Survey on Innovation Capacities of MSMEs in India

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सत्यमेव जयते
MINISTRY OF MICRO, SMALL & MEDIUM ENTERPRISES
GOVERNMENT OF INDIA

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LIST OF ABBREVIATIONS

AWAKE	Association of Women Entrepreneurs of Karnataka
BMOs	Business Membership Organisations
BMZ	Federal Ministry for Economic Development and Cooperation, Government of Germany
COVID-19	Coronavirus disease
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH
GDP	Gross Domestic Product
I-A	Industry-academia collaboration projects
ICs	Industry Cells
IFCs	Innovation Facilitation Cells
MoMSME	Ministry of Micro-, Small and Medium Enterprises, Government of India
MSMEs	Micro-, Small-, and Medium- Sized Enterprises
MSME INNO	Programme for Modernisation and Innovation Promotion in MSMEs in India
SIDBI	Small Industries Development Bank India
TCs	Technology Centres
WS	Workshops

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1 INTRODUCTION

The 63 million Micro-, Small- and Medium- sized Enterprises (MSMEs) in India contribute significantly to the economy. They provide 110 million jobs and make up around 30 percent of the country's Gross Domestic Product (GDP). The MSME sector is ideally poised to be a major contributor to India's economic growth.

However, the Indian MSME ecosystem faces fundamental challenges. Inadequate linkages and weak capacities of key actors translate to limited innovation capacities of MSMEs.

In order to strengthen cooperation between the stakeholders of the MSME ecosystem in India, the Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, on behalf of the German Federal Ministry for Economic Cooperation and Development (BMZ), Government of Germany and in cooperation with the Indian Ministry of MSME (MoMSME), Government of India, implements the 'Programme for Modernisation and Innovation Promotion in Micro-, Small- and Medium-sized Enterprises (MSMEs) in India' (MSME INNO).

The overarching objective of MSME INNO is to improve the innovation system, which systematically promotes cooperation between industry, science and the government.

To foster cooperation in the MSME ecosystem, the project sets up linkages and strengthens existing ones. It seeks to improve the innovation capacities within the MSME ecosystem through four intervention areas. These are implemented in Maharashtra and Punjab as well as in selected cities beyond these two states.

1. INDUSTRY-ACADEMIA COLLABORATION

The project introduced industry-academia (I-A) collaboration projects in order to close the knowledge divide between the stakeholders. In these projects, both entities cooperate in order to develop innovative solutions for MSME challenges. Currently, they are being implemented in cooperation with 22 colleges in Aurangabad, Nagpur, Pune, Nashik and Ludhiana. So far, 341 MSMEs hosted 435 projects in which 1,359 students participated.

2. STRENGTHENING BUSINESS MEMBERSHIP ORGANISATIONS (BMOS)

Business membership organisations (BMOs) are critical for bringing multiple stakeholders together. The project strengthens innovation promotion services offered by BMOs through advisory and capacity development. As such, it has supported 30 BMOs in organising 266 knowledge dissemination events. More than 6,700 MSME members participated.

3. FOSTERING INCUBATION THROUGH STRENGTHENING TECHNOLOGY CENTRES (TCS)

A sustainable increase in innovation can only be realised if incubation services nurture innovative ideas and technologies. MSME INNO adopts a multi-pronged approach to set up and strengthen six incubators in Technology Centres (TCs) of the MoMSME and educational institutes.

4. SUPPORTING CENTRAL AND STATE-LEVEL POLICIES

The project also shares best practices with the government to consider them for policy initiatives. This includes supporting the Government of Maharashtra and the Government of Punjab with the project's experience in the above mentioned intervention areas through stakeholder consultations and policy dialogues.

2 SURVEY METHODOLOGY

This survey analyses the impact of the project activities on innovation capacities of MSMEs in India. It responds to one of the project's indicators, which follows the wording:

250 MSMEs (including start-ups and social enterprises) (50 women-led and 50 operating or providing solutions in the areas of energy and resource efficiency, environmental protection, climate change mitigation and adaptation) involved in the project activities confirm one of the three statements:

1. **The innovation capacity is improved.**
2. **The cooperation with academia or service providers is improved.**
3. **The access to innovation enabling programmes/ instruments is improved.**

Based on this indicator, the project set up five hypotheses:

HYPOTHESIS 1

250 MSMEs (including start-ups and social enterprises) involved in the project activities confirm one of the three indicator statements.

HYPOTHESIS 2

50 MSME members from industries operating or providing solutions in the areas of
i) energy and resource efficiency,
ii) environmental protection and
iii) climate change mitigation and adaptation have increased their cooperation with other members of the MSME ecosystem.

HYPOTHESIS 3

50 members of women-led MSMEs have increased their cooperation with other members of the MSME ecosystem.

HYPOTHESIS 4

The more project activities the interviewee was involved in, the more likely he/she is to confirm the three statements.

HYPOTHESIS 5

Respondents from Maharashtra are more likely to confirm an improved use of innovation services due to the longer project implementation period in the state.

IN ORDER TO INCREASE THE COMPREHENSIBILITY OF THE STATEMENTS, THE PROJECT RE-PHRASED THEM FOR THE QUESTIONNAIRE.

WHAT IS INNOVATION CAPACITY?

Innovation capacity is defined as the ability of MSMEs, start-ups and social businesses to continually improve the capabilities and resources for discovering opportunities in order to engage in new product development (Szeto 2000). Capabilities, resources and opportunities are strengthened by the services offered by the project partners on organisational level; namely BMOs, incubators and academic institutions.

HOW IS COOPERATION WITH ACADEMIA OR SERVICE PROVIDERS MEASURED?

Cooperation with academia or service providers is measured through regular monitoring. College mentors update the data on industry-academia collaboration projects on an online platform (msmeinnovation.com). Services accessed at the other partner institutions – BMOs and incubators – are monitored through participants lists and feedback forms.

HOW IS ACCESS TO INNOVATION ENABLING PROGRAMMES AND INSTRUMENTS DEFINED?

The project defines innovation enabling programmes and instruments as financial schemes initiated by governmental institutions (mainly MoMSME and other ministries of the Government of India) and banks (i.e. the Small Industries Development Bank India, SIDBI).

2.1 OPERATIONALISATION

The survey was conducted through semi-standardised telephone interviews over the course of three months from 18.08.2020 - 30.11.2020. Two consultants, who were instructed and supervised by the monitoring responsible of the project, carried out the interviews. The sample as well as the project partners were informed in advance. Project staff was not directly involved in the data collection in order to avoid biased results.

SAMPLE SELECTION[1]

In each of the project interventions, MSME members and start-ups are requested to register on participants lists. These lists, as well as the industry-academia collaboration database, were consulted for the sample selection.

