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Content

1. Introduction

According to the Green paper – Unlocking the potential of cultural and creative industries (European Comission, 2010): “Cultural industries are those industries producing and distributing goods or services which at the time they are developed are considered to have a specific attribute, use or purpose which embodies or conveys cultural expressions, irrespective of the commercial value they may have. Besides the traditional arts sectors (performing arts, visual arts, cultural heritage – including the public sector), they include film, DVD and video, television and radio, video games, new media, music, books and press. This concept is defined in relation to cultural expressions in the context of the 2005 UNESCO Convention on the protection and promotion of the diversity of cultural expressions. Creative industries are those industries which use culture as an input and have a cultural dimension, although their outputs are mainly functional. They include architecture and design, which integrate creative elements into wider processes, as well as subsectors such as graphic design, fashion design or advertising. “

„With revenues of €535.9b, the creative and cultural industries (CCIs) contribute to 4.2% of Europe’s GDP. The sector is its third-largest employer, after construction and food and beverage service activities, such as bars and restaurants. More than 7m Europeans are directly or indirectly employed in creative and cultural activities — 3.3% of the EU’s active population. Performing arts (1,234,500), visual arts (1,231,500) and music (1,168,000) employ more than 1m people each, followed by advertising (818,000), books (646,000) and film (641,000).” (EY, 2014)

Ceramic and porcelain sector is part of creative and cultural industries, especially in its designing and small-scale production. In some regions, this sector is part of regional cultural heritage. Thus, we are providing desk research information about both ceramic and design sector in this analysis. Some CerDee project partners (museums) are naturally part of cultural industry.

“The estimates concerning the participation of the sector of creative industries in the economy are conducted by a lot of organizations. According to calculations of the European Commission the sector of cultural industries and creative industries in countries as, among others, Poland, the Czech Republic, Hungary or Slovakia produces on average 2% GDP altogether.” (PROMAN, 2016)

“Polish pottery is fascinating in its decorations that are based upon traditional design motifs that are hundreds of years old. This specialty pottery is made in only one location in the world, namely the area around the small historic town of Boleslawiec (pronounced Bol-e-swa-vee-ec), Poland which was first settled in 1202. The town is located in southwestern Poland just 50 miles from the border with Germany. Boleslawiec has been a center for ceramics for over 200 years and many of the pottery shops have been in the same family for generations. When you acquire today’s Polish pottery, you are also getting a unique piece of history and Old World heritage.” (Polish Pottery, n.d.)

Chapter 2 describes the methodology, chapter 3 provides an analysis of the sector based on the secondary data and outputs of our own stakeholder desk research analysis. Chapter 4 uses the primary data from the survey and informs about the results. Chapter 5 summarizes the highlights and defines strengths and weaknesses of the sector in Poland.

2. Methodology

There were few steps to make project CerDee successful. Firstly, it was necessary to analyze the current situation of the ceramic sector in Poland, and international situation of the sector as well, to make exact suggestions how to boost entrepreneurial and creative skills to optimize the economic performance, competitiveness and market position of the creative players. Secondly, use existing data such as official statistics, marketing studies, research reports, strategic documents or scientific publications about market and stakeholders in the region or country.

The situational analysis is worked out using the Eurostat statistical data on a country level as the first step. The data shows the sector of “Manufacture of other porcelain and ceramic products” (NACE C234), which consists of manufacturing ceramic for household and ornamental articles (NACE C2341), manufacturing ceramic sanitary fixtures (NACE C2342), manufacturing ceramic insulators and insulating fittings (NACE C2343), manufacturing other technical ceramic products (NACE C2344), and manufacturing other technical ceramic products (NACE C2349). Following part shows the status and development of Design sector in CerDee countries (NACE M741 - Specialized design activities). However, it is necessary to mention that not only the designers for ceramics and porcelain industry are included in following statistics. Therefore, the results have to be considered as an overview of the whole sector of specialized design activities.

This report describes the situation of overall entrepreneurial capacities in Poland in comparison to other CerDee countries using the following indicators:

- Number of enterprises
- Production value
- Persons employed
- Employees
- Persons employed per enterprise

The second step was to collect primary data from stakeholders of ceramic sector about their expectations and needs. Enterprises representing private sector and students as a part of educational sector are important stakeholders of ceramic industry, but the research also involved public sector, cultural institutions and professional associations. A unique questionnaire was made for each of these groups and the respondents, except the ones from educational sector, were interviewed face-to-face, by telephone, or online by answering the questionnaire on the internet. Students were interviewed mainly online. To research deeply the educational system in ceramic sector, the focus group or qualitative semi-structured interviews with managers, teachers or lecturers could be organized, if needed.

The survey results are used for the analysis of the situation in Poland. The primary data from interviews of stakeholders in ceramics sector were collected and analyzed. The surveys of enterprises and students as potential entrepreneurs are used for the descriptions of the entrepreneurial capacities. Especially, the perceived situation of ceramic sector, trends, level of cooperation, position and stability, educational needs, or marketing activities are analyzed in this report.

This report shows the answers on several questions describing the entrepreneurial capacities situation in Poland based on the opinions of enterprises and students as potential future entrepreneurs:

Questions for enterprises were focused on:

- a situation of ceramic sector within the whole creative sector in your country
- general trend in terms of the ceramic sector/market size

- the cooperation between private and public sector and other institutions
- a membership in an association or organization
- the history of their business
- position and stability of their business
- a cooperation with educational institutions
- employee (self) training
- further education and training
- a need of an international portal about history of ceramics
- marketing activities of the overall craft development in the city/region/country.
- financial situation of their business
- subsidies use

Questions for students were focused on:

- their study direction
- what are they intending to do after you finish school/university
- lack in knowledge/skills you might be facing during your work life
- knowledge/skills they gained at school/university
- What would help them with starting their own business / finding an appropriate job

3. Ceramic and design – secondary data overview

The situational analysis is worked out using the Eurostat statistical data on a country level. First, the Manufacture of porcelain and ceramic products is described. Second, design sector in Poland is introduced. However, it is necessary to mention that not only the designers for ceramics and porcelain industry are included in following statistics.

3.1. Manufacture of porcelain and ceramic products

Table 1 Number of enterprises

GEO/TIME	2010	2011	2012	2013	2014	2015	2016	2017	2018
Austria	153	146	148	156	153	142	137	144	132
Czechia	1 482	1 449	1 392	1 295	1 282	1 257	1 231	1 178	1 180
Germany	780	771	763	760	958	883	723	823	818
European Union	:	13 745	13 400	13 237	13 677	13 142	13 300	13 147	13 764
Italy	2 812	2 696	2 528	2 416	2 284	2 242	2 226	2 198	:
Poland	531	504	476	499	490	513	522	552	697
Slovenia	47	51	50	65	56	58	53	51	53

Source: Eurostat

Table 2 Production value (million EUR)

GEO/TIME	2010	2011	2012	2013	2014	2015	2016	2017	2018
Austria	199.1	195.2	187.1	126.0	210.0	184.6	173.2	185.4	168.5
Czechia	182.9	196.7	201.2	197.6	188.7	198.2	203.4	218.3	227.8
Germany	2 276.7	2 383.5	2 324.0	2 325.4	2 588.9	2 509.5	2 481.6	2 509.2	2 599.3
European Union	:	8 196	8 000	7 694	9 030	8 490	8 609	8 476	8 866
Italy	1 135.5	1 243.1	1 053.4	987.4	1 066.7	901.3	1 029.1	998.9	1 014.8
Poland	612.1	635.8	614.6	626.1	747.9	823.7	904.7	959.7	1 014.7
Slovenia	6.5	7.8	7.9	4.0	1.9	2.0	2.4	3.8	4.4

Source: Eurostat

Table 3 Persons employed

GEO/TIME	2010	2011	2012	2013	2014	2015	2016	2017	2018
Austria	1 480	1 490	1 493	1 215	1 556	1 579	1 496	1 503	1 378
Czechia	5 855	5 660	5 740	5 656	5 630	5 719	5 733	5 647	5 560
Germany	20 874	21 264	21 344	21 333	22 208	21 386	20 803	21 696	21 955
European Union	:	109 144	107 345	105 000	106 763	106 050	105 352	106 785	:
Italy	14 699	14 219	13 471	12 836	11 711	11 166	11 091	10 629	10 671
Poland	12 394	11 669	11 565	11 639	11 762	12 154	12 158	13 285	14 442
Slovenia	296	371	372	175	98	109	92	154	161

Source: Eurostat

Table 4 Employees

GEO/TIME	2010	2011	2012	2013	2014	2015	2016	2017	2018
Austria	1 338	1 355	1 350	1 064	1 407	1 441	1 364	1 364	:
Czechia	4 891	4 705	4 769	4 782	4 737	4 845	4 865	4 771	:
Germany	20 165	20 670	20 600	20 647	21 263	20 536	20 126	20 922	:
European Union	:	98 058	96 506	94 800	95 101	95 155	94 011	95 296	:
Italy	11 087	10 970	10 396	9 874	8 915	8 415	8 368	7 959	:
Poland	11 784	11 169	11 110	11 155	11 313	11 661	11 690	12 786	:
Slovenia	267	339	342	124	53	64	51	115	:

Source: Eurostat

Table 5 Persons employed per enterprise

GEO/TIME	2010	2011	2012	2013	2014	2015	2016	2017	2018
Austria	9.7	10.2	10.1	7.8	10.2	11.1	10.9	10.4	:
Czechia	4.0	3.9	4.1	4.4	4.4	4.5	4.7	4.8	:
Germany	26.8	27.6	28.0	28.1	23.2	24.2	28.8	26.4	:
European Union	:	7.9	:	8.0	7.8	8.1	:	8.1	:
Italy	5.2	5.3	5.3	5.3	5.1	5.0	5.0	4.8	:
Poland	23.3	23.2	24.3	23.3	24.0	23.7	23.3	24.1	:
Slovenia	6.3	7.3	7.4	2.7	1.8	1.9	1.7	3.0	:

Source: Eurostat

The number of enterprises in the industry of Manufacturing porcelain and ceramic products increases since 2014 in Poland. Generally, the number of enterprises increased from 531 enterprises (2010) to 697 enterprises (2018). In 2017, the biggest portion of businesses operates in manufacturing ceramic for household and ornamental articles (443), followed by enterprises manufacturing other ceramic products (55), other technical ceramic products (32), ceramic sanitary fixtures (19), and ceramic insulators and insulating fittings (13). The production value raised rapidly from 614.4 mil. EUR (2010) up to 1014.7 mil. EUR (2018) in Poland. In comparison with other CerDee countries, the production value is comparable with Italy. However, the production value in Poland is created by tree times less number of enterprises than in Italy. The average number of persons employed per 1 enterprise is 24.1 in 2017. The development shows constant development of this indicator between 2010 and 2017. The average number of persons employed per 1 enterprise in Poland (24.1 in 2017) is comparable with Germany (26.4). It shows that bigger enterprises operate in manufacturing ceramics and porcelain in these countries in comparison with other Cerdee countries. The average number of persons employed per 1 enterprise is the lowest in Slovenia (3.0).

3.2. Specialized design activities

Table 6 Number of enterprises

GEO/TIME	2010	2011	2012	2013	2014	2015	2016	2017	2018
European Union	:	143 954	157 342	164 307	176 777	179 757	192 446	207 719	:
Czechia	2 118	2 160	2 256	2 261	2 353	2 399	2 530	2 727	:
Germany	16 732	18 398	20 464	21 530	23 083	26 170	26 307	30 079	:
Italy	27 612	27 481	28 408	27 450	29 065	29 201	30 828	32 277	:
Austria	1 398	1 484	1 507	1 540	1 542	1 558	1 594	1 631	:
Poland	3 641	5 450	6 184	6 899	7 768	8 635	10 005	11 204	:
Slovenia	733	815	869	1 001	1 100	1 249	1 374	1 502	:

Source: Eurostat

Table 7 Production value (million EUR)

GEO/TIME	2010	2011	2012	2013	2014	2015	2016	2017	2018
European Union	:	17 739	19 164	19 816	21 380	23 863	22 959	24 368	:
Czechia	81.0	87.5	86.8	81.0	76.4	91.0	104.9	126.7	:
Germany	1 930.1	2 209.0	2 522.4	2 838.9	2 825.6	3 028.6	3 277.3	3 703.8	:
Italy	3 703.2	3 838.4	3 696.7	3 894.8	4 271.5	4 363.4	3 913.2	3 880.7	:
Austria	109.2	124.4	130.8	133.8	133.9	:	:	:	:
Poland	148.2	279.5	281.8	425.9	390.5	416.5	431.4	441.2	:
Slovenia	29.3	31.6	33.2	34.3	38.9	47.3	53.8	61.3	:

Source: Eurostat

Table 8 Persons employed

GEO/TIME	2010	2011	2012	2013	2014	2015	2016	2017	2018
European Union	:	213 551	234 291	239 533	261 727	269 542	293 800	310 798	332 846
Czechia	:	2 065	2 194	2 191	2 264	2 397	2 537	2 783	3 011
Germany	31 261	33 340	37 151	40 226	43 505	48 842	51 402	58 222	60 712
Italy	44 857	43 682	44 723	44 790	46 526	47 216	49 292	50 273	51 687
Austria	2 183	2 318	2 393	2 460	2 511	:	:	:	2 945
Poland	5 206	8 755	9 450	10 145	11 756	13 990	15 344	17 616	20 410
Slovenia	889	973	1 064	1 182	1 286	1 462	1 590	1 752	1 928

Source: Eurostat

Table 9 Employees

GEO/TIME	2010	2011	2012	2013	2014	2015	2016	2017	2018
European Union	:	103 000	115 190	117 791	131 775	137 727	155 980	162 331	:
Czechia	678	633	676	658	677	736	781	894	:
Germany	13 103	13 336	15 042	16 959	18 566	20 563	22 610	25 738	:
Italy	14 026	12 573	14 734	15 773	16 172	16 806	17 471	17 363	:
Austria	762	815	843	859	921	:	:	:	:
Poland	1 447	2 836	3 075	2 993	3 685	4 764	4 756	5 797	:
Slovenia	325	334	379	361	369	409	430	466	:

Source: Eurostat

Table 10 Persons employed per enterprise

GEO/TIME	2010	2011	2012	2013	2014	2015	2016	2017	2018
European Union	:	1.5	1.5	1.5	1.5	1.5	1.5	1.5	:
Czechia	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	:
Germany	1.9	1.8	1.8	1.9	1.9	1.9	2.0	1.9	:
Italy	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	:
Austria	1.6	1.6	1.6	1.6	1.6	:	:	:	:
Poland	1.4	1.6	1.5	1.5	1.5	1.6	1.5	1.6	:
Slovenia	1.2	1.2	1.2	1.2	1.2	1.2	1.2	1.2	:

Source: Eurostat

The number of enterprises in design sector has been raising rapidly from 3,641 (2010) up to 11, 204 (2017). In comparison with other CerDee Countries, the growth of number of enterprises in Poland is the most significant in the last decade. The production value in design sector reached the peak in 2017 and it has been decreasing since 2014. In 2017, the production value of Polish market in design sector was 441.2 mil. The highest production values are registered in Italy (3,880.7 mil. EUR), the second highest in Germany (3,703.8 mil. EUR). The number of persons employed in design sector has been raising rapidly from 5,206 (2010) up to 20,410 (2018). The highest number of persons employed in design sector is registered in Germany (60,712), the second highest in Italy (51,687). In comparison with other CerDee Countries, the growth of persons employed in Poland is the most significant in the last decade. The number of employees in design sector has been raising rapidly from 1,447 (2010) up to 5,797 (2017). The highest number of employees in design sector is registered in Germany (25,738), the second highest in Italy (17,363). In comparison with other CerDee Countries, the growth of employees in Poland is the most significant in the last decade. The average number of persons employed per 1 enterprise is 1.6 in 2017, which is the same as in Italy. The average number of persons employed per 1 enterprise is the lowest in Czechia (1.0). The highest number is registered in Germany (1.9).

