring, and data analysis, can be used. Companies can learn more about their customers' needs, problems and upcoming trends by analysing the data they provide. As this data informs the innovation process, companies can develop products that meet customers' preferences and solve their unique problems.

Effective communication with customers is critical to customer-centric innovation. Companies must actively engage with their customers to solicit their ideas, feedback and suggestions. This can be done through various channels, including online communities, customer feedback forums, and direct interactions. Through open communication, companies can build a collaborative relationship with their customers and ensure their voices are heard and considered in the innovation process.

Through customer-centric innovation, companies seek to build gratifying and meaningful relationships with their customers. This includes creating experiences and touchpoints that increase customer engagement and satisfaction. Developing customer support systems, user-friendly interfaces, seamless shopping experiences, and personalised interactions are all areas that companies can invest in. Companies can build lasting relationships and gain insightful data to inspire further innovation by focusing on maximising customer interactions. The ultimate goal of customer-centric innovation is to create products and services that meet consumer needs and preferences. Companies consult with their customers while developing a product or service and solicit their opinions. Idea development, concept testing, prototyping, and beta testing fall under this category. Companies can develop services that appeal to their target audience and increase customer satisfaction and acceptance by incorporating consumer insights into the development process. (Zajkowska and Melosh 2021)

In summary, consumer-centric innovation values customer participation in the innovation process. This includes understanding customer segments, analysing customer data, reaching out directly to customers, maximising customer interactions, and creating goods and services that meet customer preferences. Companies can improve customer satisfaction, loyalty, and overall business performance by putting their customers' needs at the centre of their innovation activities.

According to a study of 110 companies in Europe conducted by McKinsey, customer-centric organisations that focus their innovative ideas and processes of customer involvement grow their revenue nine times faster than those that are not. According to the survey, only 36% of businesses are genuinely customer-centric, but those see an average 8.7% gain in sales. Compared to those with low to medium levels, this is 0.8% lower. According to the report, customer-centric businesses are more likely to keep customers, and those customers are more inclined to promote these businesses to their friends and family, spurring growth. Compared to organisations with low customer centricity (20%), strong customer-centricity businesses are also four times more likely to have delighted staff (90%). Another study conducted in early 2023 surveyed more than 600 employees of North American retailers to gauge their opinions on customer centricity. According to the research, customer centricity is an essential indicator of future financial performance. (Article, Kearney, 2023 & McKinsey/B)

Before we demonstrate the findings of our primary research conducted in the focus countries, let us go through the advantages and possible challenges of utilising customer-centric innovation in small businesses, summarised in Table 2.

Overall, customer-centric innovation places the customer at the centre of business strategies and decision-making. Enterprises can drive customer satisfaction, loyalty, and business success by understanding and meeting customer needs. While customer-centric innovation offers numerous benefits, it also comes with its own set of challenges. Overcoming these challenges requires strategic planning, cultural change, investment in technology and analytics, strong leadership, and ongoing customer engagement. Customer-centric innovation is an iterative process, and enterprises need to continuously learn, adapt, and refine their approaches to meet evolving customer expectations. (McKinsey/C) After summarizing and interpreting the benefits of customer-centric innovation alongside the articulation of its possible challenges, we will present the results regarding our research questions.

This study investigated how SMEs create and implement customer-based innovations, what digital technologies they use, and what benefits and barriers the company recognises in involving customers in innovation processes. The following research questions were formulated.

- RQ1 What is the penetration of customer-centric innovation among SMEs?
- RQ2 What methods and digital tools do they use to involve their customers in innovation activities?
- RQ3 What benefits do they realise through customer-centric innovation, and what are the main barriers and difficulties?

ADVANTAGES	POSSIBLE CHALLENGES
Improved Customer Satisfaction: When customers feel valued and their needs are addressed, they are more likely to develop loyalty towards the brand, make repeat purchases, and recommend the business to others.	Obtaining Accurate Customer Insights: Enterprises need to invest in robust market research, customer feedback mechanisms, and data analytics capabilities to obtain reliable and actionable customer insights.
Competitive Advantage: This can result in increased market share, customer retention, and stronger brand reputation.	Balancing Diverse Customer Needs: Enterprises must identify key customer segments and develop strategies that cater to different customer groups effectively.
Increased Customer Loyalty and Advocacy: Satisfied customers are more likely to become loyal patrons, repeatedly choosing the business over competitors.	Aligning Internal Culture and Processes: Enterprises need to foster a customer-focused mindset and align internal processes, systems, and incentives to support customer-centric innovation.
Enhanced Product Development: Customer-centric innovation reduces the risk of developing products or features that do not resonate with the target audience.	Data Privacy and Ethics: Enterprises must navigate regulatory requirements and ensure that they handle customer data responsibly and transparently.
Increased Revenue and Business Growth: Customer-centric innovation can also open new market opportunities, attract	Anticipating Future Customer Needs: Need to predict future customer trends, requiring enterprises to invest in market

new customers, and support business growth.	research, trend analysis, and continuous monitoring of customer behaviours.
Better Decision Making: Enterprises can make informed decisions based on customer preferences, market trends, and changing consumer behaviours.	Integrating Customer Feedback and Innovation Processes: Enterprises must establish mechanisms to capture and analyse customer feedback systematically.
Efficient Resource Allocation: By understanding customer priorities, enterprises can prioritize investments, streamline operations, and optimize resource allocation to areas that generate the most value for customers.	Balancing Short-Term and Long-Term Goals: Enterprises need to find the right balance between meeting immediate customer needs and investing in long-term innovation initiatives.
Continuous Improvement: By actively seeking customer feedback and incorporating it into the innovation process, enterprises can identify areas for improvement, iterate on their offerings, and adapt to changing market dynamics.	Competitive Landscape and Market Disruption: Enterprises must navigate industry disruptions, emerging technologies, and changing market dynamics to stay relevant. Failing to adapt to these changes can result in losing market share and customer loyalty.

Table 2. Practical advantages and challenges of introducing the customer-centric innovation approach.