MSMES AND START-UPS WORKING IN THE AREAS OF RESOURCE AND ENERGY EFFICIENCY, ENVIRONMENTAL PROTECTION OR CLIMATE CHANGE MITIGATION

In order to identify 50 MSMEs working in the areas of resource and energy efficiency, environmental protection or climate change mitigation, the project sought the support of its partners. The sample was thus assigned conservatively through external classification of BMOs and incubators. With a sample size of 78, the share of this subgroup was relatively low. Previous surveys suggest that the external allocation of the characteristics tends to be more conservative than the actual self-classification from within the target group. Hence, the project included a question for self-classification to one or more of the subgroups (see question 2, Appendix II).

WOMEN-LED ENTERPRISES

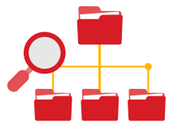
Women are particularly affected by the COVID-19 pandemic. A survey conducted by AWE Foundation in July 2020 identified personal challenges at home, i.e. greater burden of providing care for the family, as the second biggest challenges faced by them (Chawla, Sahni and Sadhwani 2020). Based on this, the project assumed that managers as well as women employees of women-led enterprises would be less available to answer the phone. The project thus tripled the sample size of members of women-led enterprises; increasing it to 141 in order to reach the 50 confirmations as required by the indicator.

[1] See Appendix 1

2.2 QUESTIONNAIRE[2]

BIOGRAPHICAL DATA

The first set of survey questions was targeted at capturing biographical as well as general data. Both were required to differentiate the sample based on the hypotheses. The set included the project region and city, gender, as well as the age and occupation of respondents.



IDENTIFICATION OF SUBGROUPS

According to hypothesis 2, 50 industries operating or providing solutions in the areas of i) energy and resource efficiency, ii) environmental protection and iii) climate change mitigation and adaptation were expected to confirm one of the three statements. A similar assumption was made in hypothesis 3, which anticipates the confirmation of members of 50 women-led MSMEs. The interviewees were requested to assign these characteristics themselves in questions 2 and 3.

QUESTIONS FOR STATEMENT 1

The first statement 'The innovation capacity is improved' was reframed into two questions. First, the interviewees were asked to specify the type of innovation promotion service they participated in (multiple replies possible). The standardised replies were divided into the categories i) events, ii) industry-academia collaboration projects, iii) technical workshops (i.e. foundry, welding) and iv) incubation services. Question 4a) was particularly important for testing hypothesis 4.

In the following non-standardised question (4b), interviewees were requested to specify the extent in which their processes/business models or products were improved upon.

QUESTIONS FOR STATEMENT 2

The second statement 'The cooperation with academia or service providers is improved' was also divided into two sub-questions.

In order to assess the extent of improvement of cooperation, a baseline had to be established. Hence, interviewees were asked whether they had worked with chambers and industries, academic institutions or incubators five years ago, marking the status quo before the commencement of project interventions. Subsequently, interviewees were requested to clarify whether they witnessed any improvements in the services compared to five years ago.

QUESTIONS FOR STATEMENT 3

In order to increase the comprehensibility of the third statement 'The access to innovation enabling programmes/instruments is improved', the project modified it to 'Is it easier to receive information on financial support schemes (i.e. ASPIRE or COVID-19 support schemes) compared to five years ago?'. The interviewees were then invited to explain the reasoning behind this assessment.

[2] See Appendix 2

3 SURVEY RESULTS

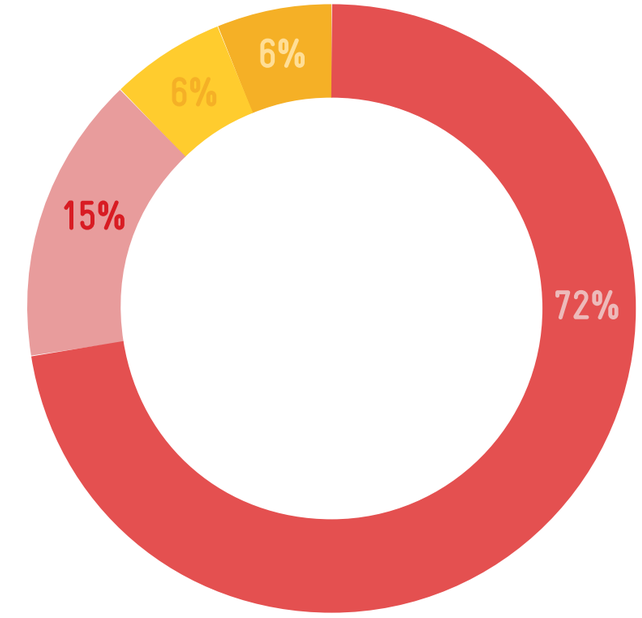


Figure 1: Responsiveness

From 18 August 2020 to 20 November 2020, the two consultants contracted by MSME INNO called 441 MSME-, start-up-, or social business members. Out of these, 316 (72%) responded to the survey questions. 15% were not reachable (most often due to network issues or due to lack of availability), 6% were not interested and for 6% the phone number was wrong (figure 1).

3.1 BIOGRAPHICAL DATA

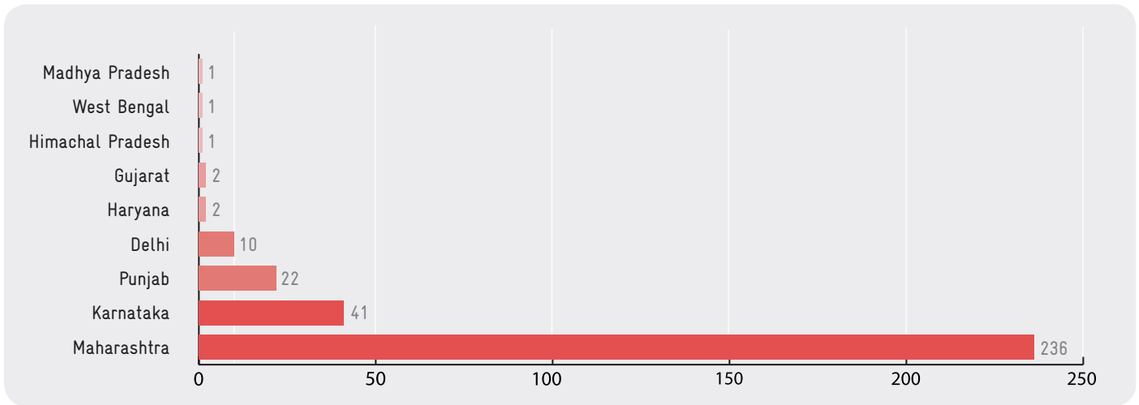


Figure 2: States

As can be seen in figures 2 and 3, most of the respondents originated from Maharashtra (236). Mainly, they were located in Aurangabad (154). Respondents from Nashik comprise the second biggest group within Maharashtra (55). Bangalore respondents represent the third biggest share (41 respondents).