3.3. Basic information about stakeholders in ceramic sector in Poland - Assesment of the CerDee partners

Poland ist the fifth most populous EU member state with 38,5 inhabitants. It is divided into 16 administrative subdivisions – voivodeshops. Those voivodeships are subdivided into powiats (often referred to in English as counties). Poland has 16 voivodeships and 380 powiats.

Figure 1 Poland - voivodeships

Source: https://en.wikipedia.org/wiki/Poland, 2020

Polish CerDee partner Museum of Ceramics is based in Bolesławiec in the Lower Silesian voivodeship which borders to Czech Republic and Germany. Bolesławiec is centre of ceramic production, so the concentration of the project will focused to the town and its surroundings and of course referring to regional authorities and educational institutions. This is very common to the approach in Italy with center in Faenza. Both towns also host popular ceramic events well known in the European scope.

Figure 2 Example of ceramics of Bolesławiec

Source: https://www.polish-pottery.pl/

Within our desk research, we have developed a stakeholder database to support our project. This database is divided into several stakeholder groups. Further, we provide short insights in to the ceramic sector in Poland, based on our experience, knowledge and research.

1. **Private sector**

There are over 6,500 one-man/partnership businesses and 57 legal entities registered in Poland that declare the production of ceramic tableware and decorative articles to be their dominant area of activity. The sector's output is presented in the tables below.

Table 11 Ceramic production volume (t) in Poland

Year	2011	2012	2012	2013	2014	2015	2016	2017	2018
Tableware, kitchenware, other household articles and toilet articles of stoneware	648	579	624	731	758	830	857	905	928
Tableware and kitchenware of porcelain	25 486	23 615	24 279	27 815	24 570	23 745	24 904	23 934	22 942

Source: Polish Statistical Office

Table 12 Ceramic - Sold production value (PLN ‘000) in Poland

Year	2015	2016	2017	2018
Ceramic tableware and decorative articles	408 270,1	455 905,7	452 756,3	433 966,4

Source: Polish Statistical Office

Bolesławiec area is the largest ceramics production centre in the country with four big and several small producers of artistic, hand-made ceramic tableware and decorative articles. Their main assets are local clay deposits and unique form of decoration recognizable across the world. Most of the production is exported to the USA, South Korea, Germany and other countries. As there are many producers outside the Boleslawiec region, who offer similar pottery, local firms have taken steps to register and protect this type of pottery as a regional product.

After some crisis in the 2000s, the sector is doing quite well now. One of the key problems is a deficit of labour resources, only partly mitigated by Ukrainian migrants.

There are another three Polish regions, which play an important role in the European porcelain market: Wałbrzych/Jaworzyna Śląska, Ćmielów, and Chodzież/Łubiana.

Within our desk research, we have indicated: 51 private institutions in the town and its surroundings.

2. **Market/trade information and professional associations**

We have identified two associations of individual ceramists; each of them has around 50 members. They operate on a regional scale and focus on organising exhibitions, presentations and workshops.

There is one industry organisation - it brings together almost 30 producers of ceramics from Boleslawiec region. Its aim is to protect the quality and reputation of Bolesławiec pottery but its activity is rather symbolic.

Within our desk research, we have indicated: 13 professional associations.

3. **Education and training information**

The only higher education institution with a separate faculty of ceramics is the Academy of Fine Arts in Wrocław. They offer courses in ceramics design craft. The Artistic University in Poznań also has a well-equipped ceramics atelier but this is just one of several ateliers prepared for students of sculpture. The AGH Academy in Krakow offers engineer courses in basic ceramic technologies and materials. Many universities offer courses in general design, without a focus on ceramics. There is only one artistic secondary school in Poland that teaches ceramics. Last year a vocational class for ceramics decorators was re-established in Boleslawiec. But the school lacks the necessary equipment, few students are interested in this profession, while the local manufacturers are not interested in cooperation with the school.

Within our desk research, we have indicated: 5 educational institutions which have connection to ceramic (design).

4. **Cultural institutions**

Ceramics as a hobby is quite popular in Poland. Almost in every larger town, there is a public cultural institution, that offers afternoon classes in ceramics. In Bolesławiec, there are three institutions that promote ceramics: International Centre for Ceramics (workshops, exhibitions, Ceramics and Sculpture Symposium, Festival of Ceramics), Museum of Ceramics (exhibition, workshops, and documentation), Youth Culture Centre (workshops). Local producers (access to materials, expertise, workplaces etc.) somehow support all of them. In 4 years the Museum of Ceramics will move to new premises and open the so-called Old Pottery - a reconstructed pottery workshop - which will serve as an educational centre.

Within our desk research, we have indicated: 4 cultural institutions with connection to ceramics.

5. Public and public-private sector

In Bolesławiec, local authorities see ceramics both as an important element of the economy and tourism product. They promote and cultivate the pottery heritage under brands such as “town of ceramics” or “Polish capital of ceramics”. Every August, the Festival of Ceramics takes place in Boleslawiec - the biggest open-air ceramics fair in the country that attracts tens of thousands of visitors. Other examples include: an exhibition of contemporary ceramics from 30 local firms that was shown in several towns across Europe; the International Ceramics and Sculpture Symposium - the oldest event of this type in the country (over 55 editions); international projects carried out in cooperation with Arginet (Artistic “Argilla” (Clay) Actions for EU Ceramic Network).

In 2015, the Association of Ceramics Municipalities in Poland was established - the first organisation in the country that brings together local governments interested in promoting industrial, consumer and artistic ceramics. So far, six municipalities have joined the association: 5 from Bolesławiec region plus Jaworzyna Śląska (porcelain centre)

We have identified three entities in the category of public-private stakeholder:

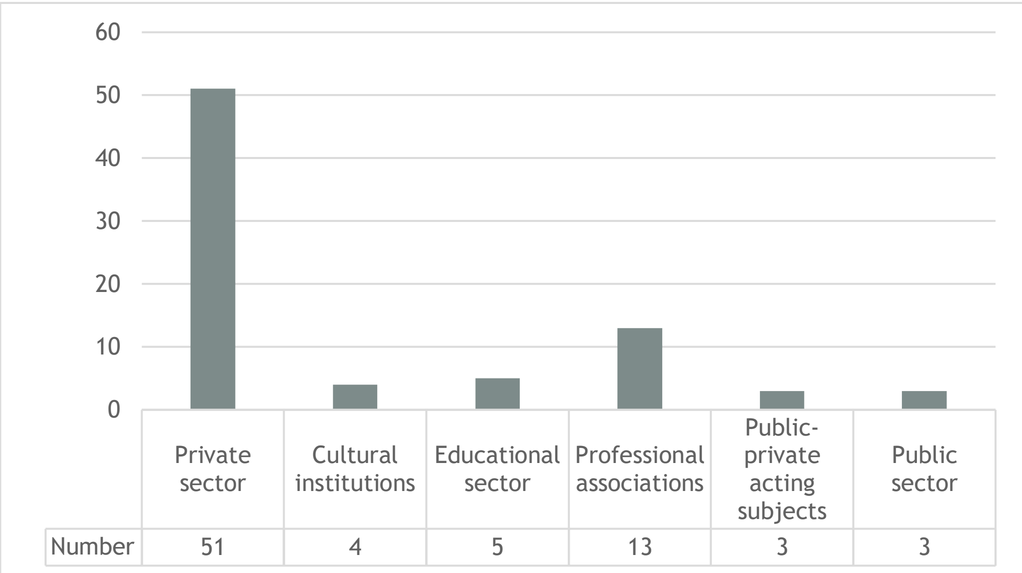
Institute of Ceramics and Building Materials is a research institution that develops new technologies, materials and solutions for the construction and ceramics sectors.

Lower Silesia Tourist Board - an association that brings together local governments, NGOs and private business to promote the region. It has no special, separate action programme concerning pottery heritage.

Polish Agency for Investment and Trade - a national government agency that supports Polish export by organising stands on international fairs and providing advice on foreign markets. It pays much attention to the promotion of Polish design.

Within our desk research, we have indicated: 3 public sector, and 3 private-public acting subjects.

Figure 3 Poland – CerDee Stakeholder Database (03/2020)



Source: Own database, 2020

4. Survey results – primary data overview

The survey results of enterprises in Poland show the **attitudes and situation of current businesses** as well as **students as potential entrepreneurs** for the future in ceramic sector in the market. However, it is necessary to mention that most of the responses were obtain **before the COVID-19 pandemics**. Therefore, the entrepreneurial capacities based on the entrepreneurs' responses are related to the situation before the pandemics and **we expect dramatical changes** in the sector after this crisis.

4.1. Businesses as existing entrepreneurial capacities

To do a deeper analysis of entrepreneurial potential and to find out their opinions on current situation, financial conditions etc. in Poland, the database of businesses in ceramic sector has been made. The database is open and will be updated continuously. It contains information about **51 businesses** in Poland (related to 3/2020).

The sample of Poland contains **21 respondents** (n). Not all the respondents answered every question; therefore there are fewer responses in several cases of particular question (n ≤ 21).

The legal forms of almost 48 % are self-employed, 38 % of respondents answered 'other', 9 % consist of joint-stock company and 5 % consist of Ltd. (Fig. 1). About 75 % of enterprises involved in the survey are in the ceramic sector more than 10 years (25 % more than 20 years, 50 % between 11 – 20 years), 5 % exist from 6 to 10 years and 20 % of respondents started their businesses from 3 to 5 years ago (Fig. 2)

The respondents see the **overall situation in ceramic sector more negative than positive** and only 29 % expect a **growth of the sector in next 5 years** (Fig. 3). Just 14 % of the respondents consider the **cooperation in this sector** as a sufficient, 38 % as **insufficient (Fig. 4)**, even though more than a half of the respondents (71 %) are members of some association or organization in ceramic sector in Poland and 14 % would like to be involved in this kind of cooperation (Fig. 5). Only 38 % **cooperates with some educational institution** (Fig. 6).

There is a **need for further education and training** visible among the respondents. Big portion of them (95 %) work actively on employee or self-training (Fig. 7). Interesting and helpful topics for further education and training in craft and design skills are **modern techniques**, **ceramic decorating techniques**, **foreign inspiration** or **historical techniques** (Fig. 8). From the viewpoint of management, marketing, and business skills, **online marketing**, and **sales skills** were found as the most helpful and interesting for further education and training, followed by export to foreign countries, law and intellectual property, social media marketing, distribution and courses with some ceramic personality or entrepreneur (Fig. 9). About 60 % of the respondents participate in the marketing activities of the overall craft development in the city/region/country, while 10 % do not. The rest is undecided. However, 59 % of **respondents are interested in participating in a marketing campaign** to promote creative sector in the region (Fig. 10). An **international portal about history of ceramics**, including pictures and videos from different regions, would help 71 % of the respondents in their activities in ceramic sector. Only 5 % find this idea as not helpful, the rest is undecided (Fig. 11).

The **financial situation** shows that 40 % of the respondents see their situation as in **average**, while 45 % as good or very good; 15 % as bad or very bad. However, 50 % of the respondents do not use any financial indicators to monitor the efficiency of their businesses. Just 43 % of the respondents have already used or required some kind of **subsidy** in last 10 years. (Fig. 12)

4.2. Students as potential entrepreneurial capacities

The survey results of students in Poland show the **attitudes and situation of students as potential entrepreneurs in ceramic sector**. However, most of the responses were obtain **before the COVIC-19 pandemics**. Therefore, the entrepreneurial capacities based on the students' responses are related to the situation before the pandemics.

The sample contains 30 respondents (n) who are students from Poland. Not all of them answered every question; therefore there are fewer responses in several cases of particular questions (n ≤ 30). These students are mostly from 15 to 18 (73 %), lots of them are from 19 to 21 (13 %) and 13 % of respondents are 27 and more years old (Fig. 13). All the respondent comes from Poland.

Study direction of respondents is **design** (55 %), **technology** (41 %) and some **other directions** (4 %) (Fig. 14). Most of the respondents want to **be employed** in the industry (57 %) and 33 % consider **future studies**. They plan to settle down at the same place they come from (73 %). Only 17 % of the students would like to live somewhere else (Fig. 15).

For many students is the dream job after finishing the school to **become a freelancer** (43 %), **partner or co-owner of a small studio** in ceramic sector (10 %) or a **designer in the private company** (10 %). **Five years after finishing the school** respondents want to become a **freelancer** (27 %), **manager of small studio** (17 %), some of them want to be **an employee in a small studio** (10 %) or **cultural institution** (10 %). The others consider to become a **technologist in the private company** in ceramic sector (7 %), **partner or co-owner** of small studio (7 %) (Fig. 16).

Interviewed students developed in **creativity** (80 %) during their studies, got the knowledge about **networking and social** contact (53 %), **tradition and history** (20 %) and gained **craft skills** (0 %) (Fig. 17). Students as potential entrepreneurs feel **lack of knowledge** for future work mostly in **languages** (63 %), **entrepreneurial skills** (33 %), as well as in **managerial skills** (30 %), **dealing with clients** (27 %) and **law** (20 %) (Fig. 18).

For starting own business or finding an appropriate job, they would appreciate some **help with marketing support**, they would appreciate some **help from support organization** (30 %), **professional community** (30 %). Companies would also appreciate help with **mentoring or acceleration program** for starting business (30 %), **sharing promotion and sell platform** (27 %) and some kind of **subsidy** (27 %). The respondents could choose more than one answer (Fig. 19).

The students consider themselves mostly as **employees** (60 %). Then **artists** (57 %) and **designers** (37 %). This fact does not exclude the possibility to start own business in these fields. 33 % think about their future careers as a **freelancer**, 20 % as a **technologist** and only 10 % of the respondents want to become **businessman** (Fig. 20).

4.3. Expectations and needs of stakeholders

Expectations and needs are aspects which make up important part of the research. Expectations of stakeholders give the way how the sector and industry may develop in few years horizon. The essential step to give exact recommendation is to find what the needs of the stakeholders are. These two aspects are closely explained in this part of the report.

The respondents were asked to rate the **current situation of ceramic sector** in Poland at the beginning of the questionnaire. On the scale where 1 point means worst and 10 points mean best, 45 % of the respondents rated this statement with 6 and more points, on the other hand 55 % rated between 1 and 5 points (Fig. 21). On top of that, only 29 % of the entrepreneurs think that the

sector will grow in next 5 years; only 29 % expect the **sector will experience decrease** and the rest of the respondents think that the condition of the ceramic **sector will not change** (Fig. 21).

In next part of the questionnaire were respondents asked to rate intensity, importance of cooperation with each sector and also rate the influence of each sector on the scale between 1 and 10 points based on same principle again. Answers of each stakeholders sector are compared to the mean of stakeholders sector form all CerDee countries.

Intensity of current cooperation with **almost all Polish stakeholder sectors** was rated **higher** than the CerDee mean, except **private sector**, where the cooperation was evaluated as **extensive** (Fig. 22). **Importance of cooperation** with **educational sector**, **private sector** and **public-private acting sector** was rated **lower**, but with Polish **cultural institutions**, **professional institutions** and **public sector** the **cooperation** is seen **more important** than in the other CerDee countries (Fig. 23). **Influence level** of **cultural institutions**, **educational institutions**, **professional institutions** and **public sector** is seen **bigger** than is the average from all countries, the rest of stakeholder sectors such as **private sector** and **public-private acting sector** are thought to have less influence (Fig. 24).

Big problem for ceramic sector in Poland seems to be education in this industry. Many stakeholders think that there should be more educational institutions in Poland. In relation, many respondents answered there is a lack of skilled labor. The third point is that Polish ceramic products are replaced with cheaper imported goods from abroad (Fig. 25).

As just 38 % of the respondents consider the **cooperation in the ceramic sector as a sufficient** (Fig. 26) many of them would appreciate to participate in some project and the cooperation between their businesses and public sector to be closer. Especially, connection with national or regional institutions like ministries, professional associations, tourist information centers, television and other mass media.