Source: Zhang, Wang and Liu, 2020 & Klingebiel and Rammer, 2013 & McKinsey/C

6.23 Methodology

Regarding the research method, a questionnaire survey was conducted to achieve the research objectives and answer the research questions. The market research was conducted online (using Survey Monkey). The survey took place between April 7 and June 8, 2021. During this period, the questionnaire was started by 101 respondents, but only 95 responses from 11 different countries were evaluable. Most responses (82 %) came from Germany, Hungary, Poland and Denmark. Other countries participating in the survey include Lithuania, Belarus, Estonia, Finland, Bulgaria, Latvia and Russia. For Belarus, Estonia and Finland, the number of respondents is two and for Bulgaria,

Latvia and Russia, one. The target group was micro, small and medium-sized enterprises (60 % of the respondents was micro-, 18 % were small- and 9.5 % medium-sized company), but large companies were also among the respondents (12.6 %). (Their responses were not excluded from the analysis but were considered as a control group.) The sectoral affiliation of respondents shows a varied picture. More than 80 % of the companies/organisations surveyed have been established for over five years. Since the data collected during the fieldwork cannot be considered representative, the findings obtained during the data analysis cannot be generalised, i.e. the results are valid only for the sample. Data analysis was performed using the IBM SPSS Statistics software (version 26). Mainly univariate analyses were performed (descriptive statistics, frequency tables, means, standard deviations), but also some bivariate analyses in the form of cross-tabulations and correlation analyses. (Horváth et al. 2021a)

Besides the questionnaire survey, the project also aimed to collect best practices. We studied 37 best practices from 12 countries. Most of the best practices came from Poland (9) and Hungary (8). More than three good practices were collected from Germany (5) and Denmark (4). We were able to collect 1-3 good practices from the following countries: Estonia, Finland, Italy, Lithuania, Norway, Sweden, the United Kingdom, and the United States. This paper does not present the individual cases but only the conclusions drawn from them, complementing the questionnaire survey results. (Horváth et al. 2021b)

6.24 Results

We formulated our research questions according to the following logical framework. First, we sought to answer whether SMEs use customer-centric innovation (RQ1). If not, what is the reason for this and if so, what methods and tools do they use to engage their customers in the innovation activities (RQ2)? Finally, we examined the perceived benefits of customer-centric innovation for SMEs and the factors that hinder or impede the implementation of customer-centric innovation (RQ3). Our concept is summarised in Figure 1.

Benefits

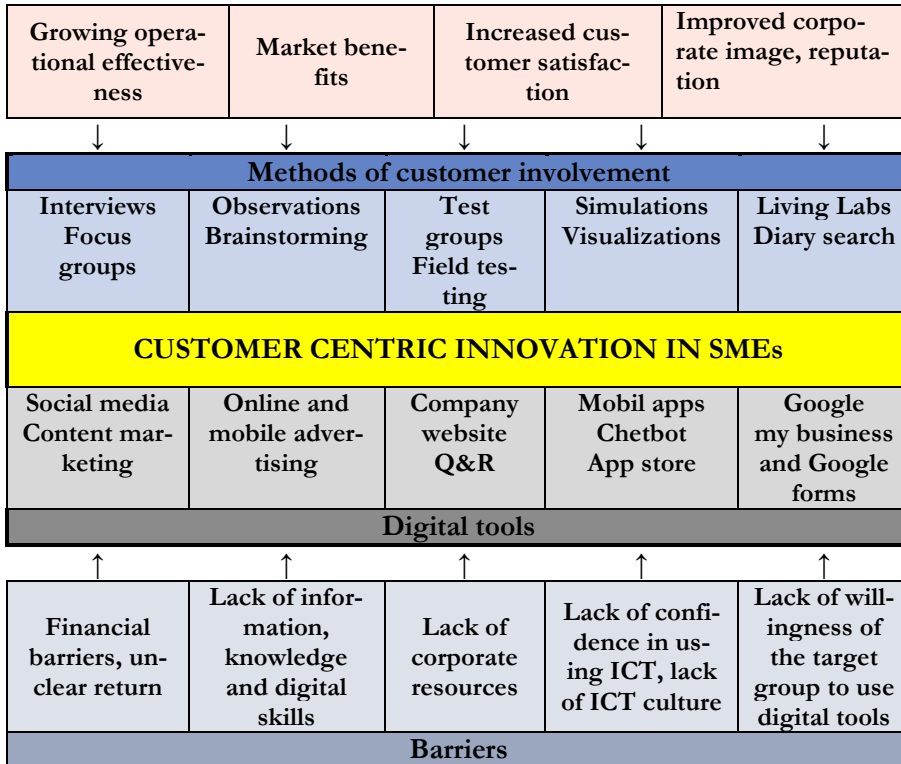


Figure 1: Concept of the research

Source: own construction

We summarise our findings along the lines of the research questions based on Horváth et al. 2021a, 2021b and 2022; Zajkovska and Melosh 2021.

6.24.1 Penetration of Customer-centric Innovation among SMEs?

Eighty-six responses were received regarding the presence of customer-centric innovation. In total, forty-six organizations use customer-centric innovation, and forty do not. Due to the small number of respondents and case studies, comparing results by country, company size, and sector is not possible. In general, customer-centric innovation can be successful in almost all sectors, regardless of the companies' size, scale,

or location. The results of the survey and the cases show that customer-centric innovation can be successfully used in many sectors. The products and sectors are very different. It is prevalent in areas where personalized (customized) products and services are of greater importance. However, good examples of customer-centric innovation can occur at more than just the product level. Other server processes such as sales, website, and delivery can be made easier and more efficient by leveraging consumer feedback. In other words, the efficiency of company operations and the complex customer service process can be made more efficient through consumer feedback. If customer-centric innovation was not applied, the reason had to be given (Figure 2).

Respondents most often argued that their product/service is too specific to involve consumers in the innovation process or that they do not see a benefit in involving consumers. A quarter of the companies that do not use customer-driven innovation would need more information and support to implement customer-driven innovation. The proportion of companies that do not know this concept was relatively low. These results support the need for innovation training for SMEs owner centric innovation was not applied, the reason had to be given (Figure 2).

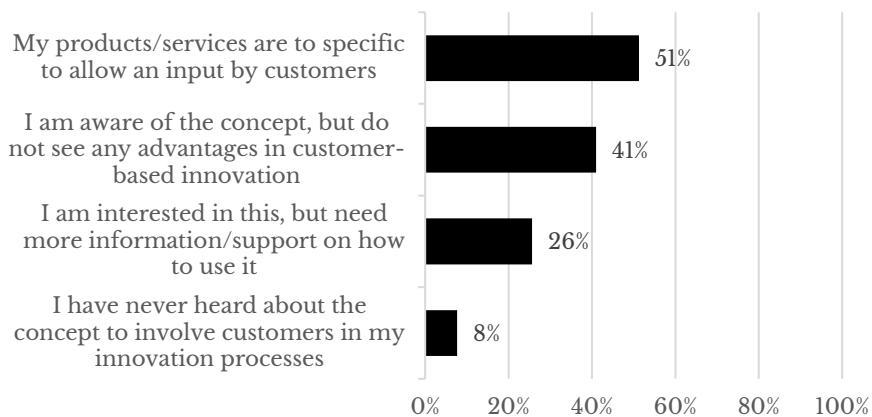


Figure 2: Why have you not been involved in customer-centric innovation?

Source: own construction

6.24.2 Methods and Digital Tools used to involve Customers in Innovation Activities.

In the next part of our research, we wanted to know what methods companies use to involve their customers in their innovation processes. The following methods were included in the answer options:

- Surveys/questionnaires
- Interviews
- Focus groups
- Brainstorming
- Observations (customers are personally observed in their daily lives)
- Test groups
- Field testing (products and/or services are tested under real-life conditions)
- Simulations and visualizations
- Living Labs (working with customers in the company's laboratories and workshops)
- Diary search: (target groups are asked to write their experiences with products and/or services in a pre-structured online diary)

This question received 37 evaluable responses from the 46 companies engaged in customer-centric innovation (8 large companies, 5 medium companies, 6 small companies, 27 micro companies) (Figure 3).