Compared to Karnataka and Maharashtra, the share of respondents from the Punjab is relatively low (22). Project interventions in the region commenced in 2019, whereas the project has been implementing activities in the other regions since 2015.

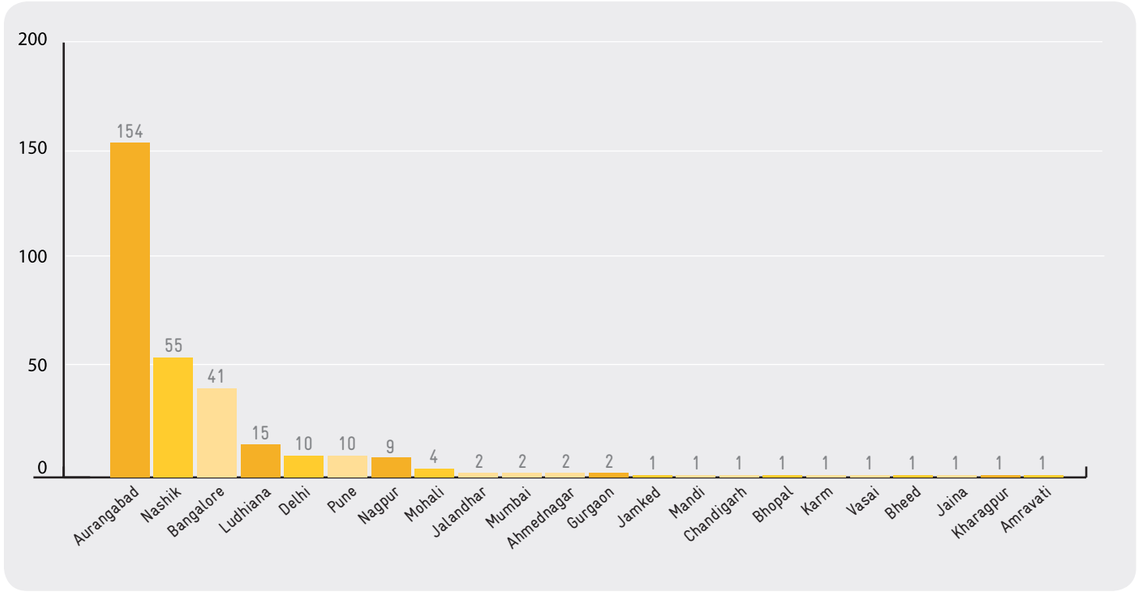


Figure 3: Cities

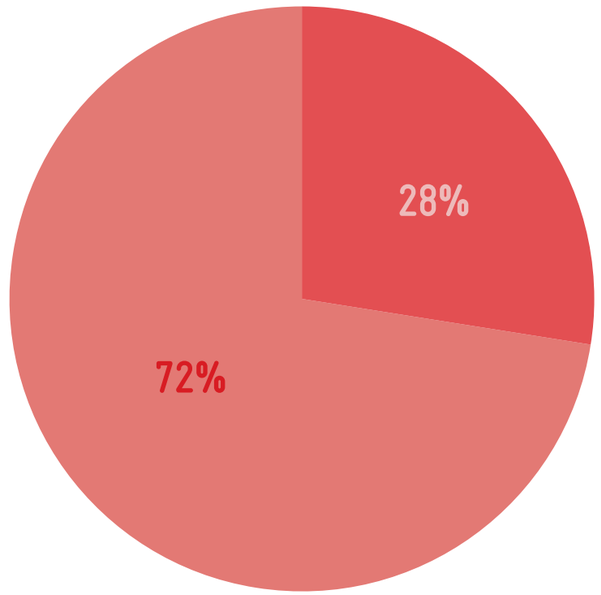
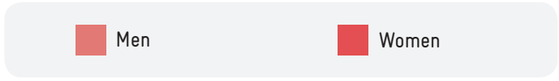


Figure 4: Gender distribution



The gender distribution of the respondents (figure 4) is roughly representative of the MSME ecosystem as a whole. Out of the interviewed, 72% (229) were men, 28% (87) were women. According to a report published by Bain & Company and Google (Bain and Company 2019), 20% of all enterprises in India are women-owned. This estimate is also reflected in the share of women-led MSMEs who visit events and online seminars the project directly and indirectly contributes to. Out of 6,706 MSME members who participated in these project activities from January 2018 to November 2020, 1,278 (19%) were women.

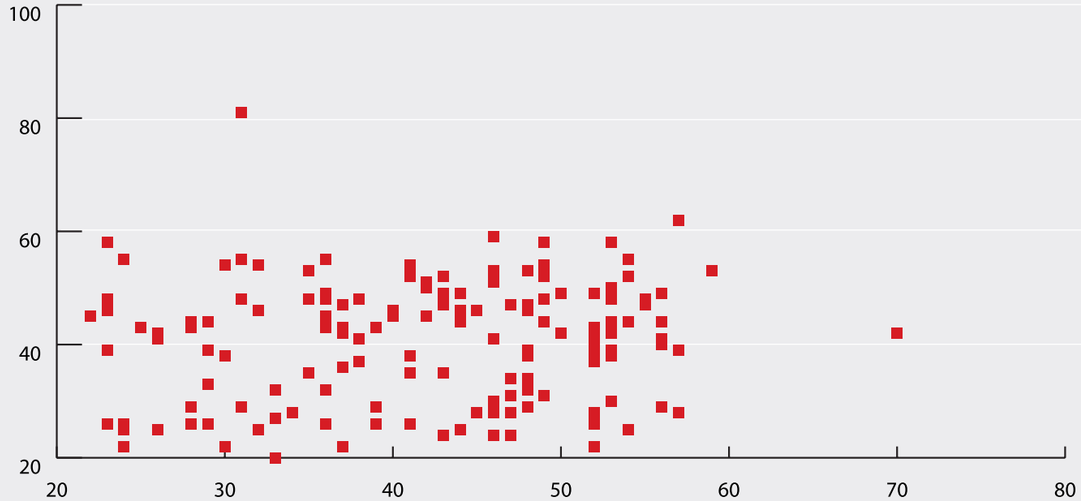


Figure 5: Age distribution

The age of the respondents averaged at Ø 40.67. The youngest interviewee was 20, the oldest 81 years old (figure 5).

