Further training program “Realisation of customer-centred Innovations”

Modul 19 Use tools

Teaching Material 16 Customer-centric innovations supported by digital tools

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Content

Barriers to the introduction of customer-centric innovations supported by digital tools

As part of the project "Digital methods, toolbox and trainings for increasing customer innovation in SMEs" (ICIinSMEs), research and surveys were conducted in the project countries. These led to the following results with regard to customer-centric innovations supported by digital tools.

Finally. it was examined what companies see as key barriers to the introduction of customer-centric innovations supported by digital tools. Obstacles were classified into six major groups:

- Financial barriers (high cost and investment needs regarding hardware. software. networks. trainings. organisational changes)
- Unclear return of investment (difficult to measure the added value. lack of objective information regarding 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 trust in the use of ICT (Risks in protection of intellectual property and digital rights. challenges in terms of digital security and privacy)
- Lack of organizational ICT culture
- Lack of willingness to use digital tools by our target group

Respondents were able to rate on a Likert scale of one to five, the extent to which each factor hindered the implementation of customer-centric innovation. Numeric values have the following meanings: 1: not challenging. 2: slightly challenging. 3: somewhat challenging. 4: moderately challenging. 5: strongly challenging. For each barrier 34-35 ratings were received. The arithmetic mean of these responses is shown in Figure 18.

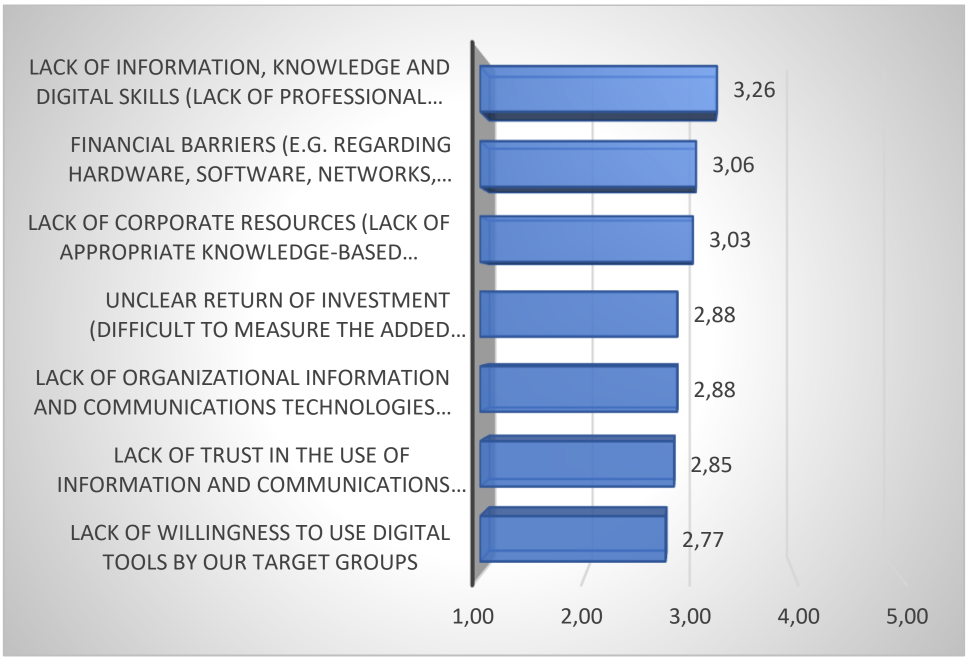

Figure 18 Barriers to the customer-centric innovations (arithmetic mean of the answers in a 1 to 5 Likert scale)

It is an encouraging result that the implementation of customer-centric innovations supported by digital tools has not encountered any significant obstacles in almost any field. For respondents the lack of digital skills and knowledgeable professionals was the most aggravating factor, but received an average score of 3.26, which is a less than moderate challenge. Financial and resource barriers followed in the order of their strengths. These results confirmed our expectations. In many cases, SMEs face with the problem of insufficient resources and financial resources. Uncertainty on return on investment, organizational ICT culture, mistrust of digital solutions, and customer acceptance of digital solutions were less problematic among responding companies.

The difference in perceived barriers by firm size were examined (Table 11). Thirty-six companies answered the question, of which twenty were micro-enterprises, six small enterprises, three medium-sized enterprises, seven large enterprises.

In general, in most cases a value between 2-3.6 can be found, which is a small to medium value in judging the challenges. The colours in the table mean: green: below average, yellow: around average, red: above average. Based on this, surprisingly, it appears that large companies in all areas have on average faced greater challenges in implementing customer-centric innovations. These challenges were also better perceived by micro-enterprises, which in turn could be expected. Small and medium-sized companies were more positive about the challenges.

Table 11 Barriers to the customer-centric innovations by size of the company (arithmetic mean of the answers in a 1 to 5 Likert scale)

	less than 10	10-50	51-250	more than 250
Lack of information. knowledge. and digital skills (lack of professional human resources)	3.44	2.67	3.00	3.43
Financial barriers (e.g.. regarding hardware. software. networks. trainings. organisational changes)	3.26	2.50	2.67	3.14
Lack of corporate resources (lack of appropriate knowledge-based assets. technological capabilities)	3.22	2.17	2.33	3.57
Unclear return of investment (difficult to measure the added value. lack of objective information regarding the benefits vs. the costs. too much risk)	3.11	2.00	2.33	3.29
Lack of organizational information and communications technologies culture	2.94	2.67	2.33	3.14
Lack of trust in the use of information and communications technologies (risks regarding protection of intellectual property and digital rights. challenges in terms of digital security and privacy)	2.89	2.67	2.00	3.29
Lack of willingness to use digital tools by our target groups	2.84	2.83	1.67	3.00

Table 12 Barriers to the customer-centric innovations by countries (arithmetic mean of the answers in a 1 to 5 Likert scale)

	Denmark	Germany	Hungary	Poland
Lack of information. knowledge. and digital skills (lack of professional human resources)	2.86	3.4	3.7	3.75
Financial barriers (e.g.. regarding hardware. software. networks. trainings. organisational changes)	2.71	2.8	3.5	3.4
Lack of corporate resources (lack of appropriate knowledge-based assets. technological capabilities)	2.57	2.8	3.9	2.75
Unclear return of investment (difficult to measure the added value. lack of objective information regarding the benefits vs. the costs. too much risk)	2.43	2.6	3.3	3.25
Lack of organizational information and communications technologies culture	2.29	3	3.8	2.5
Lack of trust in the use of information and communications technologies (risks regarding protection of intellectual property and digital rights. challenges in terms of digital security and privacy)	2.43	3.2	3.5	2.75
Lack of willingness to use digital tools by our target groups	2.57	3.4	3.09	2.75

The obstacles to introduction of customer-centric innovation appeared and/or perceived to different degrees in each country (Table 12). Thirty-six companies answered the question, of which seven companies in Denmark, five companies in Germany, eleven companies in Hungary and five companies in Poland. (A further eight responses were received from four additional countries, which are ignored here.) The green fields in the table indicate below-average values, and the red fields indicate above-average values.

Danish companies faced less challenges in implementing their customer-centric innovations supported by digital devices. (It is true that the benefits were also less perceived.) German and Polish companies faced difficulties more than average and partly less than average. It is important to point out that in the case of Germany the order in which the difficulties are rated is different. Based on the respondents' assessment, consumers' ICT receptivity, lack of trust in ICT solutions, and organizational ICT culture were rather challenging than lack of financial resources, uncertainty of return, or companies' resource supply. The implementation of these innovations was the most challenging for Hungarian companies, they considered the obstacles to be stronger than average in all areas.