The most common customer engagement methods are interviews, surveys, and questionnaires. More than half of the respondents (21 and 19 respondents, respectively) use these methods, which are relatively easy to implement and more familiar, especially among SMEs. In addition, observing customers in their daily lives plays a vital role in supporting innovation processes. More than 40 per cent of companies engaged in customer-centric innovation (and who answered this question) use the observation method. Brainstorming was reported by more than a quarter of respondents. Field trials, in which products and/or services are tested under actual conditions, account for the same proportion. Seven companies use test groups to explore and incorporate the opinions and experiences of their customers. The sectoral breakdown of companies shows a different picture of the most common methods so that no clear conclusion can be drawn regarding the specifics of the sector.

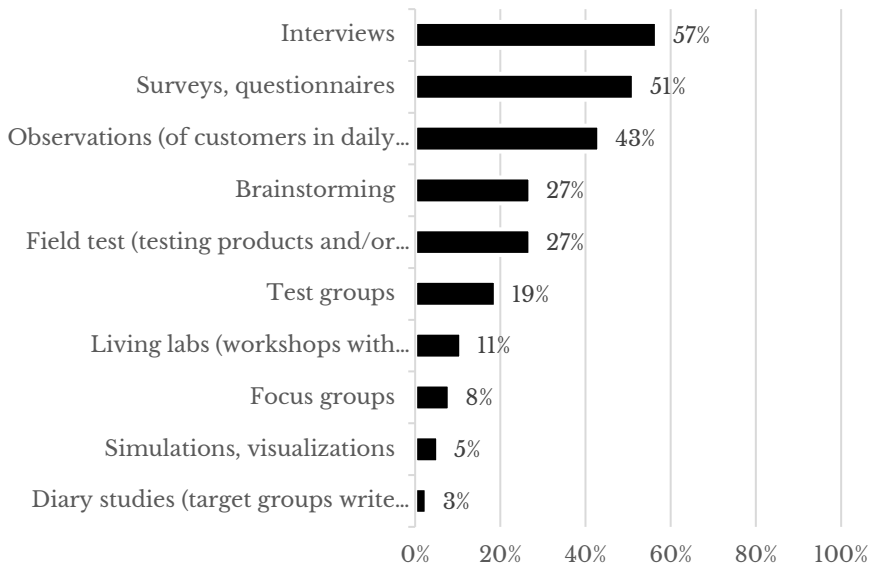


Figure 3: What methods are used in your company for involving customers in innovation processes?

Source: own construction

We also found no significant differences in the frequently used methods concerning company size. Less frequently used methods of customer engagement include:

- Living Labs (working with customers in the company's labs and workshops): Four companies use this method to engage customers. Two companies are in manufacturing, and two are in education. Three companies have over 250 employees, and the fourth has 10 to 50 employees. This method is typical of larger companies. Each company has been in business for more than five years.

- Focus groups: Three companies use this method to attract customers. One company is in manufacturing, one in education, and one in other services. Two companies have more than 250 employees, and one has fewer than ten employees. This method is also more typical for larger companies. All three companies have been operating for more than five years.

- Simulations and visualizations: Only two companies use this method to target customers. One company is in the construction industry, the other in education. One

company has more than 250 employees, and one has 51-250 employees. This method is also more typical for larger companies. Both companies have been operating for more than five years.

- Diary search: (target groups are asked to write their experiences with products and/or services in a pre-structured online diary): Only one company uses this method to target customers. The Danish company is active in the field of education. The company has over 250 employees and has been operating for over five years.

Although no general conclusions can be drawn, our survey results suggest that more complex, organized customer engagement solutions are more likely to be used by large and medium-sized companies and more mature companies. Companies involve their customers mainly in the brainstorming phase, and the further we progress in the innovation process, the more this value decreases.

The research also dealt with companies' digital communication channels to communicate and engage with their consumers. Respondents could also tick simultaneously several of the digital communication channels used. The highest percentage was indicated for the use of email (sixty-five out of seventy-seven respondents). The email was followed by the use of social media (thirty-two out of seventy-seven respondents). In addition, online advertising, an interactive website, and Q&R are popular (more than 20 per cent). Using novel tools such as chatbots, support teams, or gamification tools is present but in a low percentage (Figure 4). Identifying a clear pattern based on company size in using the tools is impossible.



Figure 4: What (digital) communication channels does your company use?

Source: own construction

The experiences of the best practices also show that the most common methods of reaching customers are interviews, surveys and questionnaires, which are relatively easy to implement and more familiar, especially among SMEs. Companies increasingly use digital communication channels to communicate and reach customers. The use of email has the highest share, followed using social media (Facebook, Instagram, Pinterest, Twitter, YouTube). In addition, online advertising (Google ads, Instagram ads), an interactive website and Q&R are often mentioned. Using novel tools such as chatbots, support teams, or gamification tools is present but in a low percentage.

In some areas where customised and personalised products are more vital, or for smaller companies, face-to-face encounters can be the most inspiring product development method, along with online and traditional offline methods.

Soliciting customer feedback is not innovation per se. Another important step is when the consumer opinions and experiences received are incorporated into product/service development or to make operational processes more efficient. With custom, personalised products, it is often the case that a product, proven shape, design, or technical solution for a customer is later incorporated into the broader product line, leveraging their experience. Getting to know the consumers and their behaviours,

habits, needs and preferences, and the increasingly conscious use of information is a crucial element of the marketing strategy. A higher level of using the information collected from customers is the use of digital methods, such as data analysis or the use of algorithms and applications, to identify consumers and their preferences better and personalise and target marketing communications. Some companies use multiple methods to target their consumers, combining offline and online methods. Although no general conclusions can be drawn, our survey results show that more complex, organised solutions for reaching customers are more likely to be used by large and more mature companies. An important question is whether companies categorise customers by their needs or expertise when engaging them in innovation. This is an essential question because different types of customer feedback and experiences can be included. In the product development process, different types of information can be gathered from lay customers and professional users. Both types of information are beneficial.

6.24.3 Benefits and Barriers of Customer-centric Innovation

The survey examined the nature and extent of the benefits that companies derive from adopting customer-centric innovations. The available benefits are divided into five main groups:

- Financial benefits (increased sales, profitability, cost reduction).
- Growing operational effectiveness (increased sales volume, product and service portfolio, productivity, product and service quality, speed and reliability of communication and transactions, positive change in business model and practises).
- Market benefits (increased number of customers and potential customers, market position, market share, penetration of new markets, global trade, geographic expansion, business linkages, competitiveness).
- Increased customer satisfaction (better understanding and responsiveness to customer needs, customised/adapted product development, better and faster communication with customers).

- Improved corporate image, reputation.

Respondents could rate on a Likert scale of one to five the extent to which their company has benefited from each of the advantages through introducing customer-focused innovations. The numerical values have the following meaning: 1: not beneficial, 2: slightly beneficial, 3: somewhat beneficial, 4: moderately beneficial, 5: strongly beneficial. For each advantage, 34-36 ratings were given. The arithmetic mean of these responses is shown in Figure 5.