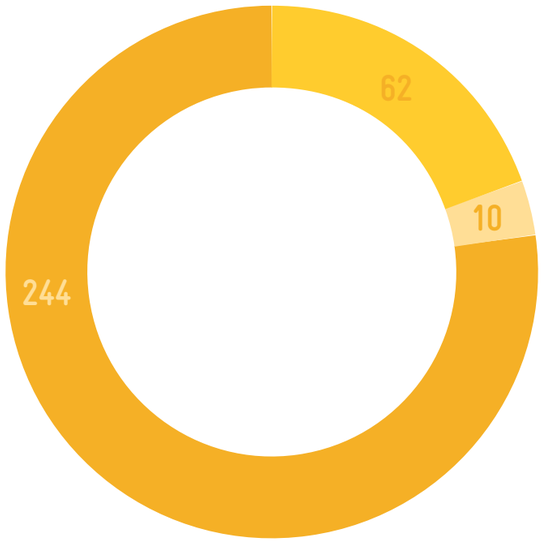
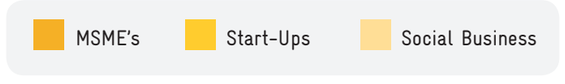


Figure 6: Distribution of occupations



As can be seen in figure 6, MSMEs make up the biggest share of respondents (244 / 77%), followed by start-ups (62 / 20%) and social businesses (10 / 3%).

3.2 IDENTIFICATION OF SUBGROUPS

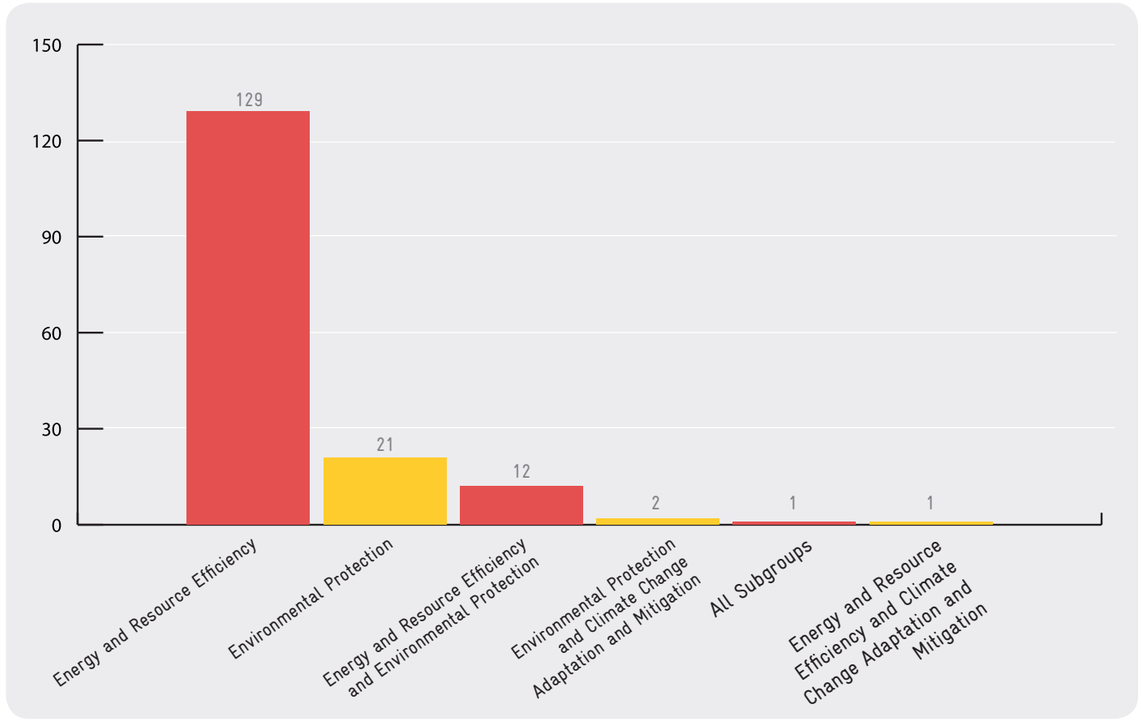


Figure 7: Self-assignment of respondents to the three areas energy and resource efficiency, environmental protection and climate change adaptation and mitigation (multiple replies possible)

As can be seen in Fig. 7, 166 respondents self-assigned to at least one of the subgroups.[3] 129 respondents ticked the box of 'energy and resource efficiency', whereas only 21 confirmed to be operating or providing solutions in the area of environmental protection. Accordingly, the self-classification produced almost double as many members of the subgroup as had been externally classified in the preparation of the survey (see chapter 2.1). None of the sample members claimed to be working exclusively in climate change adaption and mitigation, whereas 2 confirmed to be operating or providing solutions in the areas of environmental protection and climate change mitigation and adaptation and 1 confirmed the combination of energy and resource efficiency and climate change adaptation and mitigation.

Additional 12 respondents self-assigned to the subgroup of energy and resource efficiency and environmental protection. Only one respondent ticked the boxes for all three subgroups.

In addition, the consultants were able to interview 89 owners or employees of women-led MSMEs; a share of 28% of overall respondents.

[3] The survey participants were sanctioned to choose more than one of the subgroups 'energy and resource efficiency', 'environmental protection' and 'climate change mitigation and adaptation'. In order to avoid duplications, the responses were only counted once in case of multiple replies.

3.3 RESULTS FOR STATEMENT 1: THE INNOVATION CAPACITY IS IMPROVED

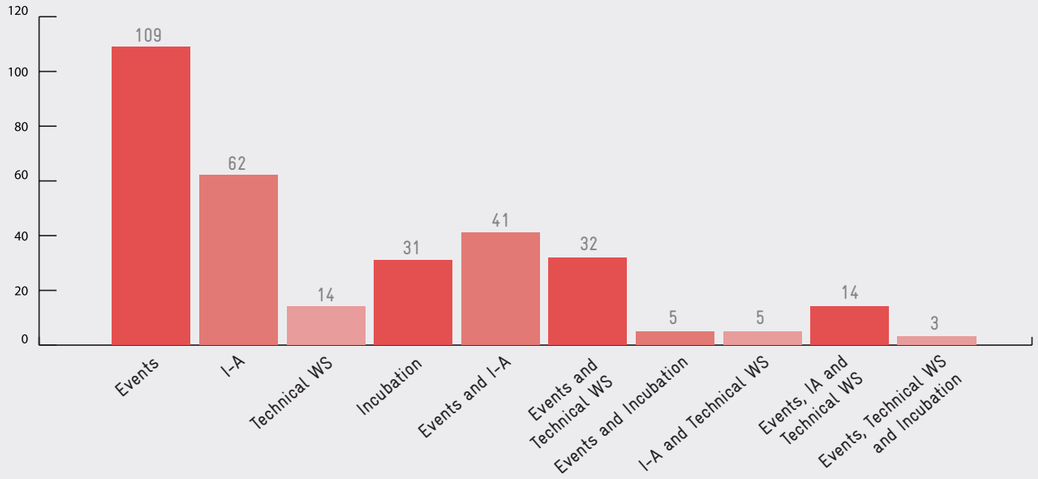


Figure 8: Types and occurrence of innovation promotion services (multiple replies possible)