For 67 % of the respondents is the most important **benefit from the cooperation** is **help with accessing new markets**, for 62 % it is **joint marketing** and some kind of **subsidy**. Only 33 % sees it like an opportunity for **co-working** (Fig. 27). **Subsidy** is one of the main goals for entrepreneurs when taking part in cooperation and 40 % of the respondents feel that they **have enough information** about how to get it, 30 % disagree and the rest is undecided (Fig. 28). On the statement '**I am going to apply for a subsidy in the future**', 47 % reacted positively and just 10 % negatively (Fig. 28). **External capital**, as an instrument of financing a business, was used by only 29 % of the respondents in last 10 years, but 38 % plan to use it in the future (Fig. 29).

Next part of the report is focused on expectations and needs of each sector of the respondents. Description of each sector is based on their answers on the scale from 1 to 10, where 1 is lowest and 10 the highest, on questions 'Intensity of current cooperation', 'Importance of cooperation' and 'Influence level' towards other sectors. But it is necessary to keep in mind the structure of respondents' sample. The structure is following: 3 cultural institutions, 7 educational institutions, and 21 respondents from private and 6 respondents from public sector. The results of the research would be more accurate with bigger sample of the respondents.

4.3.1. Expectations and needs of cultural institutions

The respondents from **cultural institutions** see the **current cooperation** with other **cultural institutions** (7.33), **educational institutions** (7.67), **professional institutions** (6.67) and **public sector** (8.00) quite **intensive**. Intensity of cooperation with **private sector** (5.33) and **public-private acting sector** (5.67) was rated as an **average**.

The cooperation with **other cultural institutions** (9.00), **educational institutions** (8.67), **private sector** (7.00) and **public-private acting sector** (9.67) was rated as **important**; only importance of cooperation with **professional institutions** (6.00) and **public-private acting sector** (6.00) was evaluated as an **average**.

The respondents from **cultural institutions** consider **influence level** of only **private sector** (8.67) as **high**. Influence of other **cultural institutions** (4.00) is thought to be **low** and influence of **educational institutions** (6.33), **professional institutions** (6.00, **public sector** (4.67) and **public-private acting sector** (5.00) is seen as an **average**.

4.3.2. Expectations and needs of educational institutions

The respondents from **educational institutions** see the **current cooperation** with **cultural institutions** (8.33), other **educational institutions** (7.83) and **professional institutions** (7.17) quite **intensive**. Intensity of cooperation with **public sector** (5.00) was rated as an **average** and cooperation with **private sector** (3.50) and **public-private acting sector** (2.40) is seen as **extensive** in their opinion.

In comparison, the **importance of cooperation** with **almost all stakeholder sectors** was rated **high** (> 6.50), only cooperation with **public-private acting sector** (6.17) is seen as **average important**.

The respondents from **educational institutions** consider **influence level** of **cultural institutions** (9.80), **educational institutions** (9.40) and **public sector** (6.80) as **high**. Influence level of **professional institutions** (5.75) was evaluated as an **average** and influence of **private sector** (3.40) and **public-private acting sector** (4.40) is **low** in their opinion.

4.3.3. Expectations and needs of private sector

The respondents from **private sector** see the **current cooperation almost all stakeholder sectors** as **extensive** (< 4.50), only cooperation with **private sector** (4.84) was rated as an **average**.

In comparison, the **importance of cooperation** with **all stakeholder sectors** was rated **low** (< 4.50).

The respondents from **educational institutions** consider **influence level** of **almost all stakeholder sectors** as an **average**, only **educational institutions** (4.29) are thought to have **small influence**.

4.3.4. Expectations and needs of public sector

The respondents from **public sector** see the **current cooperation** with **cultural institutions** (7.00), **public sector** (7.25) and **public-private acting sector** (7.50) quite **intensive**. Intensity of cooperation with **educational institutions** (6.50), **private sector** (5.33) and **professional institutions** (6.00) was rated as an **average**.

In comparison, the **importance of cooperation** with **almost all stakeholder sectors** was rated **high** (> 6.50), only cooperation with **professional institutions** (6.00) is seen as **average important**.

The respondents from **public sector** consider **influence level** of **almost all stakeholder sectors** as **high** (> 6.50), only **educational institutions** (6.00) are thought to have an **average influence**.

4.4. Marketing activities

Marketing is one of the most important processes in company. Its aim is to get the knowledge, influencing and satisfying customer's needs and wishes and also achieving goals of the organization in an effective way. That is why all companies choose their marketing activities properly.

Nowadays, in the ceramic and porcelain sector in Poland, are mostly used **own websites** for marketing activities (90 %). Social media such as **Facebook** (86 %), **Instagram** (57 %), **YouTube** (38 %) and some others (24 %) are also used. There are some other ways used for marketing in companies such as **advertising in traditional media** – press (33 %), TV (39 %) and radio (33 %). **Online advertising** is also very common (52 %). For marketing activities are also used **point-of-sale promotions** (38 %) and **loyalty program** (14 %) ((Fig. 30).

Companies plan to do **marketing activities on their own websites** (33 %) and **point-of-sale promotions** (24 %) in the future. Using of social media is important; the plan for the future marketing activities includes **Facebook** (19 %), **Instagram** (19 %), **YouTube** (19 %) and **some others** (24 %). **Loyalty program** (24 %), **online advertising** (14 %) and **traditional advertising** is also planned (Fig. 31).

Own forces of the company (71 %) are mostly responsible for the marketing activities. 23 % interviewed entrepreneurs in Poland use **specialists and specialized agency** and the rest use local, regional or national support bodies (5 %) (Fig. 32). Respondents mostly **participate in the marketing activities** of the overall craft development (60 %) and only few of them do not (10 %) the rest is undecided (30 %). Almost 60 % of them is interested in **participating in a marketing campaign** to promote creative sector (Fig. 33).

Marketing activities on social networks are mostly a **promotion of the product** (81 %) or a **promotion of the company** (76 %). Very common is **offering exclusive promotions** (38 %), **technical information** (14 %) and **post-sales information** (29 %) (Fig. 34). Through the social media companies improve their **reputation and brand image** (76 %), they **get new customers** (33 %), **get feedback from clients and general public** (48 %) and also **collect information about their customers** (25 %) (Fig. 35).

Markets, fairs (62 %) and **wholesales** (57 %) are the most common distribution channels. **Own brick-and-mortar stores** (48 %), **online stores** (43 %), **multi-brand online platforms** (29 %) and **retails** (29 %) are also used often (Fig. 36).

Greater use of **own online stores** (61 %), **markets and fairs** (48 %) **is planned for the future**. Other channels planned for the distribution are **own brick-and-mortar stores** (43 %), **wholesales** (38 %) and **multi-brand online platforms** (19 %) (Fig. 37).

5. Strengths and weaknesses

Strengths

One of the strengths of porcelain and ceramics sector in Poland is a big portion of respondents working actively on employee or self-training (95%). The amount of improving workers is the highest in Poland from all of the CerDee countries.

Students plan to settle down at the same place they come from (73 %) and become a co-owner of a small studio in Poland. That goes hand in hand with expected **growth of the sector in next 5 years.** This percentage is higher than in Italy or Germany.

Intensity of current cooperation with **almost all Polish stakeholder sectors** was rated **higher** than the CerDee mean. Importance of cooperation with Polish **cultural institutions**, **professional institutions** and **public sector** the **cooperation** is seen **more important** than in the other CerDee countries. **Influence level** of **cultural institutions**, **educational institutions**, **professional institutions** and **public sector** is seen **bigger** than is the average from all countries.

In this current modern world is good the fact that companies plan more of **online advertising** and to do **marketing activities on their own websites** in the future. Using of social media is important; the plan for the future marketing activities includes the use of **YouTube, Instagram** and **Facebook**. Greater use of **own online stores** and **multi-brand online platforms** is also planned for the future.

For the marketing activities are mostly responsible **own forces of the company** which means lower costs for the entrepreneurs.

The amount of **professional associations** is the highest in Poland. Within the desk research were indicated 13 professional associations. We have identified two associations of individual ceramists; each of them has around 50 members. They operate on a regional scale and focus on organising exhibitions, presentations and workshops. There is one industry organisation - it brings together almost 30 producers of ceramics from Boleslawiec region. Its aim is to protect the quality and reputation of Bolesławiec pottery but its activity is rather symbolic.

Ceramics as a hobby is quite popular in Poland. Almost in every larger town, there is a public **cultural institution**, that offers afternoon classes in ceramics. In Bolesławiec, there are three institutions that promote ceramics: International Centre for Ceramics, Museum of Ceramics, Youth Culture Centre. Local producers (access to materials, expertise, workplaces etc.) somehow support all of them.

Weaknesses

Weakness of porcelain and ceramic sector in Poland is that 50 % of the respondents do not use any financial indicators to monitor the efficiency of their businesses.

The respondents see the **overall situation in ceramic sector more negative than positive** and only 29 % expect a **growth of the sector in next 5 years** As just 38 % of the respondents consider the **cooperation in the ceramic sector as a sufficient** many of them would appreciate to participate in some project and the cooperation between their businesses and public sector to be closer.

Big problem for ceramic sector in Poland seems to be education in this industry. Many stakeholders think that there should be more educational institutions in Poland. In relation, many respondents answered there is a lack of skilled labor.

Intensity of current cooperation in **private sector**, where the cooperation was evaluated as **extensive. Importance of cooperation** with **educational sector**, **private sector** and **public-private acting sector** was rated **lower. Private sector** and **public-private acting sector** are thought to have less influence.

As **crucial barriers** of the sector (Question 14) were mentioned many different aspects. Respondents see the problem in high taxes and costs of labour, energy, gas or rent. The high costs cause the increase of price of a final product. Another problem is the fact that customers rather buy cheaper products imported from Asia. This means limited demand for local ceramic and porcelain products. According to Polish entrepreneurs is another barrier lack of educational institutions specialized in ceramic and porcelain manufacturing design etc.

The only higher **education institution** with a separate faculty of ceramics is the Academy of Fine Arts in Wrocław. They offer courses in ceramics design craft. The Artistic University in Poznań also has a well-equipped ceramics atelier but this is just one of several ateliers prepared for students of sculpture. The AGH Academy in Krakow offers engineer courses in basic ceramic technologies and materials. There is only one artistic secondary school in Poland that teaches ceramics. Last year a vocational class for ceramics decorators was re-established in Boleslawiec. But the school lacks the necessary equipment.

5.1. Summary

The situational analysis using the Eurostat statistical data shows that there is **high potential of enterprises in Poland**. There is high number of entrepreneurs in ceramic and porcelain sector and this number was raising during years in this country. The total number of enterprises in **ceramic and porcelain sector** is 11 901 (manufacturing and design) in Poland.

The number of enterprises in **ceramic manufacturing** is the third highest in Poland in comparison to the other CerDee countries. The production value is around the middle **in Poland**.

If we should quantify the potential of the ceramic sector in **Poland**, the total number of enterprises **manufacturing ceramic and porcelain** products was 697 (in 2018). If we take also the **design sector** in account, the total number of enterprises in Poland was 11 901.

Based on the survey, we found out that about About 75 % of enterprises involved in the survey are in the ceramic sector more than 10 years (25 % more than 20 years, 50 % between 11 – 20 years), 5 % exist from 6 to 10 years and 20 % of respondents started their businesses from 3 to 5 years ago. The respondents see the **overall situation in ceramic sector more negative than positive** and only 29 % expect a **growth of the sector in next 5 years**. 40 % of the respondents see their situation as in **average**, while 45 % as good or very good; 15 % as bad or very bad. However, it is necessary to mention here that most of the responses were obtain **before the COVID-19 pandemics**.

Therefore, the entrepreneurial capacities based on the entrepreneurs' responses are related to the situation before the pandemics and **we expect dramatical changes** in the sector after this crisis. The future development is hardly predictable in the moment and the forecasts will require more secondary, as well as primary data analysis in the future.

The **education** plays, and probably will play, an important role in this sector. More than a half of existing entrepreneurs cooperate actively with educational institutions and there is a **need for further education and training**, especially in modern techniques, foreign inspiration, decorating techniques, as well as in marketing and sales skills, such as online and social media marketing.

The **potential entrepreneurs** in ceramic sector are represented by students of different types of schools. The responses on the future career direction show that 43 % **think about becoming a freelances** than **co-owners of studios** or they will **start their own business** (fully; or partially in combination of to be also an employee in some other company at the same time). However, for starting own business or finding an appropriate job, **they require some help with marketing support**, help from **professional organizations**, some kind of **subsidy,** help with **mentoring or acceleration programs or sharing promotion and sell platform**.

The respondents consider themselves mostly as **designers** and **artists**. This fact does not exclude the possibility to start own business in these fields, especially as self-employed but 60 % of them consider themselves as employees. Only 10 % think about their future careers as a businessman, while 33 % as a freelancer and 20 % as a technologist. If we consider the 60 % of the students planning their future carriers as employees, the rest represents a **big potential for business sector**, such as artists and designers as **self-employed** persons, **freelancers** and **businessmen** in the ceramic and porcelain sector.