By introducing customer-centric innovations, companies gained an advantage in all areas, albeit varying degrees. The lowest mean score was 2.97, meaning somewhat beneficial. The companies saw the most significant (medium) benefit in increased customer satisfaction, which is associated with an image gain for the company. There is a lower benefit on the financial side and in terms of their operational efficiency. Accordingly, they have been less able to monetize the results of innovations involving customers. However, customer satisfaction and company reputation improvements pay off financially in the long run.

When we examine the realization of benefits by company size, the benefits occurred to varying degrees in each size category. Thirty-six companies responded to this question: twenty were micro companies, six were small companies, three were medium companies, and seven were large companies. Generally, a value between 3 and 4 was found in most cases, indicating a slight to medium advantage. Financial benefits and operational efficiency benefits were the least perceived by the companies. On average, large companies achieved more significant benefits in all areas due to their customer-oriented innovations. On the other hand, the benefits were perceived as below average for the small companies surveyed in almost all cases. Micro companies were closer to the mean, unsurprising since they were overrepresented in the sample. In most cases, the benefits to the market were highlighted by the companies when presenting their practices. Through consumer engagement, the products/services offered by the company increasingly meet consumer needs, which increases consumer satisfaction and brand loyalty, strengthens the company's market position and increases the number of customers and sales. Positive feedback from other customers can motivate new customers and build confidence in the product/service and the company itself. Social media's positive effects can be both direct and indirect. In addition to market benefits, a company can increase operational efficiency by learning about and taking advantage of

consumer feedback. However, the benefits of market and operational efficiency are also realized in the long term in financial benefits.

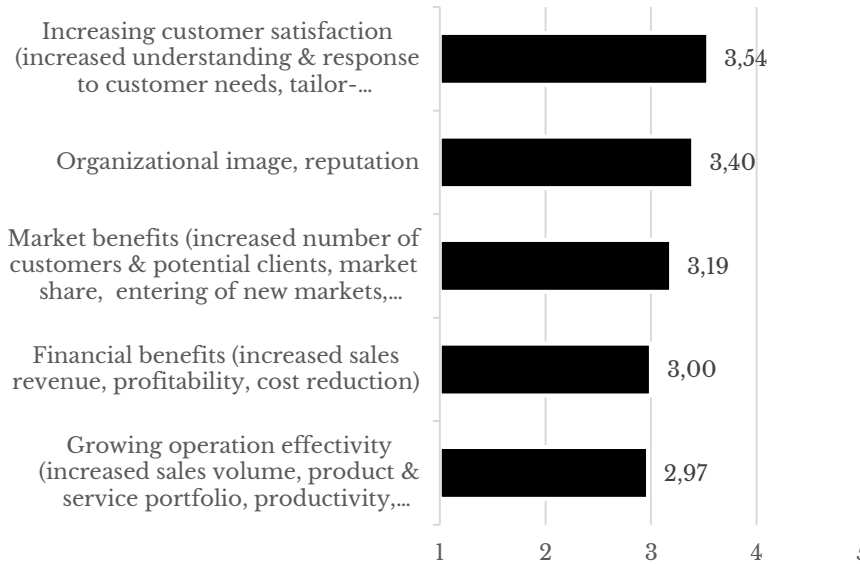


Figure 5: To what extent have customer-centred innovation measures brought benefits?

Source: own construction

When implementing customer-centric innovations, companies face several difficulties in engaging customers. Engaging customers is time and resource-consuming (infrastructure, technology, IT, human resources and financial resources are necessary). Identifying customers who can contribute innovative ideas during the innovation process takes time and effort. Based on the responses of the thirty-five companies, the most significant difficulty is the time required and the need for financial resources (Figure 6). This suggests that getting to know consumer opinions and engaging consumers is primarily a matter of time and money. More than half of the companies had difficulty with both of these factors. This is probably related to the fact that in SMEs, human resources are scarce; there is no one person in the company to deal with this separately. Moreover, hiring another employee would involve additional costs for them. Identifying consumers with innovative ideas and technical and infrastructural requirements was not difficult for the responding companies.

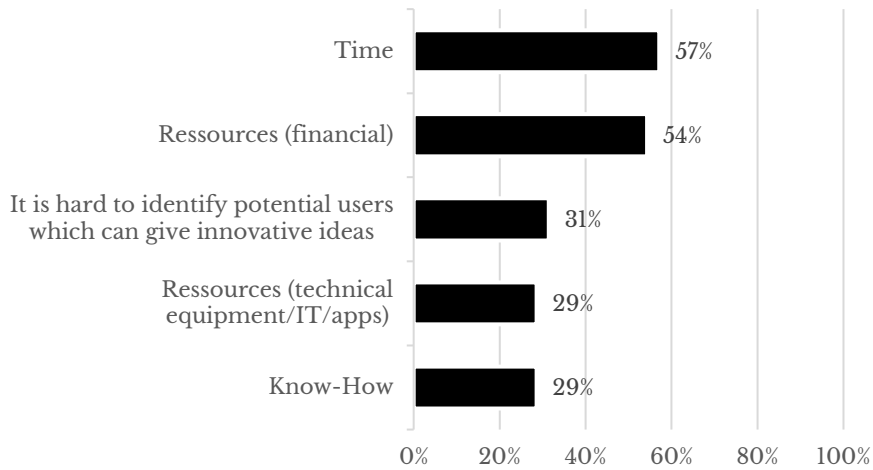


Figure 6: What are the major challenges when you involve customers in the innovation process?

Source: own construction

In addition to these difficulties, companies face the problem that their customers are not motivated enough to provide feedback to the company. Increasing the willingness to provide feedback is essential to encourage consumers. One such tool is to build on consumers' emotions. (See, for example, Gaia's motto, "We want to learn from you", or developing a sense of "belonging to a community.") Another way to encourage consumer feedback is to create a financial interest among consumers, for example, by introducing coupons, vouchers, giveaways, idea contests or customer loyalty programs, or even by securing a revenue share for the best ideas.

Finally, the study examined what companies see as the main barriers to adopting customer-centric innovation supported by digital tools. The barriers were categorised into six broad groups:

- Financial barriers (high cost and investment requirements regarding hardware, software, networks, training and organisational change).
- Unclear return on investment (challenging to measure added value, lack of objective information about the benefits and costs of ICT, too much risk).

- Lack of information, knowledge and digital skills (lack of professional human resources).
- Lack of corporate resources (lack of appropriate knowledge-based assets, technological capabilities).
- Lack of confidence in using ICT (risks in protecting intellectual property and digital rights. Problems with digital security and data protection).
- Lack of ICT culture in the company.
- Lack of willingness of our target group to use digital tools.