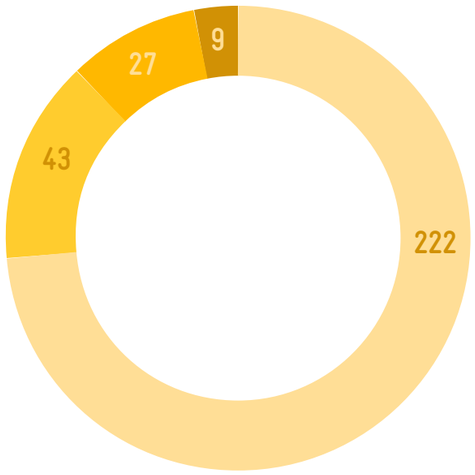
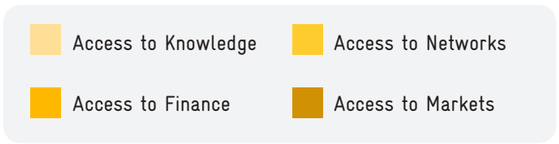


Figure 9: Changes in industries after having used the services / having obtained access to innovation enabling programmes (multiple replies possible)



As can be seen in figure 8, the largest share of respondents availed one innovation promotion service (216[4]). The remaining 100 respondents confirmed that they made use of two or three services. None of the respondents accessed all four innovation promotion activities. Likely, this is due to incubation being targeted exclusively at start-ups.

The respondents were requested to provide non-standardised responses to the question 'What has changed in your industry after having used the services / having obtained access to innovation enabling programmes offered by the BMO / incubator / university?'. These responses were coded into the categories 'access to knowledge', 'access to networks', 'access to market' as well as 'access to finance' in the data evaluation phase (figure 9, multiple codes possible for each response).

[4] Similar to the previous set of questions (see chapter 3.2), types and occurrences of innovation promotion services were only counted once in order to avoid duplicates that would impact the survey results.

OUT OF THE 316
SURVEY RESPONDENTS

88%

CONFIRMED THAT THEIR INNOVATION CAPACITY IMPROVED AFTER AVAILING INNOVATION PROMOTION SERVICES OR AFTER ACCESSING INNOVATION ENABLING PROGRAMMES.[5,6]

[5] As part of the data evaluation, it was tested whether the responses differed based on gender. This assumption cannot be verified for the first statement, which was confirmed by 89% of women and 88% of men (see Appendix III).
[6] See figure 9

WITH A SHARE OF 222, MOST MSMES, START-UP OR SOCIAL BUSINESS MEMBERS CONFIRMED AN IMPROVED ACCESS TO KNOWLEDGE.

'I am an incubatee in IDEMI. Incubation services are very good. We have experienced mentors who have guided well so far. Business strategy is improved, industry connects are increased, I learned many new things related to finance model and IPR. Overall, I can say that now we are moving onto the right track.'

Woman, start-up, Mumbai, accessed incubation services

ANOTHER 44 FOUND THAT THEIR ACCESS TO NETWORKS HAD IMPROVED.

'We have given a study project on short mould shrinkage issues, student has done a good work. He developed a good solution on it. Now we have decided to make a prototype of it. We have also participated in many programmes on global opportunities as well as how to collaborate with MSMEs globally. This was very helpful in growing our industry and also helped us in increasing connect. The talk with a German speaker was very informative to learn about the industrial culture of Germany.'

Man, MSME, Aurangabad, participated in events

ACCESS TO FINANCE IMPROVED ACCORDING TO 27 RESPONDENTS.

'We observed that the seminars or workshops on the current technologies are very helpful in increasing the knowledge and in keeping us updated with the market. The programmes also give the information about financial schemes of the government which is very important and secondly all these activities help in expanding our business and networks.'

Man, MSME, Aurangabad, participated in events

FINALLY, 9 RESPONDENTS CONFIRMED AN IMPROVED ACCESS TO THE MARKET.

'Relation with academia institution is increased and helped us in getting innovative solution for our industries. Global opportunities session helped us in increasing business and we also got the core information about the requirements of different countries so as to grow our global business.'

Man, MSME, Aurangabad, participated in events

3.4 RESULTS FOR STATEMENT 2: THE COOPERATION WITH ACADEMIA OR SERVICE PROVIDERS IS IMPROVED

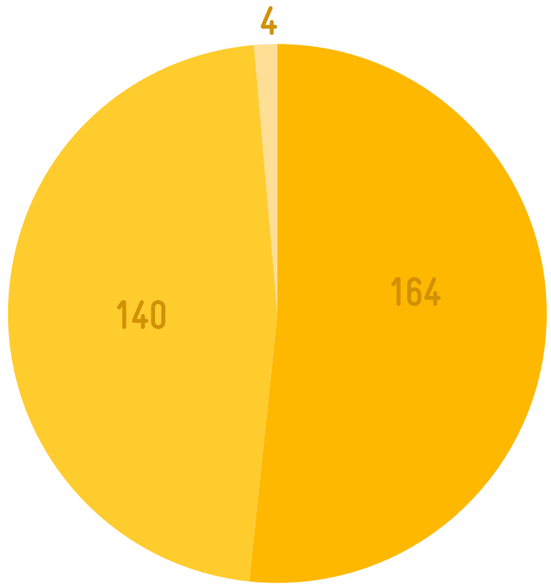


Fig. 10: Levels of cooperation of MSMEs, start-ups and social businesses with academia or service providers

For the second statement, the interviewees were requested to determine the frequency of collaboration with other stakeholders of the MSME ecosystem compared to five years ago. Respondents were presented a scale ranging from 'often', 'sometimes', and 'never' to 'not applicable'.

The responses were evaluated comparing the levels of improvement. As can be seen in figure 10, 53% of the respondents improved their level of cooperation (164), whereas 47% (144) did not avail services more often than five years ago.[7]

[7] A clear correlation between gender and a frequency of availing innovation services cannot be determined for statement 2, either. Slightly less men (50%) than women (57%) confirm improved collaboration over the course of five years. This could be an effect of the lower share of women in the sample (see Appendix II).

53%

OF THE RESPONDENTS
IMPROVED THEIR COOPERATION
WITHIN THE MSME ECOSYSTEM[8]

[8] See figure 10

3.5 RESULTS FOR STATEMENT 3: THE ACCESS TO INNOVATION ENABLING PROGRAMMES / INSTRUMENTS IS IMPROVED

IS IT EASIER TO RECEIVE INFORMATION ON FINANCIAL SUPPORT SCHEMES (I.E. ASPIRE, COVID-19 SUPPORT SCHEMES) COMPARED TO FIVE YEARS AGO?