6. Annexes

6.1. Businesses as existing entrepreneurial capacities - graphical overview

Figure 1 Sample – Legal form of respondents

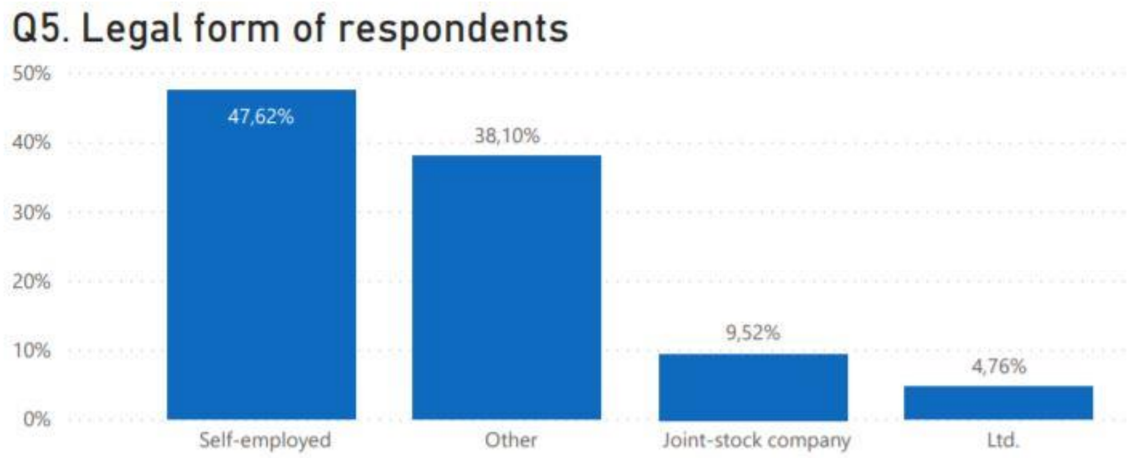


Figure 2 Sample – Length of managing business

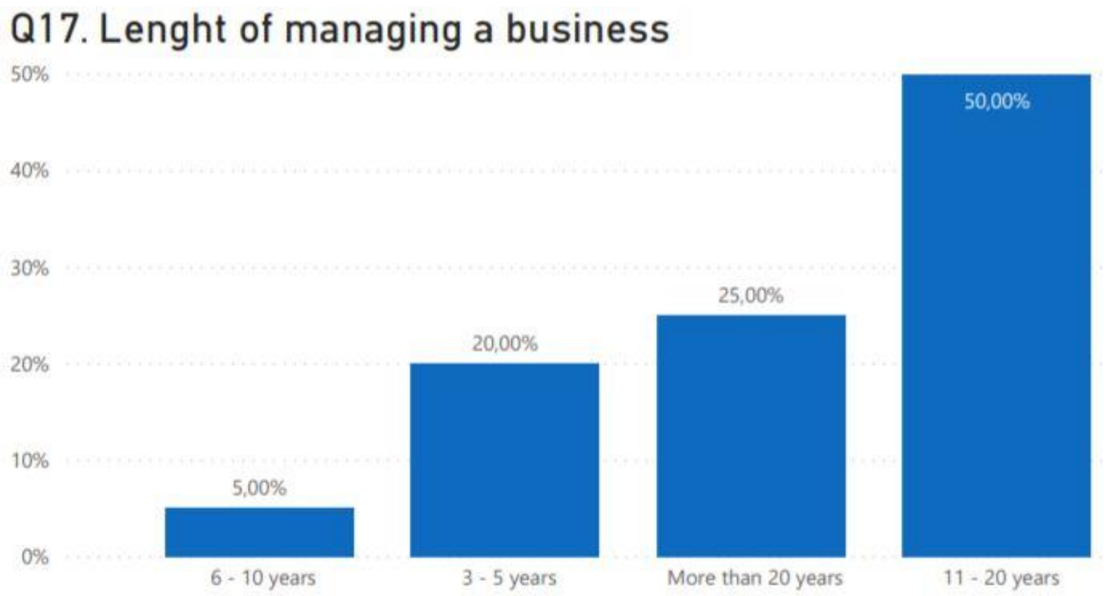


Figure 3 Situation in ceramic sector

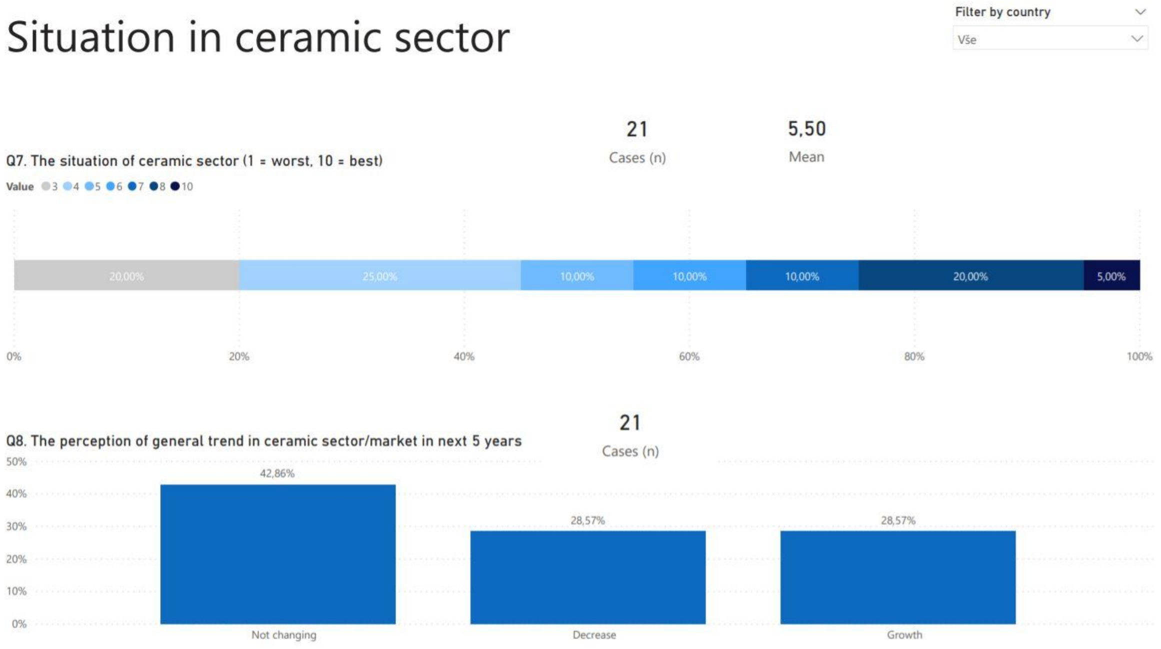


Figure 4 Level of cooperation

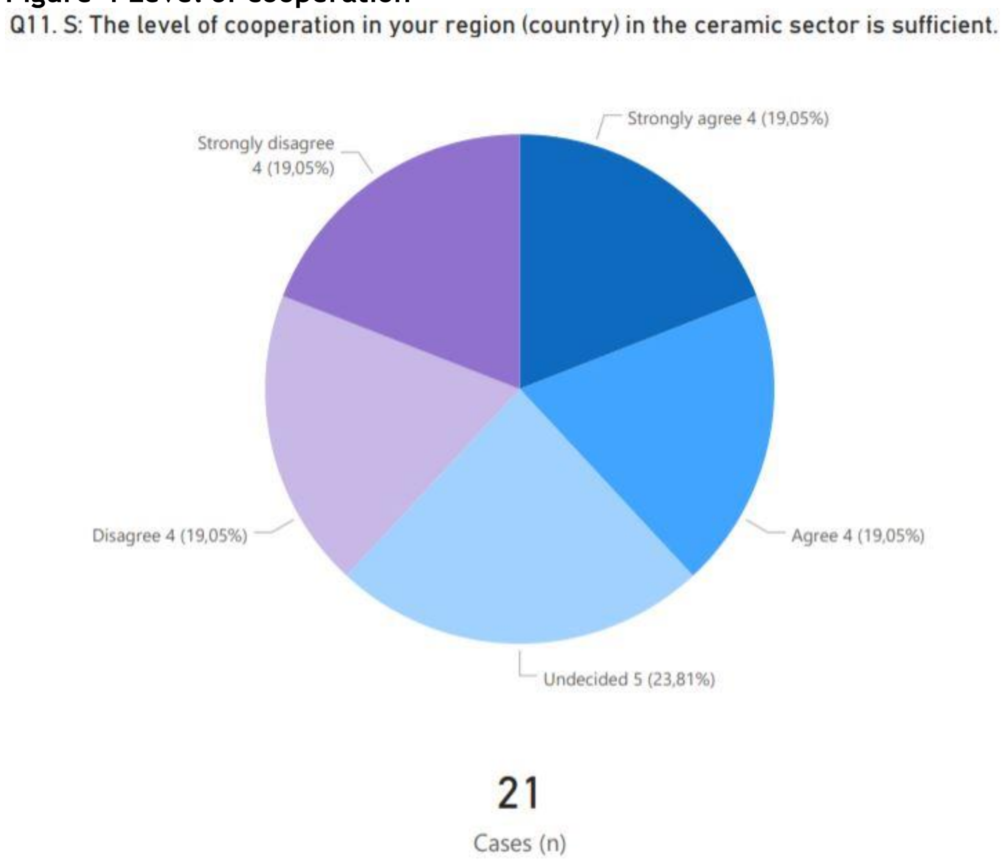


Figure 5 Membership in an association

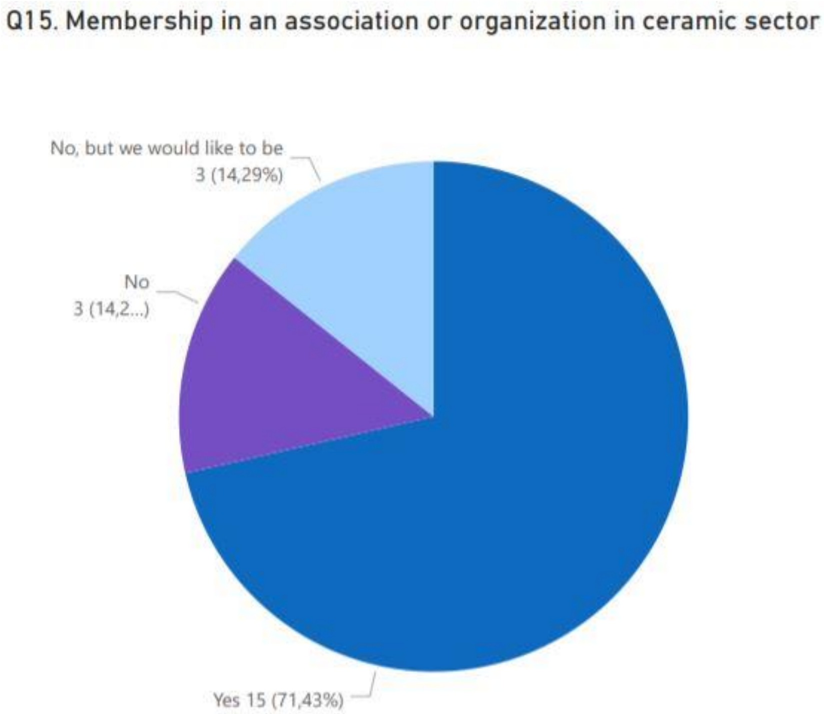


Figure 6 Membership in an association

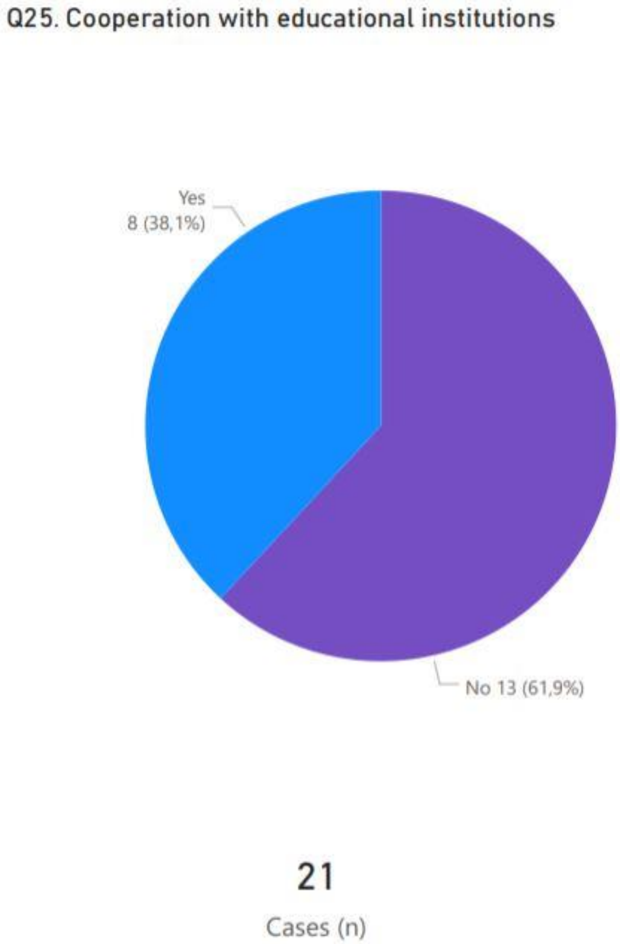


Figure 7 Employee and self-training

Figure 8 Further education and training topics (craft and design skills)

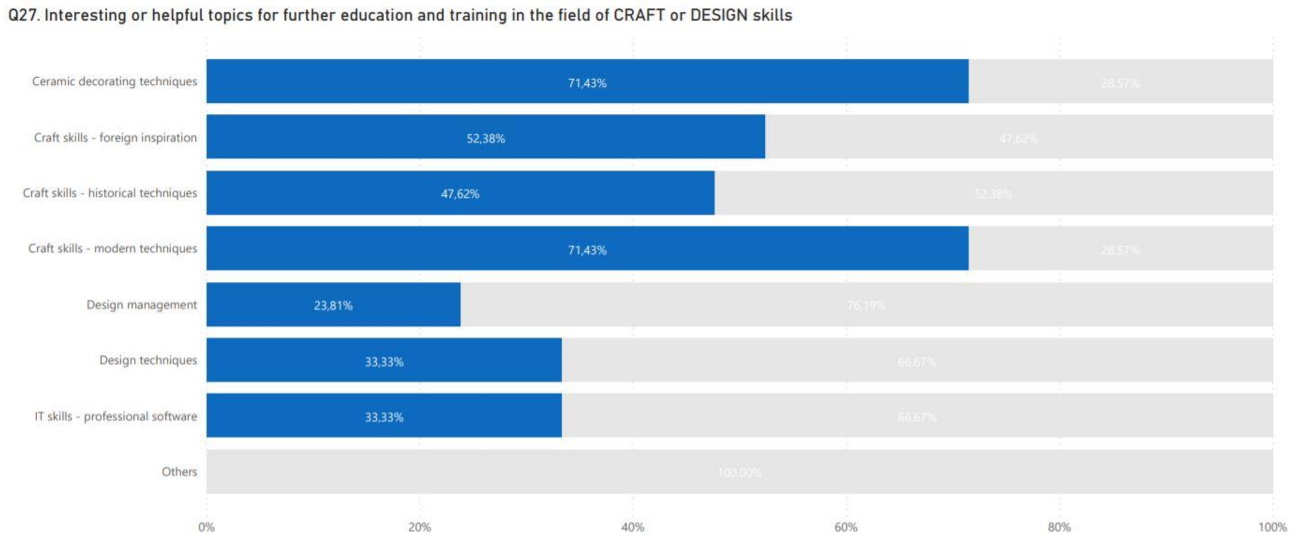


Figure 9 Further education and training topics (management, marketing, and business skills)

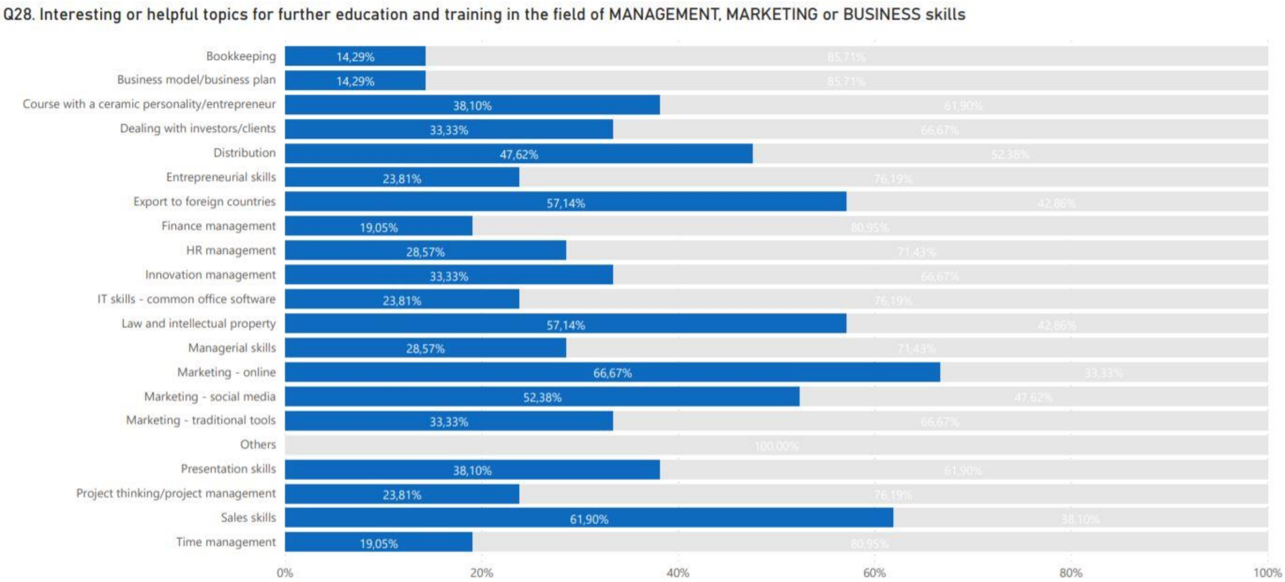
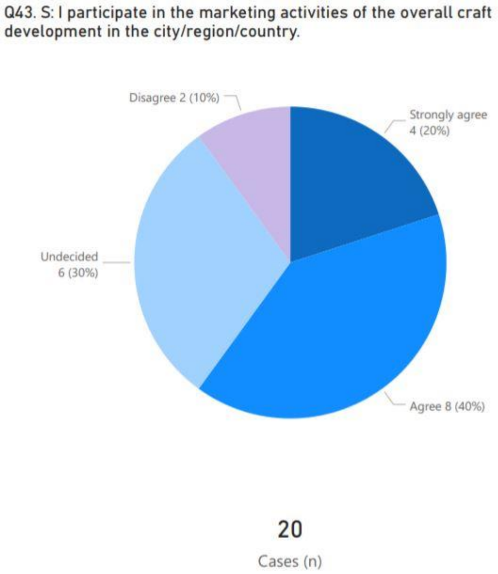