Respondents could rate on a Likert scale of one to five the extent to which each factor hindered the implementation of customer-centric innovations. The numerical values have the following meaning: 1: No challenge. 2: Slightly challenging. 3: Somewhat challenging. 4: Moderately challenging. 5: Severely challenging. For each obstacle, 34-35 ratings were given. The arithmetic mean of these responses is shown in Figure 7.

It is encouraging that implementing customer-centric innovations supported by digital tools has not encountered significant barriers in almost any area. For respondents, lack of digital skills and knowledgeable professionals was the most aggravating factor, but they received an average score of 3.26, representing a moderate challenge. Financial and resource barriers followed in order of strength. These results confirm our expectations.

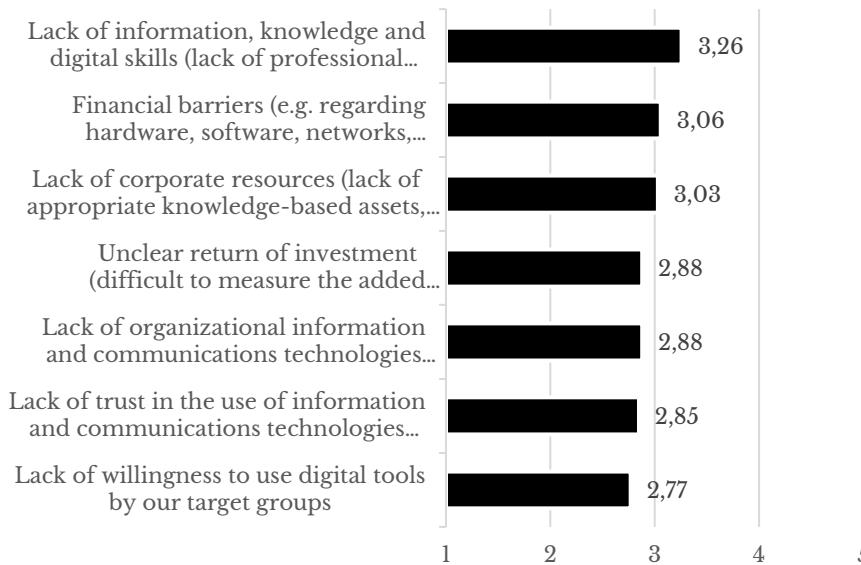


Figure 7: To what extent is your company facing different barriers in regard to customer-centred innovation using digital technologies and tools?

Source: own construction

In many cases, SMEs face the problem of insufficient resources and funding. Uncertainty about the return on investment, the ICT culture in the company, distrust of digital solutions and customer acceptance of digital solutions were less of a problem for the responding companies. Differences in perceived barriers by company size were examined. Thirty-six companies responded to the question: twenty were micro companies, six were small companies, three were medium companies, and seven were large companies. Generally, a value between 2-3.6 can be found in most cases, representing a small to medium value in evaluating challenges. Surprisingly, large companies in all areas had more significant challenges on average in implementing customer-centric innovations. These challenges were also perceived better by very small-sized companies, which was also to be expected. Small and medium-sized companies were more likely to view the challenges positively.

6.25 Conclusion

Based on the questionnaire survey and the best practices results, we can conclude that small and medium enterprises operating in different industries use different methods to engage customers in customer-centric innovation. Relatively simple engagement methods, such as questionnaires, surveys, group or in-depth interviews, product career tracking, social media tools, various loyalty programs, or community-based experience meetings, are widely used. According to the questionnaire surveys and best practices collection, more than fifty per cent of responding companies use these methods. While more severe customer engagement methods used for customer innovation, such as simulations, living labs, and diary studies, are used by only a few companies where the scope of activities also relies on more advanced technologies. We draw the following conclusions and recommendations:

- ✓ Customer-centric innovation can be applied to companies regardless of their size. There are many ways to involve customers in innovation processes, from simple to more complex, expensive solutions. Even the smallest companies can find the proper and accessible methods.
- ✓ Customer-centric innovation can be successfully applied in almost any sector. We have found many examples of customer engagement and successful innovation from manufacturing companies to service providers. Customer-centric innovation can be easily created in high-tech sectors or areas with customised products.
- ✓ There are several ways to capture customers' opinions/experiences/needs. Using digital solutions, social media platforms, and data analysis tools makes it much easier to collect and process customer feedback.
- ✓ Consciously getting to know customer feedback and accurately identifying customers and their needs helps develop a marketing strategy and product innovations.
- ✓ Getting to know customer feedback is not per se a customer-centric innovation. The knowledge and experience gained in this way must be integrated into the product development process to speak of innovation.

- ✓ The lack of motivation and interest on the part of customers in feedback makes it difficult to create customer-centric innovations. Increasing the willingness of customers to provide feedback and create motivation could be done, for example, by creating a "sense of community," influencing customers' emotions, or creating financial interest among customers, e.g., through coupons, discounts, loyalty programs, and idea contests.
- ✓ Through customer-centric innovation, companies can achieve a range of benefits that directly impact market position and operational efficiency and bring longer-term financial benefits to businesses.
- ✓ SMEs need to learn more about customer-centric innovation and the digital capabilities that support it. For this reason, there is a great need for training that develops SMEs' knowledge and skills in this area.
- ✓ SMEs are quick and efficient in communication and have good informal contacts, but may need more time and resources, which prevents them from building an adequate science and technology network. Building and developing these networks and involving SMEs can go a long way toward overcoming time and resource constraints.
- ✓ The innovation advantage of SMEs is that they can employ technical staff in several company departments. At the same time, however, they often lack core technical knowledge (it may be necessary to use external technical specialists) and miss out on the benefits of diversifying research and development.
- ✓ From a financial perspective, SMEs can have lower innovation costs and higher R&D efficiency. At the same time, they face the risk of being unable to spread the high financial risks of innovation over several areas of activity, the difficulties of accessing external capital and the high risk of the cost of capital.
- ✓ A significant advantage for SMEs is that the regulations that apply to them are often less stringent. However, even then, they often need help to deal with regulatory complexity, and high adaptation and patenting costs mean difficulties.
- ✓ Many government programs support the innovation activities of small and medium-sized enterprises, although access to government programs and

information can often be tricky. Due to high costs, they may also need help with collaborative programs.

- ✓ One of the vital innovation advantages of SMEs is their ability to learn, adapt and develop routines quickly.
- ✓ SMEs' generally simple and centralized, organic form should also be counted among their innovation advantages.
- ✓ SMEs can be attractive partners for innovation-oriented joint ventures/strategic alliances, especially if they are technological leaders. However, their limited management experience and subordinate position of power are disadvantages when they cooperate with large companies in this respect.

The conclusions of our study have their limitations. Comparing the results in a stratified way (for example, by country, company size or economic sector) is not possible based on the currently available data. The sample size is minimal ($n = 95$ companies). Subdividing the sample into subsamples would significantly reduce the number of responses. Drawing reliable and accurate conclusions would be impossible, and the results would contain an unacceptably extensive (sampling) error. Since the data collected during the fieldwork cannot be considered representative, the findings obtained during the data analysis cannot be generalised, i.e. the results are valid only for the sample.