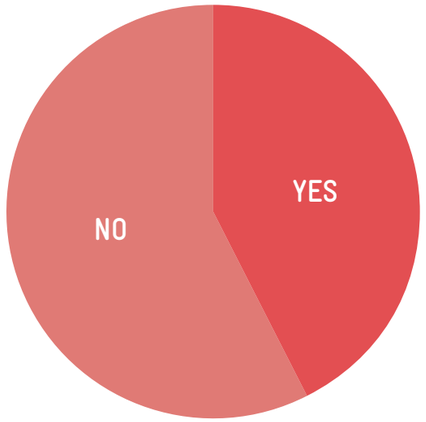


Figure. 11: Responses to statement 3; 'The access to innovation enabling programmes / instruments is improved.'

The final question of the survey was 'It is easier to receive information on financial support schemes (i.e. ASPIRE, COVID-19 support schemes) compared to five years ago?'. Compared to the other two statements, this question received the lowest amount of positive responses. A total of 134 out of 316 respondents (43%) confirmed an improved access to innovation enabling programmes (figure 11).

The respondents were requested to specify their sources of information. The replies were later coded in the data evaluation process. As can be seen in figure 12, the majority (82 / 62%) contributed the ease in availing information to BMO-related services. These include knowledge and information dissemination events, networking meetings and innovation camps. A large number (42 / 31%) also attributed the improved access to digitalisation and accompanying tools, including social media, mails, newsletters and websites. The third most important source for innovation promotion services were both government institutions and networks (25).

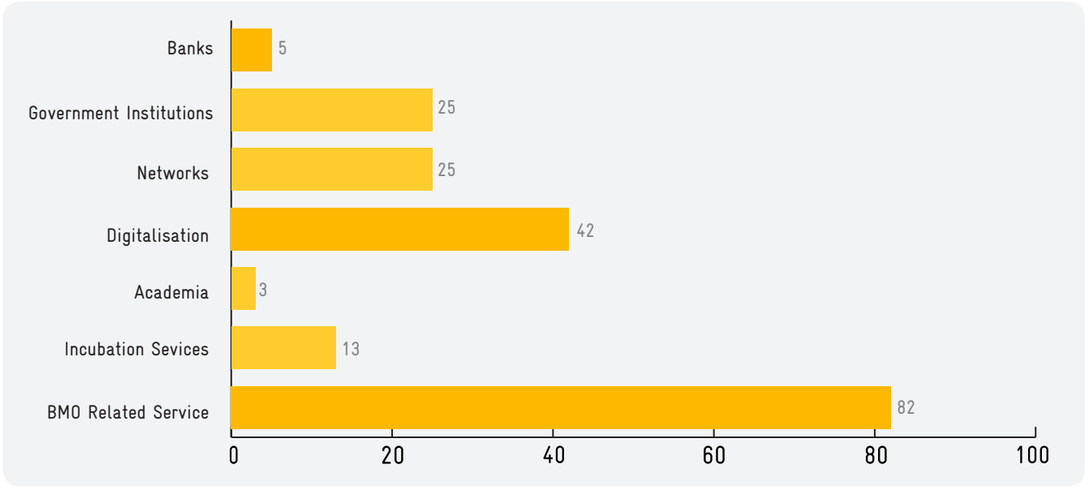


Figure. 12: Factors for improved access to innovation promotion services

OUT OF THE 316
SURVEY RESPONDENTS

43%

CONFIRMED AN IMPROVED
ACCESS TO INNOVATION
ENABLING PROGRAMMES[11]

82%

OF RESPONDENTS ATTRIBUTED THE EASE
IN AVAILING INFORMATION ON INNOVATION
ENABLING PROGRAMMES AND INSTRUMENTS
TO BMO-RELATED SERVICES.

31%

CONFIRMED THAT DIGITALISATION AND
ACCOMPANYING COMMUNICATION TOOLS
INCREASED THE ACCESS TO INNOVATION ENABLING
PROGRAMMES AND INSTRUMENTS.[10]

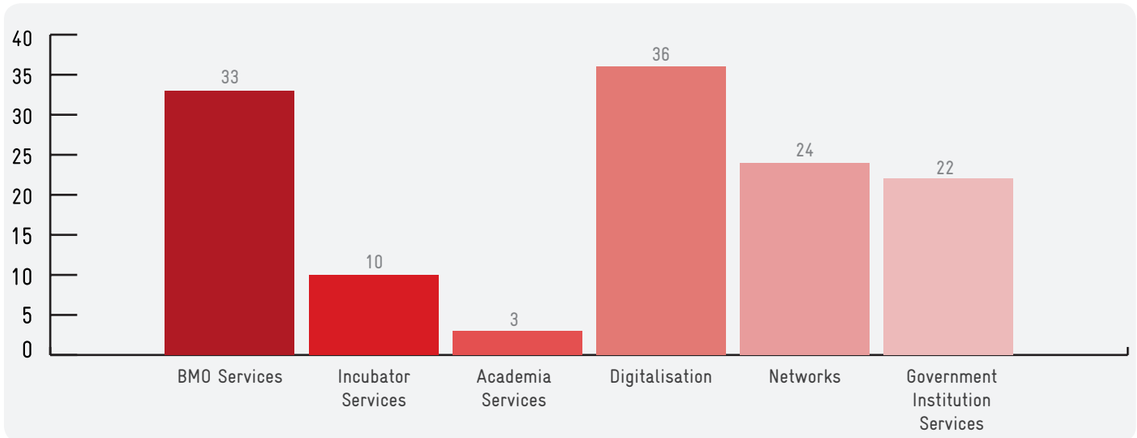
[9] See figure 11

[10] See figure 12

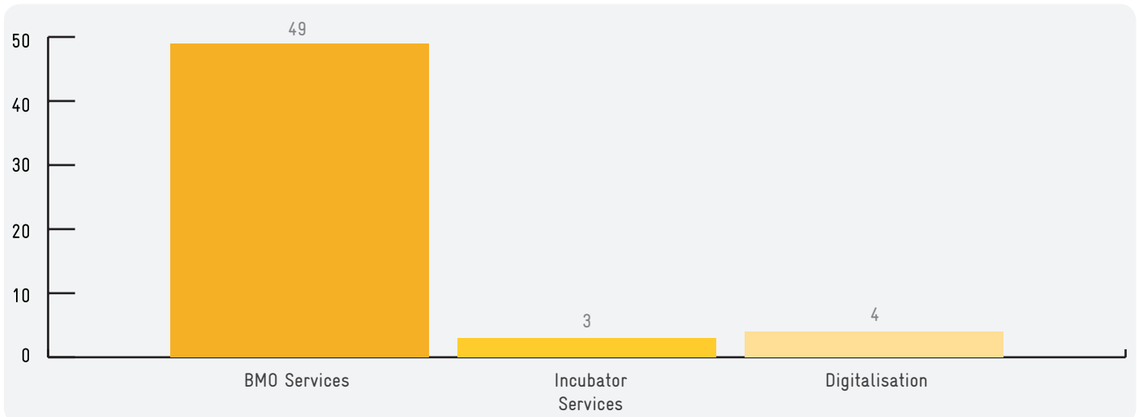
With 64%, women were more likely to confirm an improved accessibility, compared to a positive response rate of only 35% of men.