Figure 10 Participating in marketing activities in the city/region/country



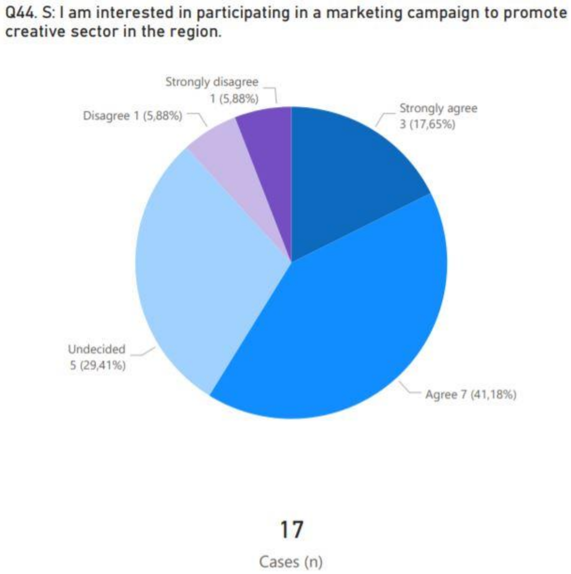


Figure 11 A need of international portal about ceramics

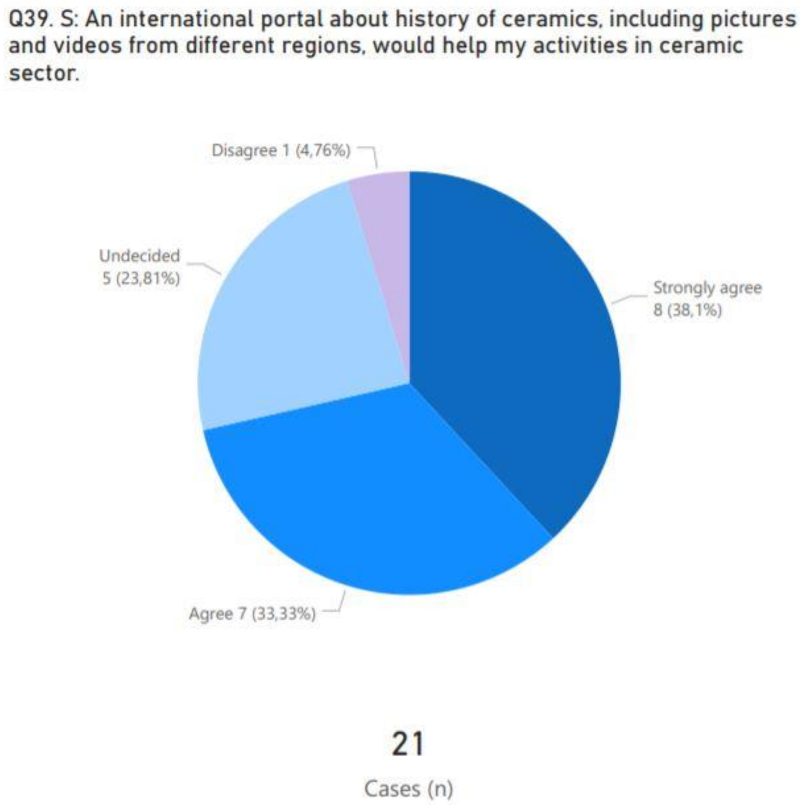
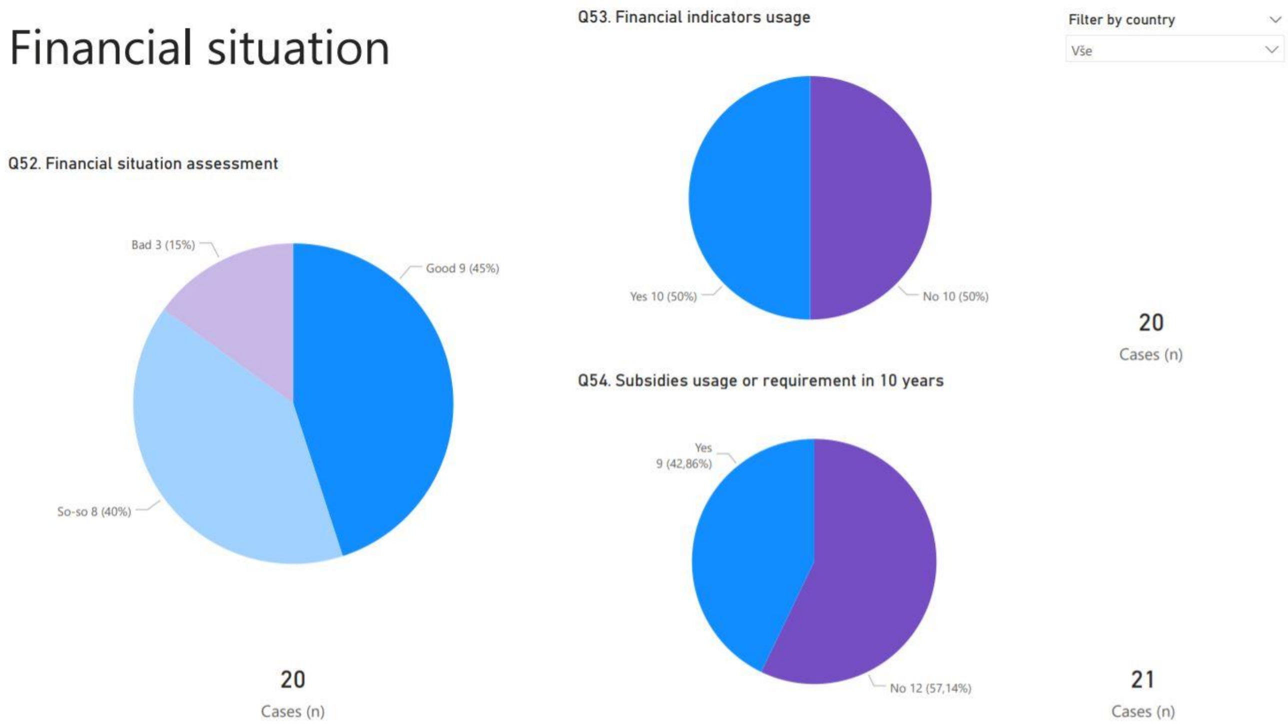


Figure 12 Financial situation



6.2. Students as potential entrepreneurial capacities - graphical overview

Figure 13 Sample - students

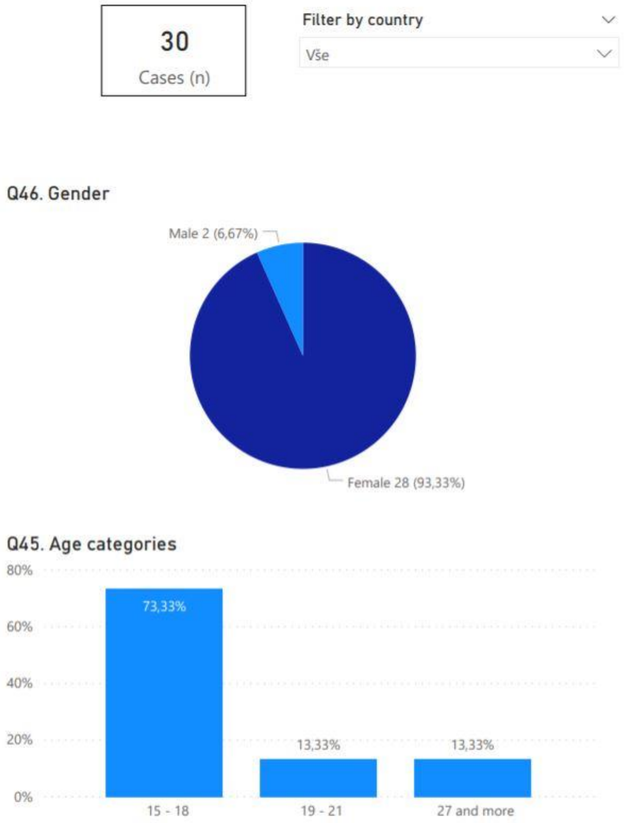


Figure 14 Study direction of students

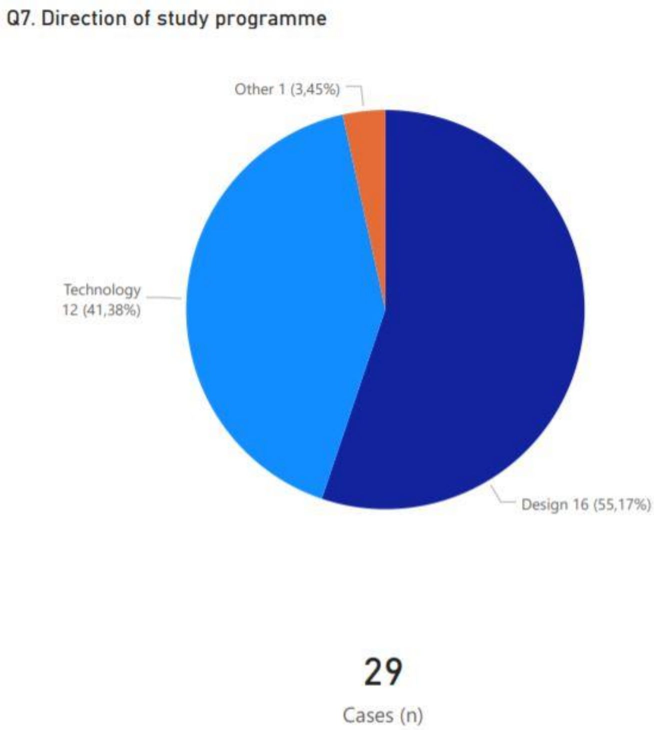
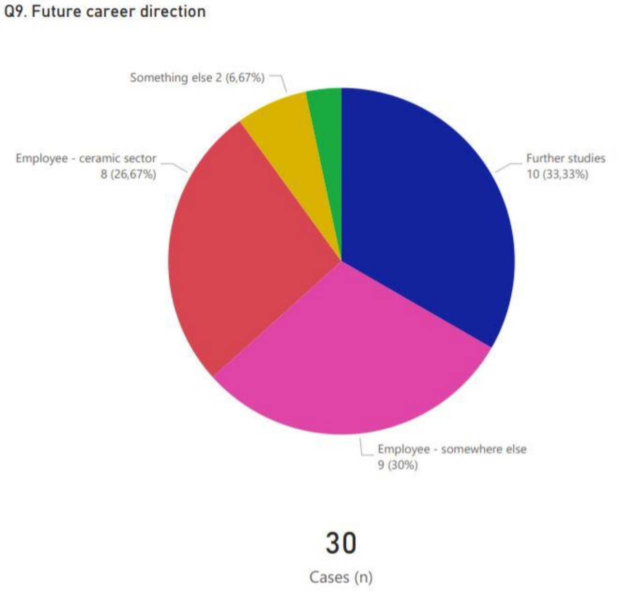


Figure 15 Future direction of students



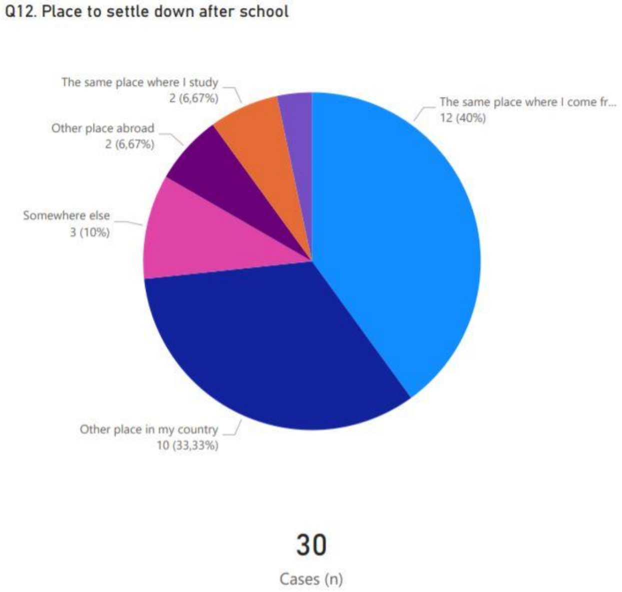
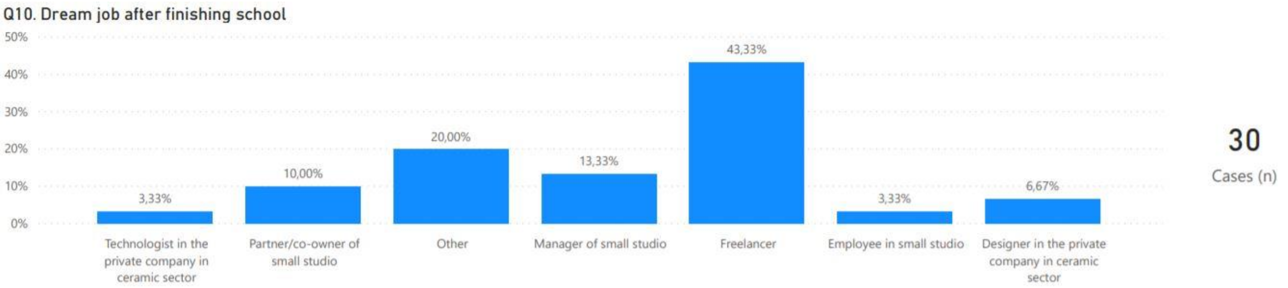