6.3 Digital Centric Innovation in Denmark¹⁹

6.31 About Denmark

Denmark is a country located in northern Europe, bordered by the North Sea to the west, the Baltic Sea to the east, and Germany to the south. Its capital city is Copenhagen, and the country has a population of approximately 5.8 million people.



Denmark is known for its high quality of life, strong social welfare system, and progressive values. It is a constitutional monarchy, with a parliamentary democracy and a

¹⁹ Prepared by Michael Christiansen, International Business College, Denmark

mixed economy that is heavily reliant on international trade. The country is also recognized for its innovative design and architecture, as well as its contributions to science, literature, and the arts.

Some of the most famous landmarks in Denmark include the Little Mermaid statue in Copenhagen, the Viking Ship Museum in Roskilde, and the ancient ruins at Jelling. The country is also renowned for its cycling culture, with many people using bikes as their primary mode of transportation.

6.32 Politics in Denmark

Denmark has a parliamentary democracy, which means that the government is elected by the people through a system of proportional representation. The Danish political system is characterized by a strong tradition of consensus-based decision-making, with most major policy decisions being made through negotiations and compromises between different political parties.



The Danish Parliament is called the Folketing, and it has a single chamber with 179 members who are elected for a term of four years. The government is headed by a Prime Minister, who is appointed by the monarch and is usually the leader of the largest political party or coalition of parties in the Folketing.

Denmark has a multi-party system, with a number of political parties represented in the Folketing.

The political system of Denmark is known for its strong focus on social welfare and progressive values, with policies that support universal healthcare, free education, and a strong social safety net. The country also has a strong commitment to environmental sustainability and is a leader in renewable energy production.

Denmark has a mixed economy that combines a thriving private sector with a strong welfare state. The country has a highly developed and technologically advanced economy with a high standard of living for its citizens. Denmark is a member of the European Union, but it has opted



out of the euro currency and maintains its own currency, the Danish krone.

Denmark has a modern and diversified economy with a strong focus on exports. Key industries in Denmark include pharmaceuticals, renewable energy, shipping and logistics, and food and agriculture. The country is also home to a number of multinational corporations such as Maersk, Novo Nordisk, and Carlsberg.

The Danish economy is characterized by a high degree of income equality and a strong social safety net. Denmark has a progressive tax system that funds a wide range of social programs, including universal healthcare, free education, and generous unemployment benefits.

Despite its relatively small size, Denmark has a highly developed infrastructure and a well-educated workforce. The country ranks consistently high on global measures of economic competitiveness, innovation, and business-friendly policies.

6.33 The Economy in a Danish Family

The economy of a normal Danish family can vary depending on a number of factors such as income, family size, and location. However, in general, most Danish families have a comfortable standard of living with access to basic necessities such as housing, healthcare, education, and transportation.

Denmark has a strong welfare state with a progressive tax system, which means that families with lower incomes may receive support through a range of social programs such as subsidized housing, free healthcare, and child allowances. Additionally, all Danish citizens have access to free education, including higher education.

The cost of living in Denmark can be relatively high compared to some other countries, particularly in terms of housing and food prices. However, most Danish families have access to a range of goods and services that enable them to maintain a good quality of life. Many families also have access to private healthcare and education, which can be costly but often provide additional benefits and higher quality services.

Overall, the Danish economy and social welfare system aim to provide all citizens with a basic standard of living and opportunities for personal and professional growth, regardless of their socio-economic background.

6.34 Socio-economy in Denmark

Denmark has a well-developed and highly developed socio-economy with a strong focus on social welfare and equality. Denmark has a high standard of living, low levels of income inequality, and a robust social safety net. Some key features of the Danish socio-economy include:

Strong social welfare system: Denmark has a comprehensive social welfare system that includes universal healthcare, free education, generous parental leave, and a wide range of social benefits such as unemployment and housing assistance.

Progressive taxation: Denmark has a progressive tax system, which means that higher earners pay a larger proportion of their income in taxes than lower earners. The revenue from these taxes is used to fund the country's social welfare programs.

High levels of income equality: Denmark has one of the lowest levels of income inequality in the world, with a Gini coefficient of 0.24 (as of 2020). This means that income is distributed relatively evenly among the population.

Strong labor protections: Danish workers enjoy strong labour protections, including collective bargaining agreements and a high minimum wage. The country has a relatively low unemployment rate, and workers are entitled to paid sick leave, paid vacation, and other benefits.

Emphasis on work-life balance: Denmark has a strong emphasis on work-life balance, with flexible working hours, generous parental leave, and a relatively short working week. This allows workers to balance their professional and personal lives and contributes to a high quality of life.

Overall, Denmark's socio-economy is characterized by a strong commitment to social welfare, equality, and work-life balance. These factors contribute to a high standard of living and a relatively high level of happiness among the Danish population.

6.35 Technology in Denmark

Denmark has a strong and innovative technology industry, with a particular focus on sustainability and green technology. Denmark has a highly skilled workforce and a supportive business environment that encourages entrepreneurship and innovation. Some key areas of technology in Denmark include:



Renewable energy: Denmark is a world leader in renewable energy production, with a particular focus on wind energy. The country has a goal of achieving 100% renewable energy by 2050 and has made significant progress towards this goal in recent years.

Life sciences: Denmark has a strong life sciences industry, with a focus on pharmaceuticals, biotechnology, and medical devices. The country is home to a number of leading life sciences companies, such as Novo Nordisk and Lundbeck.

Information technology: Denmark has a thriving information technology industry, with a focus on software development, gaming, and e-commerce. The country is home to a number of successful tech startups, such as Zendesk, Unity, and Trustpilot.

Robotics and automation: Denmark is a leader in robotics and automation, with a particular focus on industrial robots and autonomous systems. The country has a number of companies that specialize in robotics, such as Universal Robots and Mobile Industrial Robots.

Smart cities: Denmark has a strong focus on developing smart cities that leverage technology to improve efficiency, sustainability, and quality of life. The country has implemented a number of smart city initiatives, such as Copenhagen's Intelligent Traffic System and Aarhus' Smart City Lab.

Overall, Denmark's technology industry is characterized by innovation, sustainability, and a focus on improving quality of life. The country's supportive business environment, highly skilled workforce, and commitment to research and development have helped to make it a global leader in many areas of technology.

6.36 How Digital are the Companies in Denmark?

Denmark is one of the most digitally advanced countries in the world, and many companies in Denmark have embraced digital technologies to drive innovation and growth.



Digital transformation is a key focus for many Danish companies, as they seek to leverage digital technologies to improve business operations, enhance the customer experience, and create new products and services. Many companies have invested in digital infrastructure and systems, such as cloud computing, data analytics, and artificial intelligence, to support their digital transformation efforts.

The use of digital technologies is particularly prevalent in industries such as e-commerce, financial services, healthcare, and transportation. Many Danish companies in these industries have created digital platforms and services that enable customers to easily access products and services, make transactions, and interact with companies.