As can be seen in figure 13, women who confirmed an increase in accessibility of government schemes mostly attributed it to digitalisation (36) or BMO services (33). Men predominantly mentioned BMO services (49), whereas only 4 mentioned digitalisation as a reinforcing factor.

Though this is an interesting finding, it has to be acknowledged that women were overall more open to explain the cause of improved accessibility, whereas most men did not offer additional explanations. Hence, well-founded conclusions cannot be drawn in this case due to low case count.



WOMEN



MEN

Figure 13: Comparison of unstandardised responses to statement 3, disaggregated by gender

4 ANALYSIS AND SUMMARY

HYPOTHESIS 1	HYPOTHESIS 2	HYPOTHESIS 3	HYPOTHESIS 4	HYPOTHESIS 5
250 MSMEs (including start-ups and social enterprises) involved in the project activities confirm one of the three indicator statements.	50 MSME members from industries operating or providing solutions in the areas of i) energy and resource efficiency, ii) environmental protection and iii) climate change mitigation and adaptation have increased their cooperation with other members of the MSME ecosystem.	50 members of women-led MSMEs have increased their cooperation with other members of the MSME ecosystem.	The more project activities the interviewee has been involved in, the more likely he/she is to confirm the three statements.	Respondents from Maharashtra are more likely to confirm an improved use of innovation services due to the longer project implementation period in the state.
X	X	X	0	0

Figure. 14: Hypothesis overview (X=hypothesis verified, 0=hypothesis discarded)

HYPOTHESIS 1

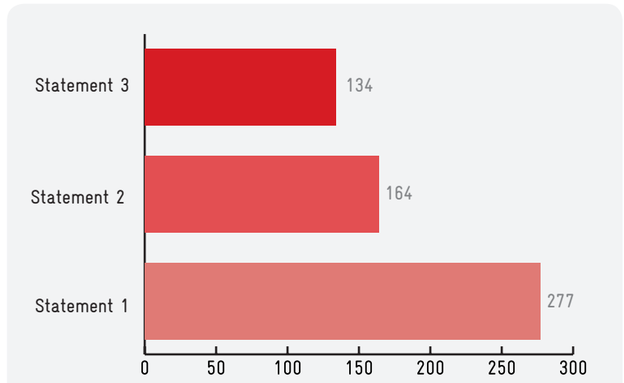


Figure 15: Confirmations per statement

As can be seen in figure 15, 277 respondents confirmed the first, 164 the second and 134 the third statement. Hence, more than 250 MSMEs (including start-ups and social enterprises) involved in the project activities confirmed one of the three indicator statements. Hypothesis 1 can be verified.

HYPOTHESIS 2

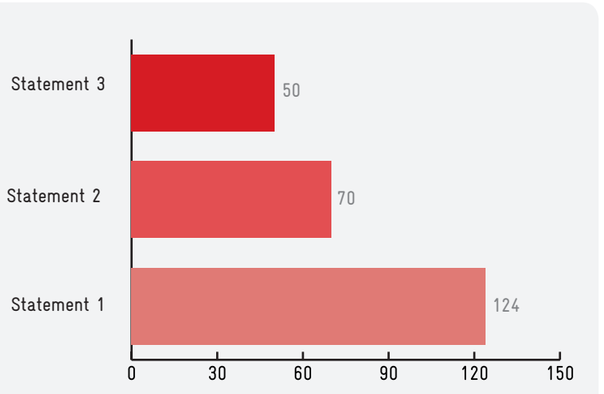


Figure 16: Results of MSME-, start-up- or social business- members who operate or provide solutions in one of the three areas energy and resource efficiency, environmental protection or climate change mitigation and adaptation

Out of the interviewees who are operating or providing solutions in one of the three areas energy and resource efficiency, environmental protection or climate change adaptation and mitigation, 124 confirmed the first, 70 the second and 50 the third statement. Accordingly, the hypothesis '50 MSME members from industries operating or providing solutions in the areas of
i) energy and resource efficiency,
ii) environmental protection and
iii) climate change mitigation and adaptation have increased their cooperation with other members of the MSME ecosystem.' can be verified for all three of the statements.

HYPOTHESIS 3

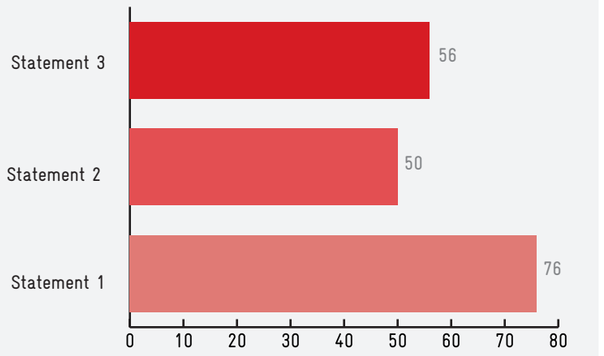


Figure 17: Results of MSME-, start-up- or social business- members who work in women-led enterprises

Likewise, hypothesis 3, '50 members of women-led MSMEs have increased their cooperation with other members of the MSME ecosystem', can be verified. Out of the 89 respondents from this subgroup, 76 (85%) confirmed the first statement, 50 (56%) the second and 56 (63%) the third.

85%

OF THE MEMBERS OF WOMEN-LED MSMES, START-UPS OR SOCIAL BUSINESSES INTERVIEWED CONFIRMED THAT THEIR INNOVATION CAPACITY HAS IMPROVED.[11]

[11] See figure 17

HYPOTHESIS 4

In order to test hypothesis 4 ('The more project activities the interviewee has been involved in, the more likely he/she is to confirm the three statements.'), a potential correlation between involvement in multiple events and response was tested (see Appendix II).

This hypothesis could not be verified based on the data gathered for statement 1. Both the respondents who participated in only one innovation promotion service as well as those who participated in at least two showed a positive response rate of 88%. Similarly, the hypothesis is not applicable for the second statement. Respondents who only participated in one of the innovation promotion services had a median response rate of 51%, whereas 52% of those who participated in two or more services confirm an increase.

The third statement does not show a correlation between number of innovation promotion services and positive response, either. Instead of an increase in confirmations among respondents who participated in two or more innovation promotion services, the survey shows a decrease. All in all, 32% out of the latter group confirmed an increase of accessibility to innovation enabling programmes and instruments, whereas an average of 47% of those who participated in only one service confirmed an increase in accessibility.