Figure 16 Dream job



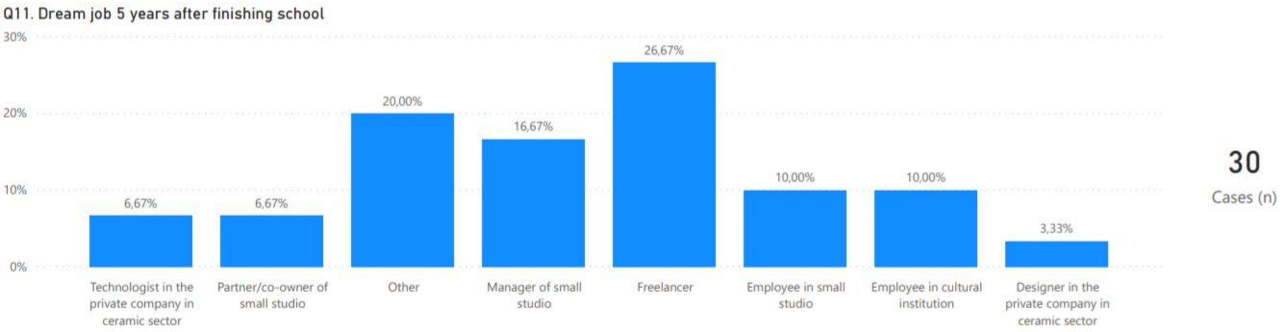


Figure 17 Important students' knowledge/skills gained

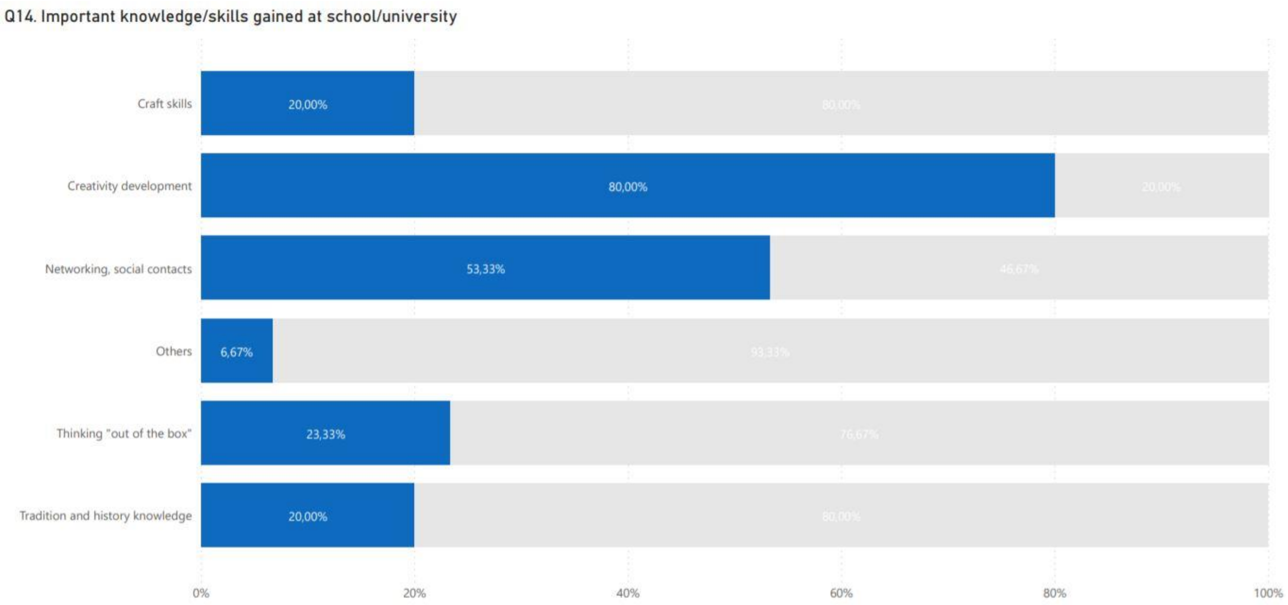


Figure 18 Lack in students' knowledge

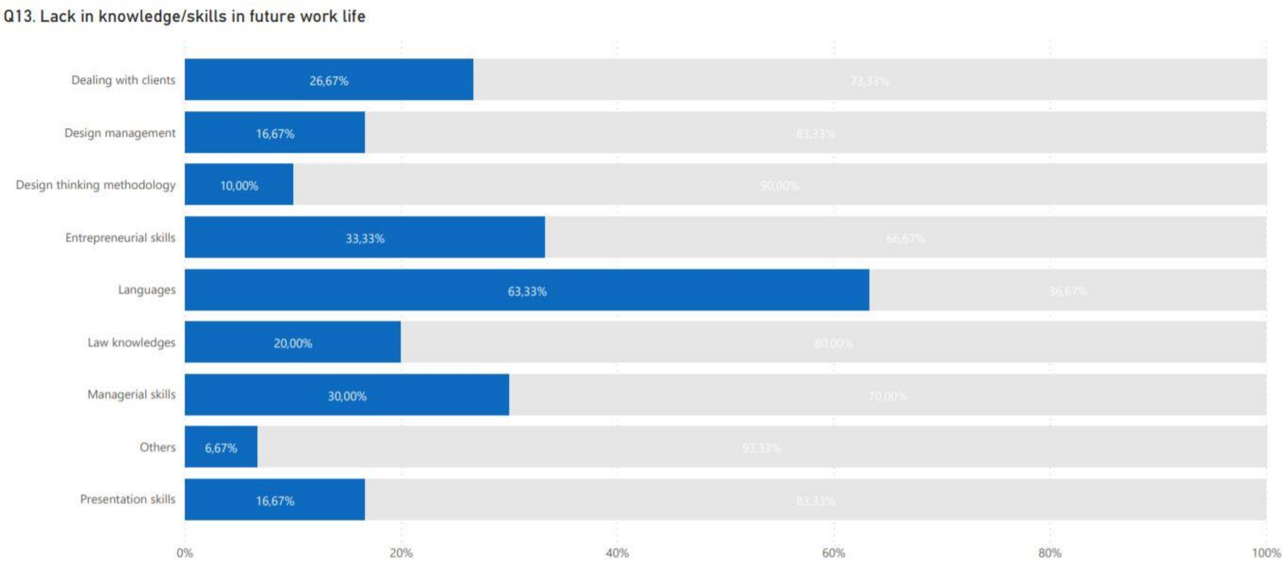


Figure 19 Help with starting own business of finding a job

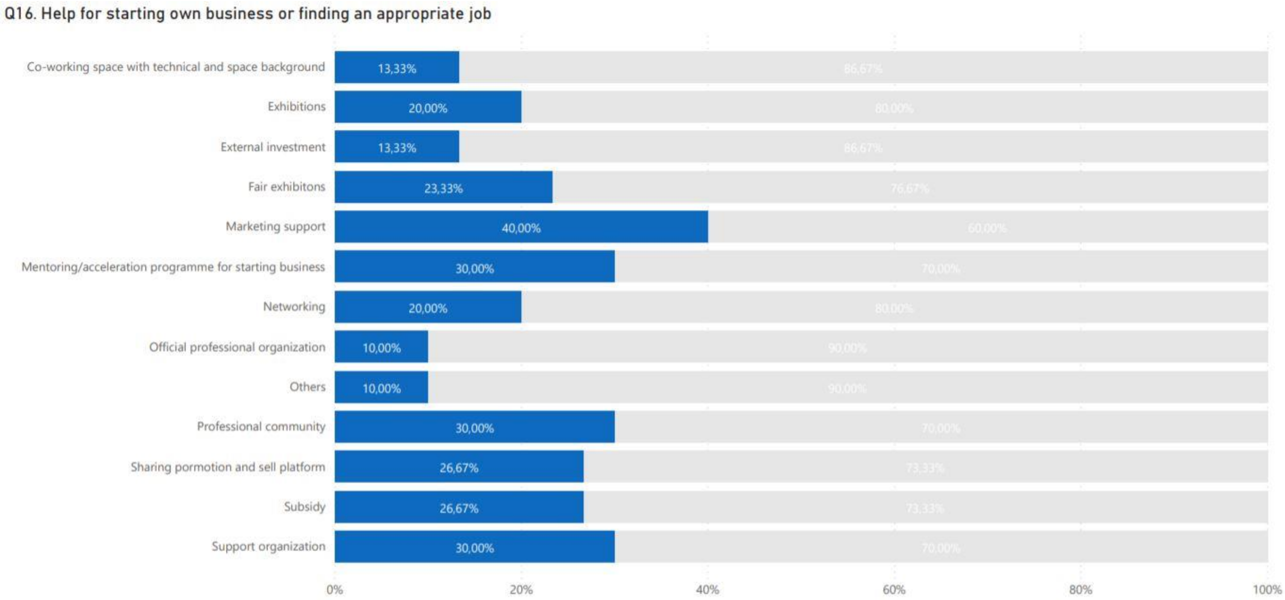
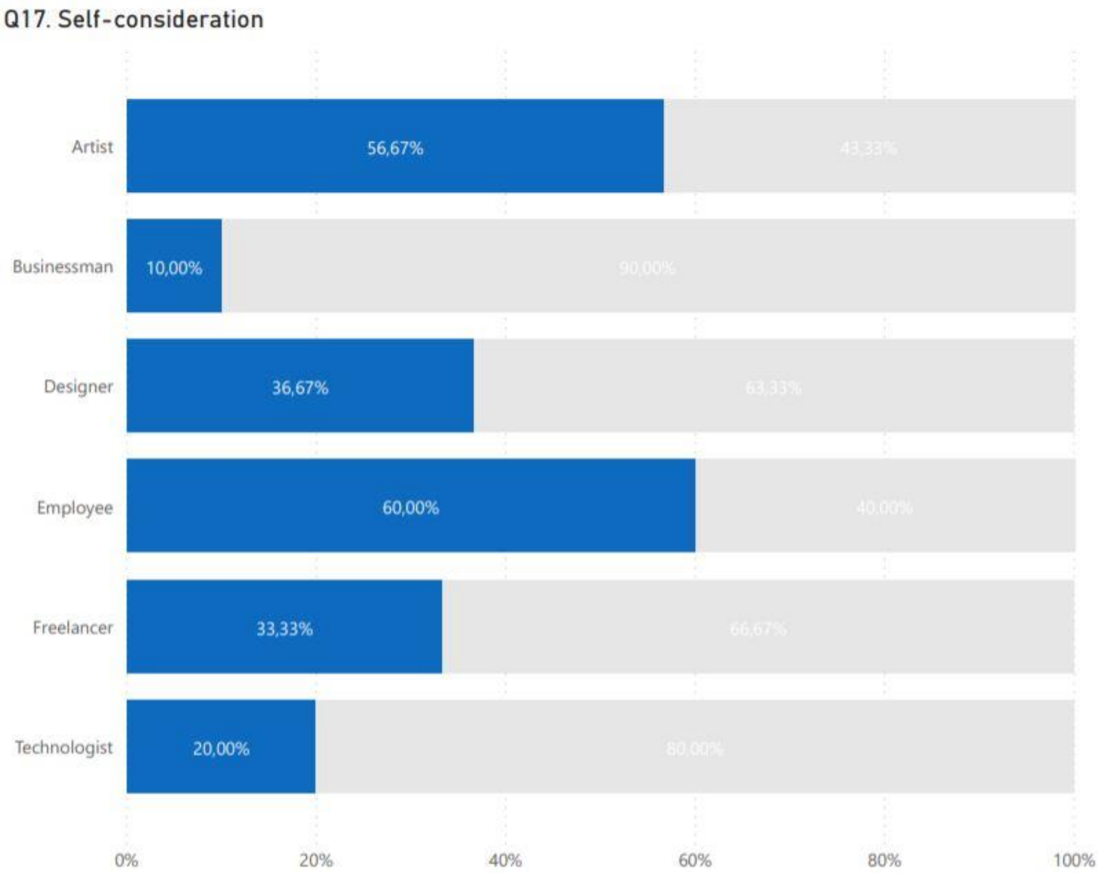