The Danish government has also played a key role in driving digital transformation, with initiatives such as the Digital Growth Strategy, which aims to support digital innovation and growth across all industries. The government has also invested in digital infrastructure, such as high-speed internet and mobile networks, to support the growth of digital businesses.

Overall, companies in Denmark are highly digital and continue to invest in digital transformation to drive innovation and growth. The country's strong digital infrastructure, supportive business environment, and focus on innovation have created a fertile ground for digital businesses to thrive.

Danish citizens are among the most digitally connected in the world, with high levels of internet and mobile phone penetration, and a strong culture of using digital technologies in everyday life.

According to data from the World Bank, 98% of Denmark's population had access to the internet as of 2021, one of the highest rates in the world. The country also has a highly developed mobile phone network, with widespread adoption of smartphones and mobile internet access.

Danish citizens use digital technologies for a wide range of purposes, from online shopping and banking to social media and entertainment. The use of digital technologies is particularly prevalent among younger generations, with studies showing that 98% of Danish teenagers use social media, and 90% use messaging apps such as WhatsApp and Snapchat.

In addition to consumer uses, digital technologies are also increasingly used in healthcare, education, and government services in Denmark. The country has a well-developed e-government system, which enables citizens to access a wide range of government services online, from applying for passports to paying taxes.

Overall, Danish citizens are highly digital, with widespread adoption of internet and mobile technologies, and a culture of using digital tools in everyday life. The country's strong digital infrastructure, supportive policies, and focus on innovation have helped to drive digital adoption and transformation across all sectors of society.

The Danish education system has embraced digital technologies to varying degrees, depending on the level of education and the specific school or institution.

At the primary and secondary levels, many Danish schools have integrated digital technologies into their teaching practices, such as the use of digital textbooks and educational apps, and the use of digital tools to support student collaboration and engagement. Many schools also have computer labs and other digital resources available for student use.

At the higher education level, many Danish universities and colleges have made significant investments in digital technologies to support teaching and learning. This includes the use of digital learning management systems, online learning platforms, and video conferencing tools to support remote learning.

In addition to digital technologies used for teaching and learning, the Danish education system has also embraced digital technologies for administrative purposes. Many schools and universities use digital systems to manage student records, admissions, and other administrative functions.

Overall, while the Danish education system has made significant strides in adopting digital technologies for teaching, learning, and administration, there is still variability in



the extent to which individual schools and institutions have fully integrated these technologies into their practices. However, Denmark has a strong focus on innovation and digital transformation is likely to continue to drive increased adoption of digital technologies across the education system.

6.37 The Work Force in Denmark

The Danish workforce is highly skilled, well-educated, and productive. The country has a strong tradition of education and vocational training, and most workers have completed some form of post-secondary education or training.

The workforce is also highly unionized, with around 70% of workers belonging to a trade union. This has helped to ensure strong labour protections and a high level of collective bargaining.

Denmark has a relatively low unemployment rate compared to other countries, and there are a range of job opportunities available across a number of different sectors. Some key sectors of the Danish economy include healthcare, information technology, renewable energy, and agriculture.

The Danish workforce is also characterized by a strong work-life balance. Many companies offer flexible working hours, generous vacation time, and parental leave. This has helped to create a culture that values both professional success and personal well-being.

Overall, the Danish workforce is highly skilled, productive, and committed to achieving a balance between work and personal life. These factors contribute to a strong and dynamic economy that is well-positioned to succeed in a rapidly changing global marketplace.

6.38 The Danish Education System in Headlines

The Danish education system is highly regarded and known for its emphasis on equality, flexibility, and student-centred learning. It is designed to provide students with a broad range of skills and knowledge that prepares them for success in higher education and the workforce.



The education system in Denmark is divided into three main levels: primary education, secondary education, and higher education.

Primary education: Primary education is compulsory for all children in Denmark and is free of charge. It consists of nine years of schooling, starting at the age of six. Primary education is focused on providing students with a solid foundation in core subjects such as mathematics, Danish language, and social studies.

Secondary education: Secondary education is divided into two main types: vocational education and general education. Vocational education is designed to prepare students for specific careers, while general education is focused on preparing students for higher education. Both types of education are free of charge, and students can choose from a wide range of subjects and study programs.

One type of vocational school in Denmark is the business school, which offers a range of vocational education programs in fields such as construction, mechanics, transportation, hospitality, and health care. These programs typically combine classroom instruction with hands-on training and apprenticeships and are designed to prepare students for careers in specific industries.

Another type of vocational school in Denmark is the technical school, which provides education and training in technical and engineering fields such as electronics, IT, and automation. These programs often include opportunities for internships and work-based learning and are designed to equip students with the practical skills and knowledge needed for technical careers.

Overall, Denmark has a well-developed system of vocational and technical education that provides students with practical skills and training for a range of careers in different industries.

Higher education: Higher education in Denmark is free of charge for all students, both Danish and international. There are a range of institutions offering programs in a variety of subjects, including universities, university colleges, and art and design schools. The education system is characterized by a high level of student autonomy and emphasis on critical thinking and problem-solving.

Overall, the Danish education system is highly regarded for its focus on student-centered learning, flexibility, and emphasis on equality. It provides students with a broad range of skills and knowledge that prepares them for success in higher education and the workforce.

6.39 A Description of the Level of Innovation in Denmark

Denmark is known for its strong culture of innovation and entrepreneurship. Denmark is consistently ranking highly in international rankings of innovation and has a well-developed ecosystem that supports the development and growth of innovative businesses.



Some key factors that contribute to the high level of innovation in Denmark include:

Strong research and development: Denmark has a strong tradition of research and development, with a focus on science, engineering, and technology. The country invests heavily in research and development and has a number of world-class research institutions.

Entrepreneurial culture: Denmark has a strong culture of entrepreneurship, with many successful startups and small businesses. The country has a supportive business environment that encourages innovation and risk-taking.

Government support: The Danish government provides a range of support and funding opportunities for innovative businesses, including grants, loans, and tax incentives.

Skilled workforce: Denmark has a highly skilled and educated workforce, with a focus on STEM (science, technology, engineering, and mathematics) education. This has

helped to create a pool of talented individuals who can contribute to the development of innovative businesses.

Sustainability focus: Denmark has a strong focus on sustainability and green innovation, which has led to the development of a number of successful sustainable businesses.

Overall, Denmark is a highly innovative country with a strong culture of entrepreneurship and a supportive business environment. The country's focus on research and development, skilled workforce, and government support contribute to a thriving ecosystem for innovation and business growth.

6.40 The Culture of Innovation in Denmark

Denmark is known for its strong culture of innovation, which is fostered by a number of factors. Some of the key aspects of the culture of innovation in Denmark include:



Collaboration: Denmark has a strong tradition of collaboration across different sectors, including academia, industry, and government. This collaboration helps to facilitate the exchange of ideas and knowledge, and to bring together different perspectives and skill sets.

Entrepreneurial spirit: Denmark has a high level of entrepreneurial activity, with many start-ups and small businesses emerging each year. This is due in part to the supportive ecosystem for entrepreneurs, which includes funding, mentorship, and networking opportunities.