Hence, hypothesis 4 cannot be verified for any of the statements and will be discarded.

HYPOTHESIS 5

Hypothesis 5, 'Respondents from Maharashtra are more likely to confirm an improved use of innovation services due to the longer project implementation period in the state.' could not be verified (see Appendix III).

For statement 1, 88% of respondents from Maharashtra agreed, compared to 86% and 88% respondents from Punjab and Karnataka respectively. Likewise, no significant correlation could be found for statement 2. Punjab respondents forming the lowest share of confirmations (41%), compared to 53% from Maharashtra and 56% from Karnataka. Still, this result is not comparable due to the differing sample counts (only 22 respondents were from Punjab, whereas 41 hailed from Karnataka and 236 from Maharashtra).

Hypothesis 5 cannot be verified for statement 3, either. The positive response rates for Maharashtra and Punjab are almost similar, showing a confirmation rate of 36% for Punjab and 39% for Maharashtra. In contrast, the responses for Karnataka are spiking. Here, 63% of respondents confirmed the statements. This is likely due to a high number of women MSME members hailing from Bangalore, where many are represented by the BMO Association of Women Entrepreneurs of Karnataka (AWAKE).

Hence, hypothesis 5 cannot be verified for any of the statements and will be discarded.

SUMMARY

This survey demonstrates the impact of collaboration on innovation in MSMEs, start-ups and social businesses in India. Through collaboration, MSMEs are able to introduce new processes and products that allow them to maintain and increase their competitiveness.

Access to knowledge remains to be one of the key challenges faced by the target group. The survey suggests that the project interventions targeted at improving innovation promotion services and their accessibility were successful for men and women entrepreneurs as well as for MSMEs, start-ups and social businesses operating or providing solutions in the areas of energy and resource efficiency, environmental protection and climate change adaptation and mitigation.

However, the sample size is not sufficient for drawing well-founded conclusions on the suspected impact of accessing several innovation promotion services compared to focusing on one. It remains unclear if the innovation promotion services in long-time project regions like Maharashtra actually lead to increased access to knowledge, finance and networks as compared to new project areas like Punjab. Yet, the long-term interventions are likely to have established sustainable structures – like industry cells (ICs) or innovation promotion cells (IFCs) – that are expecting to persist beyond the project duration, supporting MSME competitiveness in India.

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APPENDIX I

TARGET GROUP	TARGET	SAMPLE SIZE
'GENERAL' SAMPLE	150	236
'WOMEN-LED ENTERPRISES' SAMPLE	50	141
'3 AREAS' SAMPLE	50	78

APPENDIX II: QUESTIONNAIRE

Programme for Modernisation and Innovation in MSMEs in India (MSME INNO)

Telephone Survey for Indicator M1

1. General information

a) Project region and city:

_____

b) Gender

☐ Male ☐ Female ☐ Other

c) Age

_____

d) Occupation

☐ MSME ☐ Start-Up ☐ Social Business

2. Kindly specify if your industry is working in one of the following areas:
(Please note: MSMEs who were engaged in industry-academia collaboration projects that feed into the below areas can also be counted here!)

a) Energy and resource efficiency? ☐

b) Environmental protection? ☐

c) Climate change mitigation and adaptation? ☐

3. Are you working in a women-led MSME/start-up/social business?

☐ Yes ☐ No

4. Please answer the following questions:

a) Please specify which innovation promotion services you participated in:

- Events (i.e. finance-related, innovation camps, networking) ☐
- Technical workshops (i.e. foundry, welding, marketing) ☐
- Industry-academia collaboration projects ☐
- Incubation services ☐

b) S1: What has changed in your industry after having used the services/having obtained access to innovation enabling programmes offered by the BMO/incubator/university? (Brief information on innovations like improved business model, process innovation or product innovation)

_____

_____

_____

_____

_____

_____

_____

_____

_____

c) S2: Did you work with chambers and industries/academic institutions/incubators five years ago?

- Often ☐
- Never ☐
- Sometimes ☐
- Not Applicable ☐

d) S2: How often are you availing the services offered by these service providers compared to five years ago?

- Often ☐
- Never ☐
- Sometimes ☐
- Not Applicable ☐

d) S3: Has it become easier to receive information on financial support schemes (i.e. ASPIRE, COVID-19 support schemes) compared to five years ago?

- Yes ☐
- No ☐

If yes: why?

_____

_____

_____

APPENDIX III: CALCULATIONS

CHAPTER 3.3

	TOTAL	+ STATEMENT 1	– STATEMENT 1	%
WOMEN	87	77	10	89%
MEN	229	202	27	88%

Disaggregation of data for statement 1 based on gender

CHAPTER 3.4

	TOTAL	+ STATEMENT 2	– STATEMENT 2	%
WOMEN	87	50	37	57%
MEN	229	114	115	50%

Disaggregation of data for statement 2 based on gender

CHAPTER 3.5

	TOTAL	+ STATEMENT 3	– STATEMENT 3	%
WOMEN	87	56	31	64%
MEN	229	80	149	35%

Disaggregation of data for statement 3 based on gender

CHAPTER 4 (HYPOTHESIS 4)

	TOTAL	+ STATEMENT 1	– STATEMENT 1	%	+ STATEMENT 2	– STATEMENT 2	%	+ STATEMENT 3	– STATEMENT 3	%
EVENTS	109	92	17	84%	50	59	46%	42	67	39%
I-A	62	55	7	89%	35	27	56%	26	36	42%
TECHNICAL WS	14	13	1	93%	6	8	43%	11	3	79%
INCUBATION	3	29	2	94%	20	11	65%	23	8	74%
EVENTS AND I-A	41	35	6	85%	25	16	61%	10	31	24%
EVENTS AND TECHNICAL WS	32	28	4	88%	19	13	59%	10	22	31%
EVENTS AND INCUBATION	5	4	1	80%	1	4	20%	3	2	60%
I-A AND TECHNICAL WS	5	5	0	100%	0	5	0%	3	2	60%
EVENTS, I-A AND TECHNICAL WS	14	13	1	93%	7	7	50%	55	9	36%
EVENTS, TECHNICAL WS AND INCUBATION	3	3	0	100%	0	3	0%	1	2	33%

CHAPTER 4 (HYPOTHESIS 5)

	TOTAL	+ STATEMENT 1	– STATEMENT 1	%	+ STATEMENT 2	– STATEMENT 2	%	+ STATEMENT 3	– STATEMENT 3	%
MAHARASHTRA	236	207	29	88%	124	112	53%	92	144	39%
PUNJAB	22	19	3	86%	9	13	41%	8	14	36%
KARNATAKA	41	36	5	88%	23	18	56%	26	15	63%

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