Figure 20 Students' self-consideration



6.3. Expectations and needs of stakeholders

Figure 21 Situation in ceramic sector

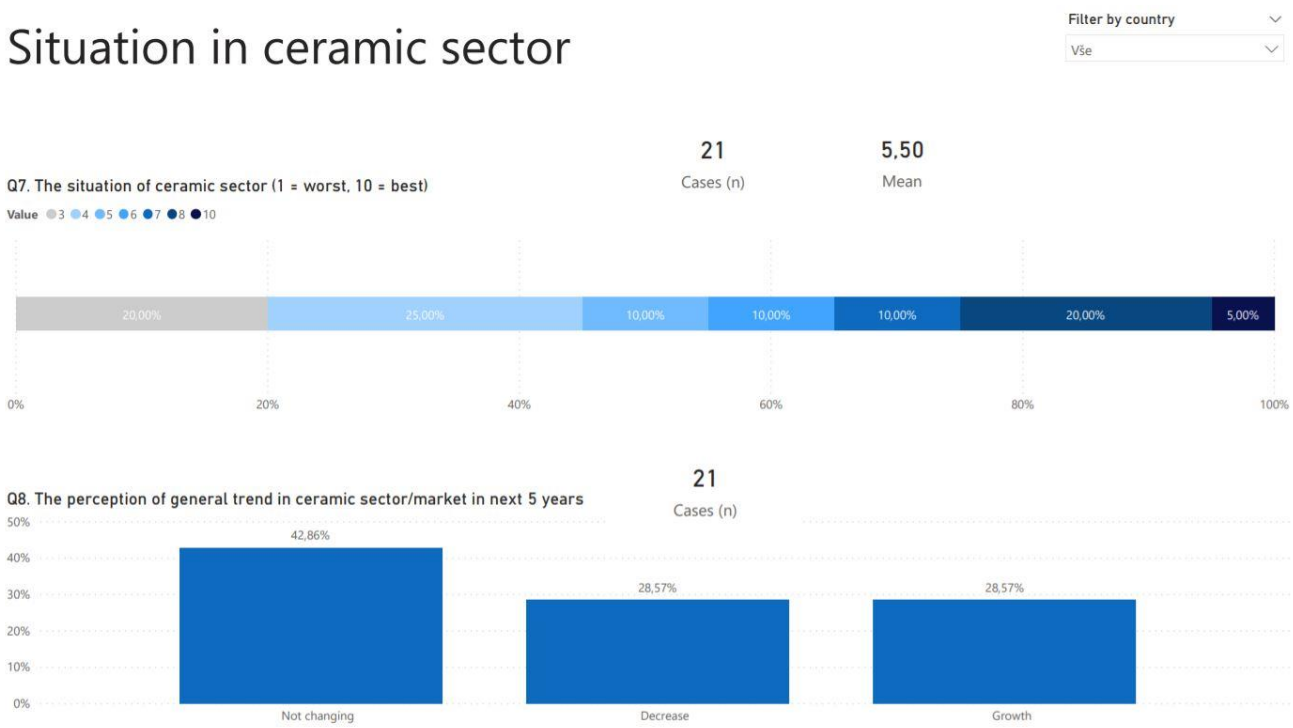


Figure 22 Intensity of current cooperation

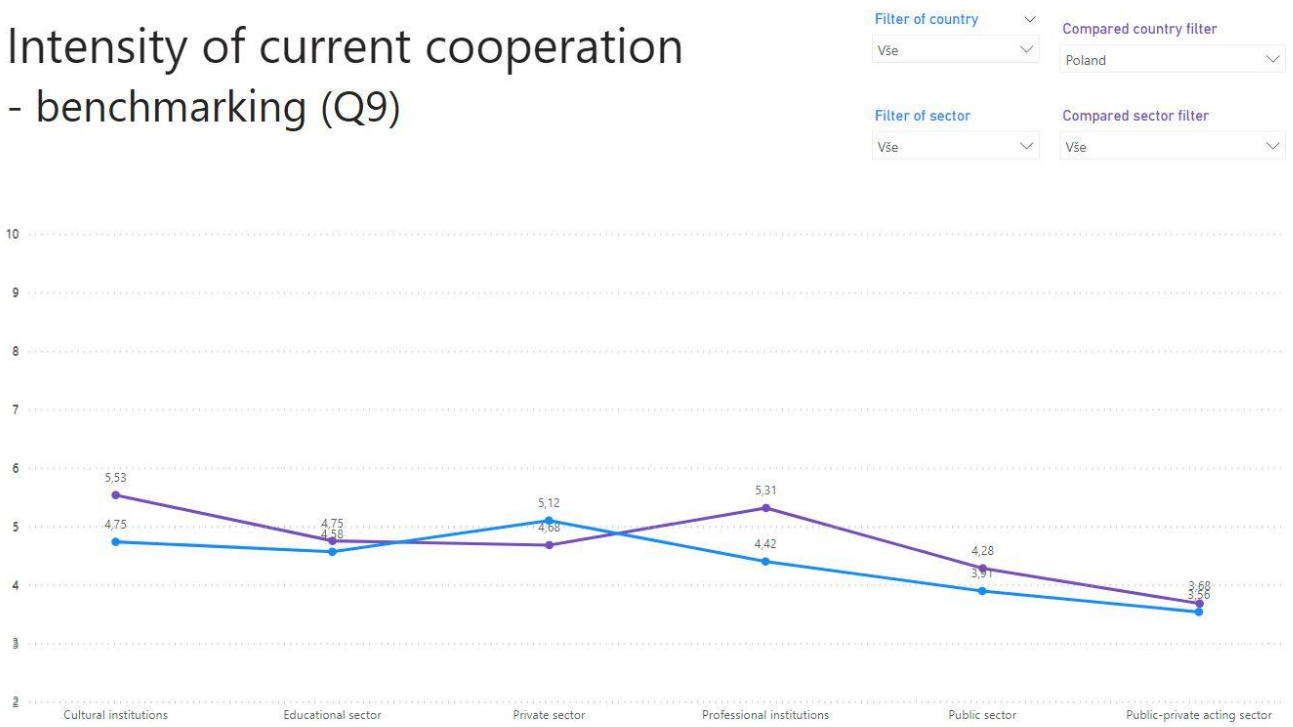


Figure 23 Importance of cooperation

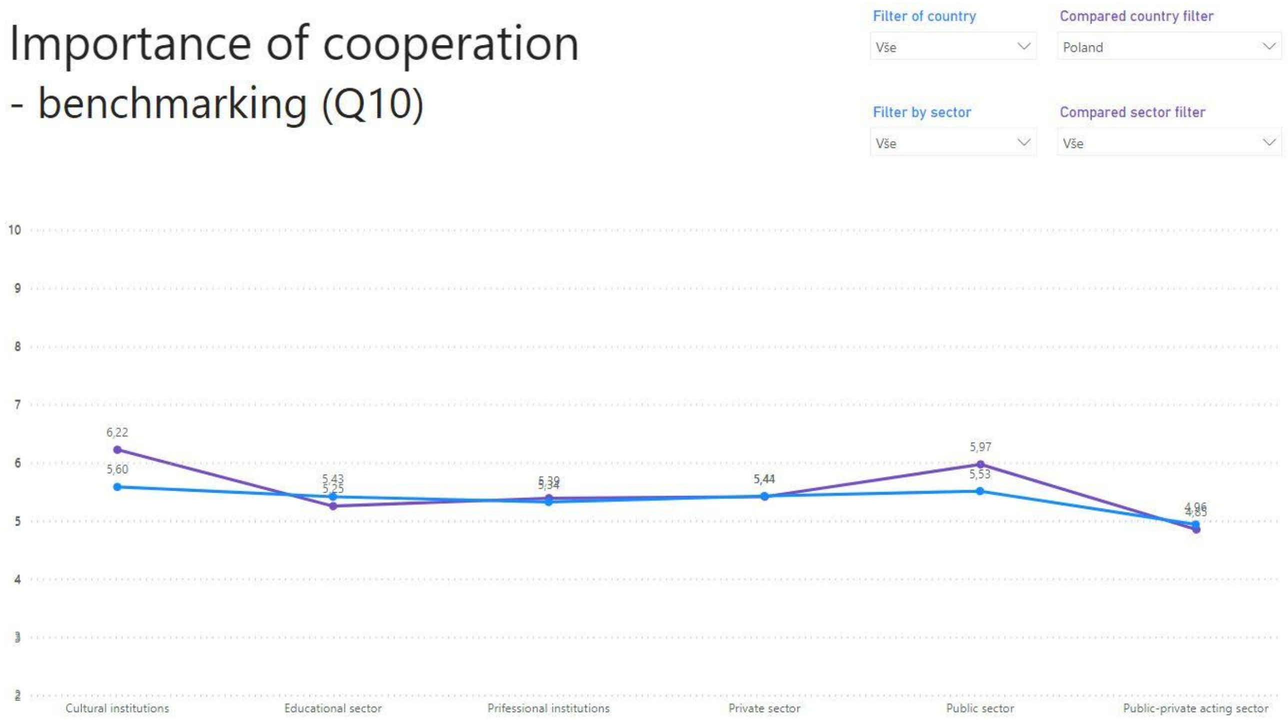


Figure 24 Influence level

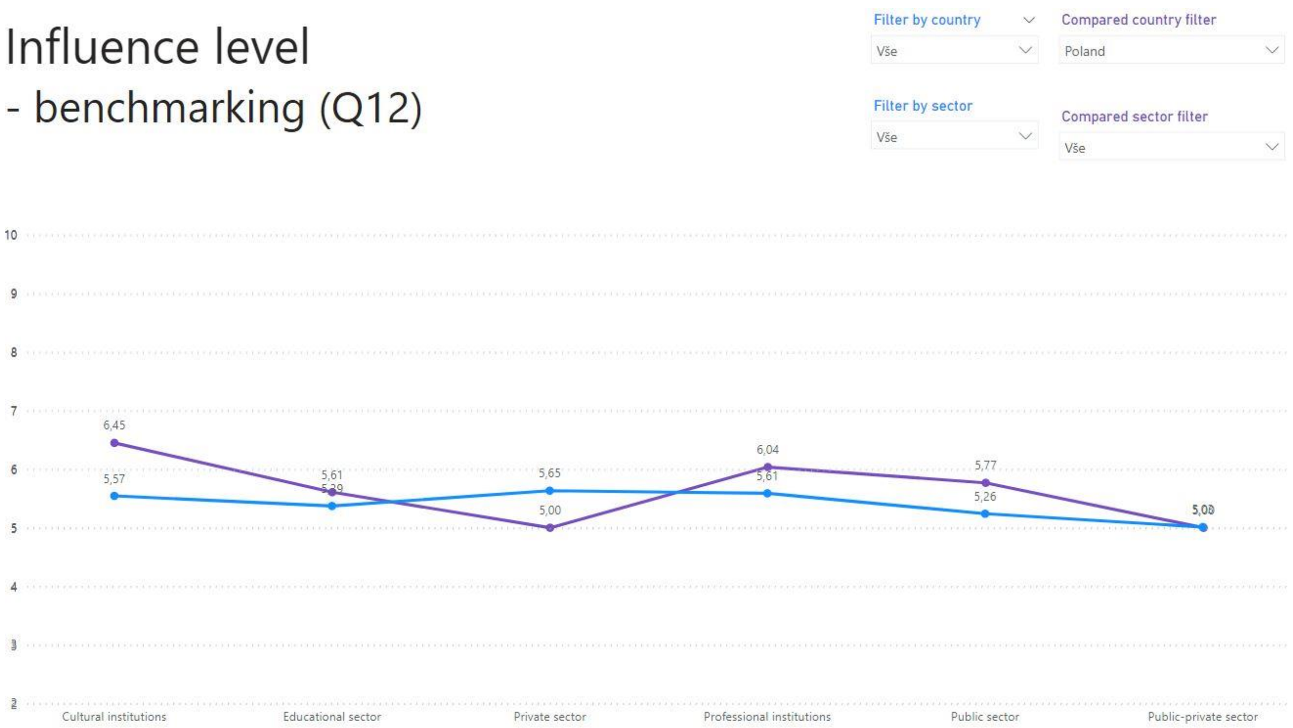


Figure 25 Activities to support the sector

Activities to support the sector (Q13)

11

Cases (n)

Filter by country

Vše

Value	Cases
Assistance of local government in obtaining EU funds for business development	1
Cooperation between ceramic manufacturers, which for obvious reasons does not exist.	1
Granting Bolesławiec ceramics with protected geographical indication mark	1
promotion of handicraft at culture institutions; better cooperation between the entities in the sector; training in ceramic technologies and sales promotion; abolition of the tax on artistic article sales.	1
Promotion of local suppliers among the numerous tourists visiting the region	1
protected geographical indication for Bolesławiec ceramics	1
ROZMOWY SPOTKANIA ITP	1
Stable tax regulations, Balanced increase in the minimum wage and electricity cost Investments in renewable energy sources Granting Bolesławiec ceramics with EU protected geographical indication mark	1
Teaching art history at schools, organising ceramic meetings by cultural institutions and local authorities	1
The porcelain industry in Poland has a small share in GDP, hence its problems - a large share of labor cost (~ 50%) and energy cost (~ 20%) in overheads - is not visible to the authorities - and today it threatens the entire sector. Proposed activities: financial support - both in marketing (e.g. reimbursement of costs of participation in trade fairs and exhibitions) and production aspect (e.g. exemption from some labour costs, such as the labour fund premium or obligation of 6% of disabled employees), co-financing investments in that mechanised and automated processes - as a large company we cannot benefit from existing programs). In addition, partial support in reducing energy costs or tax exemptions.	1
Celkem	**11**

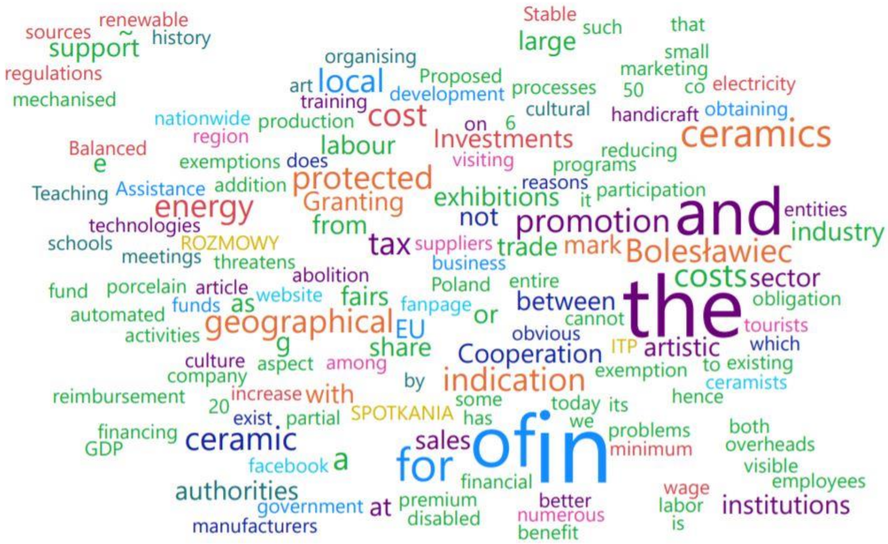


Figure 26 Level of cooperation

Q11. S: The level of cooperation in your region (country) in the ceramic sector is sufficient.

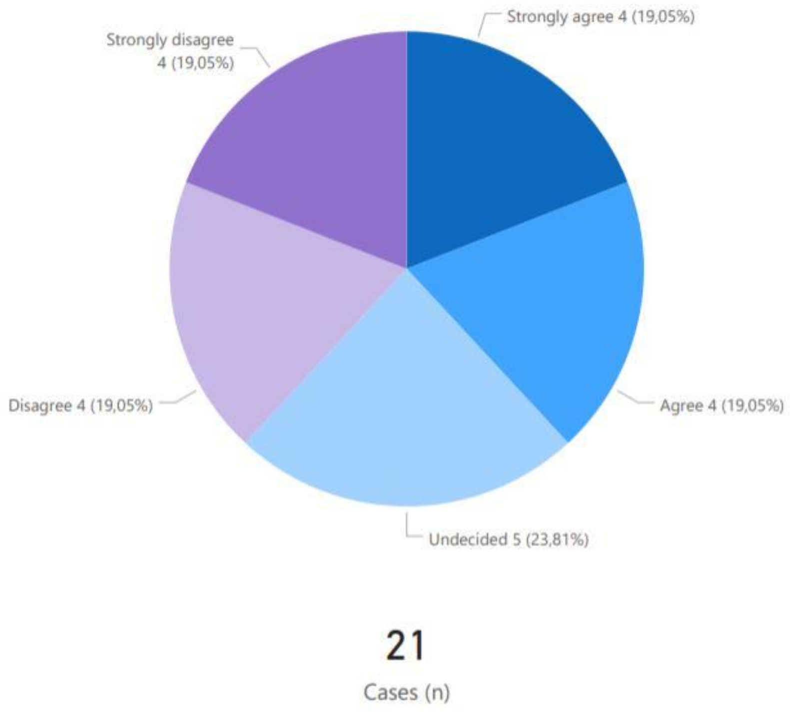


Figure 27 Support or cooperation

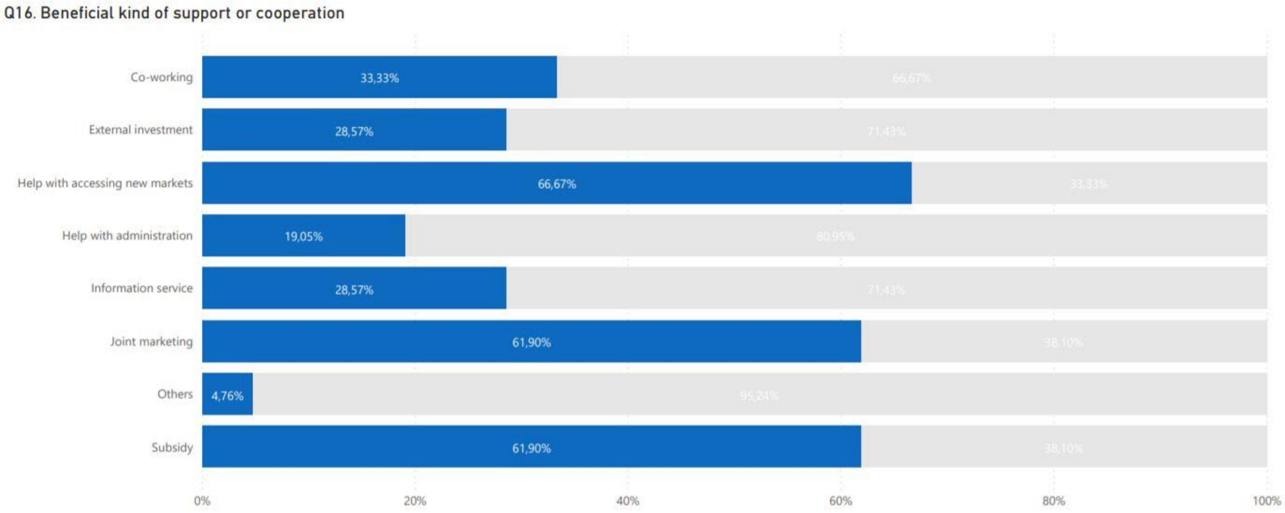


Figure 28 Attitude towards a statement

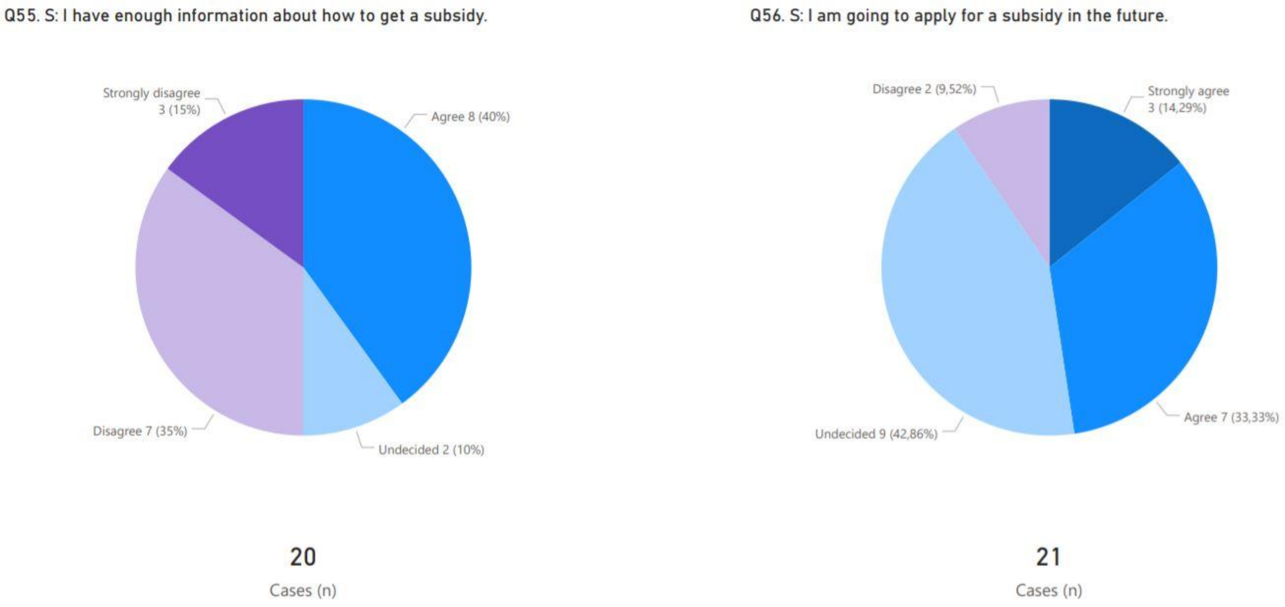
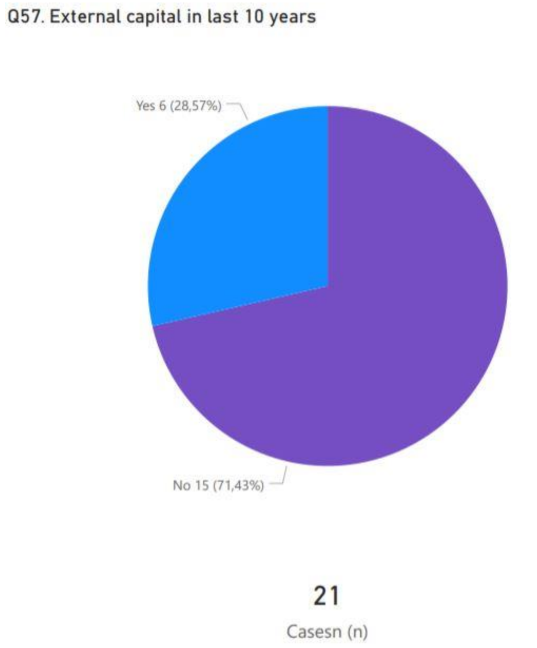
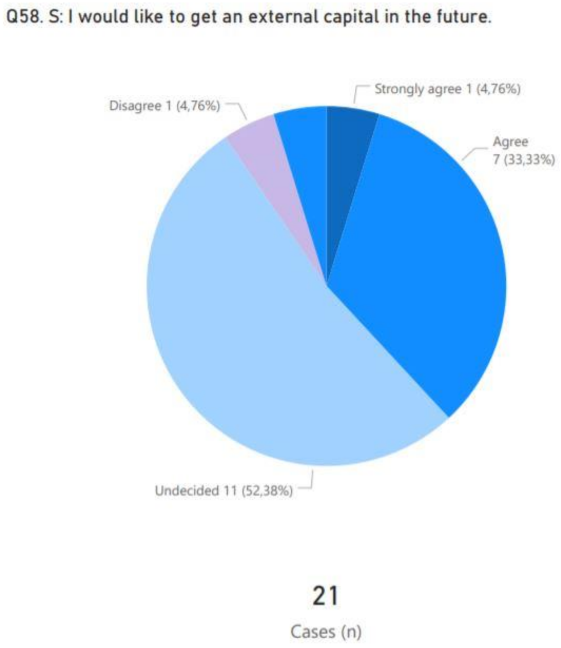