Design thinking: Denmark is known for its emphasis on design thinking, which involves a human-centred approach to problem-solving. This approach values empathy, creativity, and experimentation, and encourages individuals to take a holistic view of problems and to consider multiple perspectives.

Education and research: Denmark has a strong focus on education and research, with a high level of investment in these areas. This helps to develop the skills and

knowledge needed for innovation, and to ensure that Denmark remains at the forefront of technological and scientific advances.

Sustainability: Denmark is committed to sustainability and has made significant strides in areas such as renewable energy and green technology. This focus on sustainability has helped to drive innovation in these areas, and to position Denmark as a leader in the global transition to a more sustainable future.

Overall, the culture of innovation in Denmark is characterized by a commitment to collaboration, entrepreneurship, design thinking, education and research, and sustainability. These factors have helped to create a supportive environment for innovation and have contributed to Denmark's reputation as a hub of innovation and creativity.

6.41 Customer-centric Innovation in Denmark

Customer-centric innovation is an approach to innovation that places the needs and preferences of customers at the centre of the product or service development process. In Denmark, customer-centric innovation is a key focus for many businesses and organizations.

One of the reasons for the focus on customer-centric innovation in Denmark is the country's strong tradition of design and user experience. Danish companies have a reputation for creating products and services that are not only functional and high-quality, but also intuitive, user-friendly, and aesthetically pleasing.

Another reason for the focus on customer-centric innovation in Denmark is the country's strong culture of collaboration and co-creation. Many Danish companies work closely with customers and other stakeholders throughout the product development process, using feedback and insights to drive innovation and improve the customer experience.

Finally, the focus on customer-centric innovation in Denmark is also driven by the country's strong digital infrastructure and high level of technological development. This has created opportunities for businesses to leverage data and digital technologies to better understand customer needs and preferences, and to create more personalized and tailored products and services.

Overall, customer-centric innovation is an important focus for many businesses in Denmark, driven by the country's strong design culture, collaborative approach to innovation, and high level of technological development. By placing the needs and preferences of customers at the centre of the innovation process, businesses in Denmark are able to create products and services that are not only innovative and high-quality, but also meet the evolving needs and expectations of their customers.

6.42 Four Types of Digital Workers

Digital employees offer companies advantages, but there are also drawbacks. Digital employees can also be used to provide consistent service and help people share sensitive information.

1. Virtual agents are for specific, one-time tasks. They provide many of the same benefits as chatbots but have a human-like appearance. Companies could use them as sales agents or for trainings. The University of Southern California's Keck School of Medicine is researching how virtual agents could help future health care professionals practice identifying symptoms and medical conditions.

2. Virtual assistants also help people with specific tasks, but similar to voice control assistants like Alexa and Siri, the relationship with the user is ongoing. The researchers point to Digital Domain as an early pioneer with this technology. The company is developing digital assistants for Zoom that could take notes during a meeting, provide a summary and arrange schedules. Other potential applications include personal shopping and physical therapy.

3. Virtual influencers are similar to human influencers on social media. They promote brands and fashion trends by posting photos and video. Described as a 19-year-old robot living in LA on Instagram, Miquela (formerly Lil Miquela) has 2.8 million followers. The virtual influencer was featured in ads for Prada and a campaign with Calvin Klein, and currently has a deal with Pacsun, the teen retailer.

4. Virtual companions provide emotional support and form personal relationships with the user. The researchers see this developing technology as having the greatest impact in elder care by reducing loneliness and helping people stay in their homes

longer. Along with reminding people when they need to take their medications or go to a doctor's appointment, virtual companions will have the ability to carry conversations and show empathy.

Currently, virtual agents are the most prevalent of the four types of digital humans, but we believe the digital human's fullest potential is as a virtual companion.

The researchers provide a flow chart in their article to help individual companies decide whether digital humans are the right choice. Questions include: Is there an emotional element to the interaction? Are users unsure of what they want? In many scenarios, using other technology offer better options.

6.43 Online Shopping in Denmark

Online shopping is very popular in Denmark, and the country has one of the highest rates of e-commerce adoption in the world. According to data from the European Union, in 2020, 80% of Danish consumers had made an online purchase within the past year, compared to an EU average of 60%.



Danish consumers shop online for a wide range of products, from clothing and electronics to food and groceries. Many retailers in Denmark have developed strong e-commerce capabilities, with online stores and mobile apps that enable customers to browse and purchase products with ease.

The high level of online shopping in Denmark is supported by a strong digital infrastructure, with high-speed internet and mobile networks that enable fast and convenient online transactions. The country also has a well-developed logistics network, with efficient delivery and returns processes that make online shopping more convenient for consumers.

The COVID-19 pandemic has further accelerated the growth of e-commerce in Denmark, as consumers have turned to online shopping in greater numbers due to social distancing measures and store closures.

Overall, online shopping is very popular in Denmark, and the country's strong digital infrastructure and e-commerce capabilities have made it a leader in the field of e-commerce adoption.

6.44 Digital Pay in Denmark

Danes use digital payment methods for a wide range of transactions, from online shopping and bill payments to peer-to-peer transfers and in-store purchases.



Mobile payments are particularly popular in Denmark, with a range of mobile payment apps available that enable users to make payments using their mobile phones. MobilePay, developed by Danske Bank, is the most widely used mobile payment app in Denmark, with over 4 million users as of 2021. Other popular mobile payment apps in Denmark include Swipp, developed by a consortium of Danish banks, and Apple Pay and Google Pay, which are also available in the country.

In addition to mobile payments, Danes also use a range of other digital payment methods, including online banking, credit and debit cards, and digital wallets. Many retailers in Denmark offer online payment options such as Kvanto, PayPal, Klarna, and other payment gateways.

The use of cash in Denmark has been declining in recent years, with many retailers now refusing to accept cash payments. The COVID-19 pandemic has further accelerated the trend towards digital payments, as many consumers have opted for contactless payment methods in order to reduce the risk of infection.

Overall, Danes are highly digital when it comes to payments, and a wide range of digital payment methods are widely available and commonly used.

6.45 The Digital Proficiency Level of Danes

Danes are considered to be highly proficient in social media use and engagement. According to a 2020 report by the Danish Ministry of Culture, 90% of Danish internet users aged 16-74 use social media, and Denmark has one of the highest rates of social media usage in Europe.

Danes are active on a variety of social media platforms, including Facebook, Instagram, LinkedIn, Twitter, and YouTube. In particular, Instagram and LinkedIn are popular among Danish users for both personal and business purposes. Many Danish businesses use social media extensively for marketing and customer engagement, with social media marketing being a common strategy for reaching new customers and building brand awareness.

In addition, Denmark is home to several notable social media platforms and startups, including Trustpilot, a review platform that has gained international recognition, and Endomondo, a social fitness app that allows users to track and share their workouts with others.

Overall, Danes are highly skilled and engaged in social media use, both in terms of personal use and in business contexts.

During this project we produced two short movies which show how we at IBC work and teach with digitalization and innovation.



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