Figure 29 Financial situation, attitude towards a statement





6.4. Marketing activities

Figure 30 Currently used marketing activities

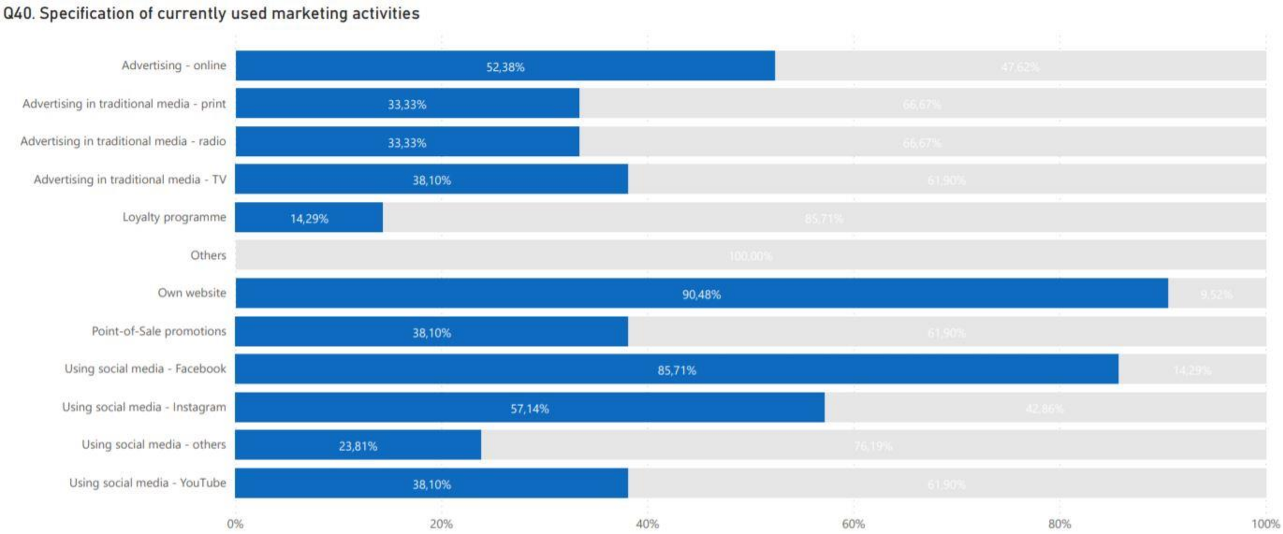


Figure 31 Marketing activities planned for the future

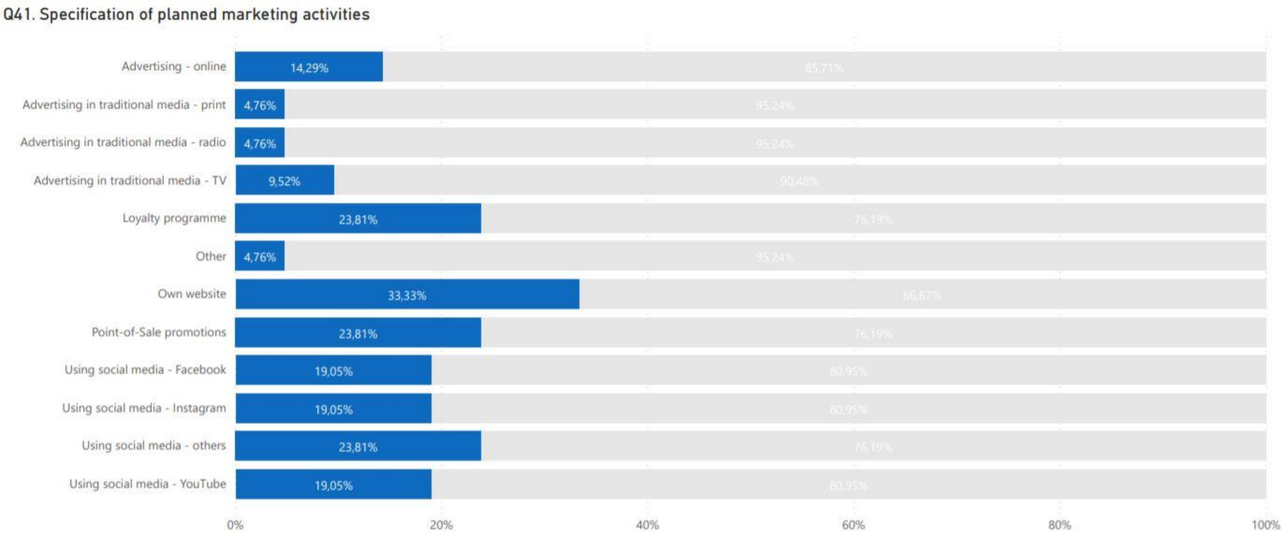


Figure 32 Responsibility for marketing activities

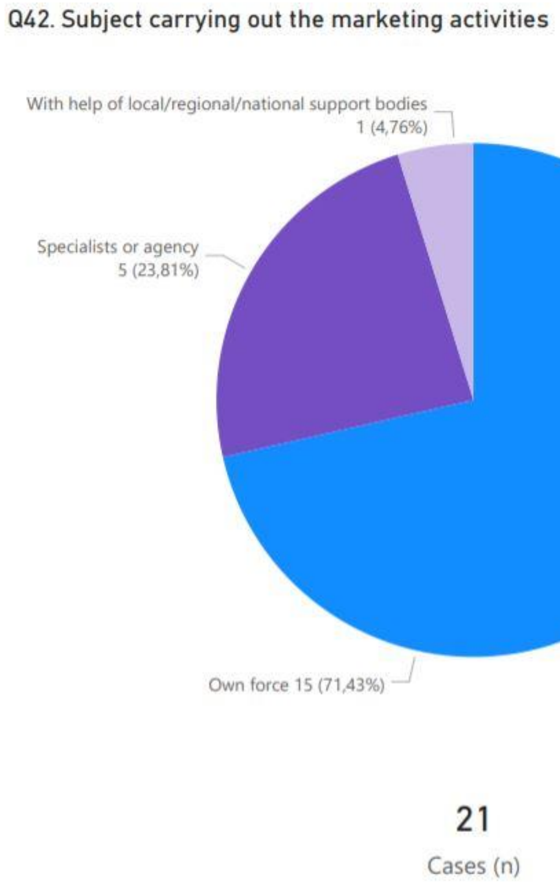
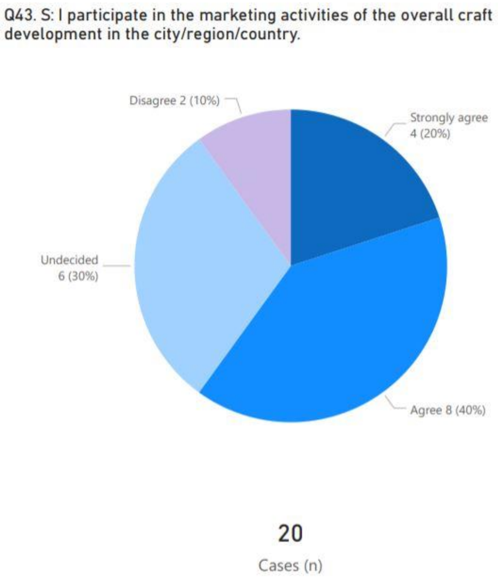


Figure 33 Participating in the marketing activities



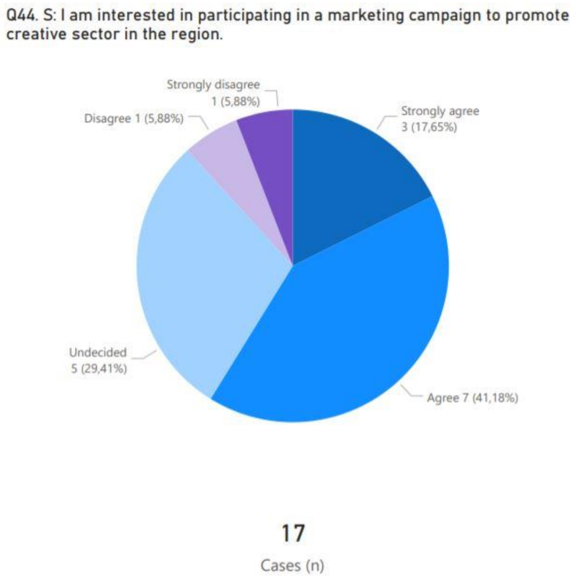


Figure 34 Marketing activities on social networks

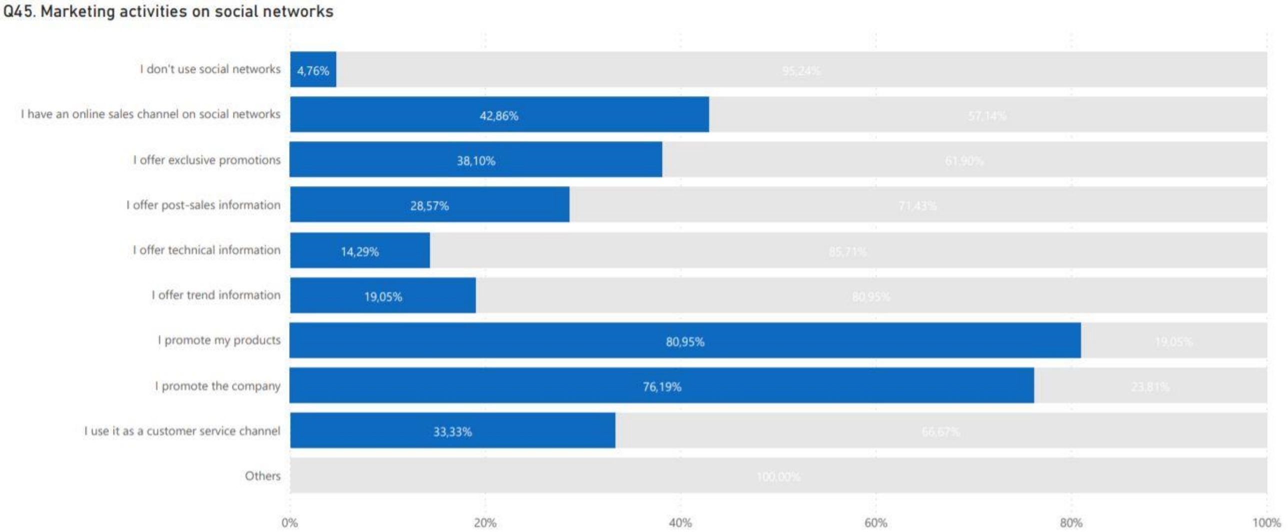


Figure 35 Feedback on social media

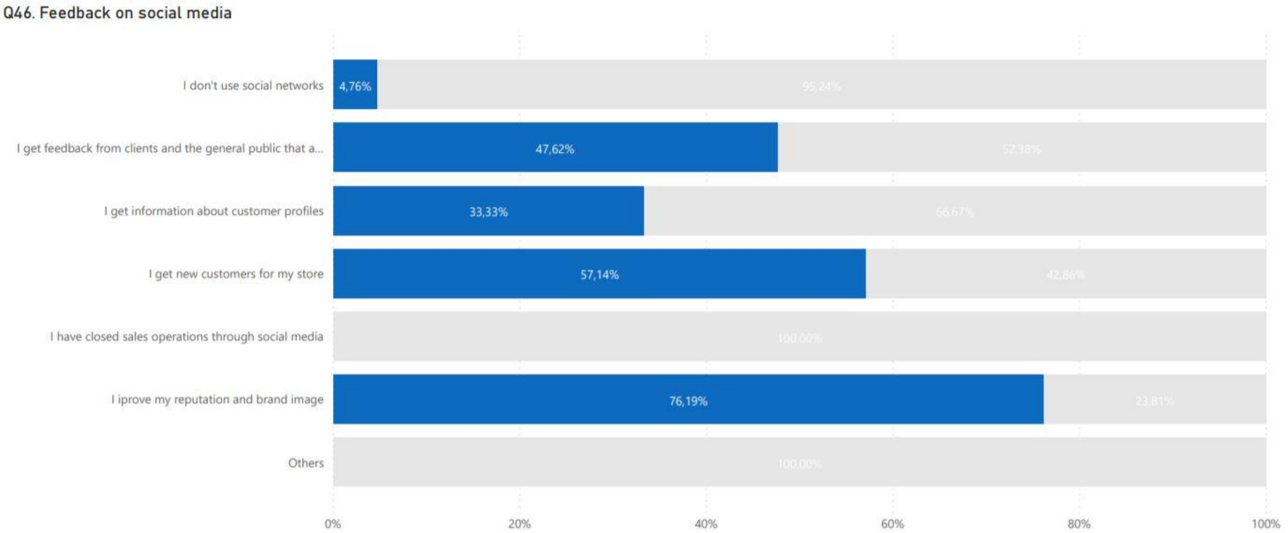


Figure 36 Currently used distribution channels

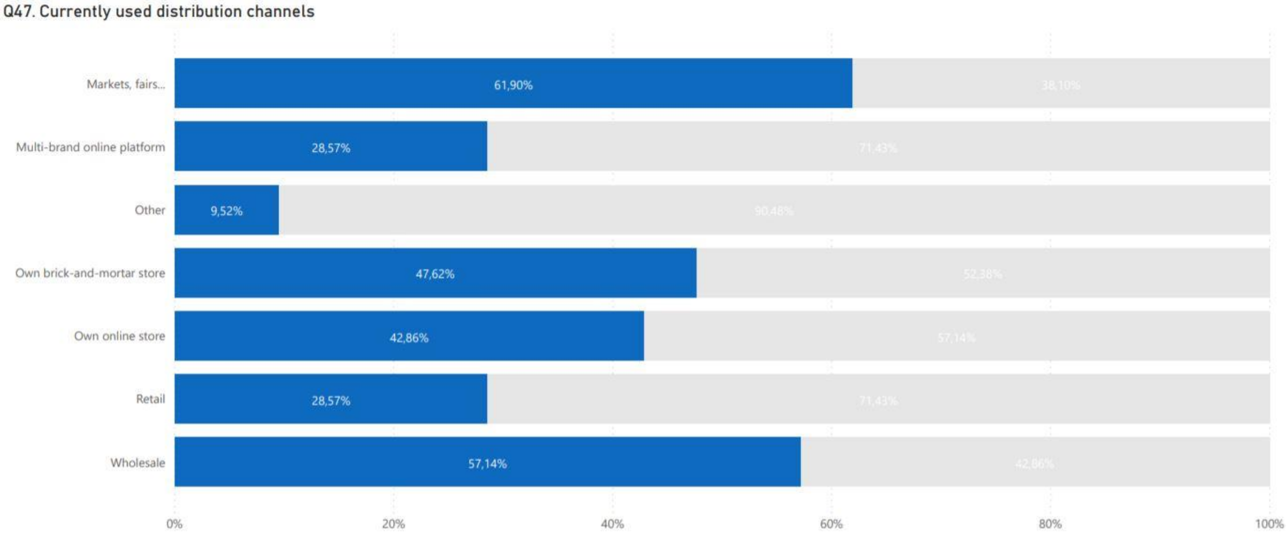


Figure 37 Planned distribution channels