Original Research Article

Impact of COVID-19 on small and medium-sized enterprises (SMEs) in Bangladesh: An owner-centric study

Abstract

Small and medium-sized enterprises (SMEs) are an essential part of Bangladesh's economy, contributing significantly to the country's gross domestic product (GDP). The study aims to investigate the impact of COVID-19 pandemic on the owners of SMEs in Bangladesh. To serve this purpose, cross-sectional data were collected from 103 participants using a purposive sampling technique. We generated different frequency distribution tables based on our inputted data, and then the results of the study were presented using descriptive statistics. The results of the study showed that 58.3% of the SMEs were completely shut down due to COVID-19 pandemic. We also observed that the demand for goods reduced by 83.5%, while production costs increased by 21.4%. Thus, the overall production of goods in SMEs decreased by 48.5%. Most of the owners (90.3%) stated that their profit was dropped by 50% to 100% during corona pandemic, and 68.9% of owners had to retrench workers from their organizations to reduce costs. Approximately, 78.3% of respondents stated that their products remained unsold from 10% to 70% during the pandemic. The findings suggest that policymakers should advance the SME sector by incorporating e-commerce, more favorable government policies, facilitating bank loans, and establishing new training institutions to solve the existing drawbacks of this sector.

Keywords: COVID-19, SME, SME owners, developing country, Bangladesh

1. Introduction

Small and medium-sized enterprises (SMEs) play a significant contribution in the economic development of developing countries like Bangladesh (Hossain et al, 2022; Galván et al., 2017). In Bangladesh, about 17,384 micro, 15,666 small, 6,103 small, and 3,639 large enterprises are engaged in this sector. This sector employs over 5 million people. The contribution of the SME sector to GDP is approximately 20%, which is low when compared to neighboring countries (The Daily Star, 2019). SMEs play an essential role in increasing economic growth, poverty alleviation, and industrialization, but their performance in Bangladesh falls short of global standards (Ahmed & Chowdhury, 2009).

Due to COVID-19, the owners of SMEs were badly affected in Bangladesh. Due to the lockdown period, 52 percent of SMEs were completely shut down, and more than 40 percent of employers were expected to lay off approximately 50 percent of their workforce (Khan & Newaz, 2022). The demand for SME items such as poultry, fisheries, and dairy declined because of the decrease in people's income (Islam et al., 2021b). Small and medium-sized enterprises (SMEs) are primarily private businesses in Bangladesh, and they compete with a wide range of

developed and developing countries. COVID-19 has already made an unprecedented negative impact on the SME industry (Lu et al., 2020). The COVID-19 pandemic had a negative impact on the global supply chain, resulting in raw material shortages, decreased production, and transportation disruption (Paul et al., 2021). Capital shortages, greater operating costs, and worker reductions are all affecting SMEs (Karim et al., 2021). As a result, in both urban and rural areas around the country, unemployment and poverty have risen (Hossain, 2021). Bangladesh's economy required assistance from the government, non-governmental organizations, the private sector, and foreign investors to recover. Bangladesh might be back on track for 8-10 percent growth in a year if a well-coordinated comprehensive approach based on excellent governance is implemented (Sobhan, 2020).

The focus on SMEs sectors under our study area are Food and Beverage, Forestry/ wood/ paper products, Information and Communication, Health/Tourism, Oil and Gas, Restaurants, Retails/ Sales, Textile, Lather, Transport, Clothing, Hosiery, Garments, Rice Mills, Nakshi Khata, etc. In this study, we need to explore the impact of COVID-19 on SME owners of Bangladesh.

The remaining parts of the study are organized as follows: we review literature related to this study. Next, we describe the research methodology, and then we include the results and discussion. Finally, we conclude by explaining the implications, limitations, and future research directions.

2. Literature review

Small and medium enterprises (SMEs) are businesses that maintain revenues, properties, or a number of workers under a certain threshold. The features of SMEs vary from country to country (Liberto, 2020). In other words, SMEs are non-subsidiary, self-regulating firms which employ less than a specific number of employees ("OECD SME and Entrepreneurship Outlook 2005", 2022). On the other hand, coronaviruses are a huge family of viruses that can cause illnesses ranging from the common cold to more severe diseases ("Coronavirus disease (COVID-19) – World Health Organization", 2022). The business operations of the country have been drastically affected due to the pandemic for which the country was under strict lockdown for more than two months from 18th March 2020 (Islam et al., 2021a). As a result, The SMEs of Bangladesh are also badly affected by COVID-19 (Khan & Haider, 2022).

In Bangladesh, majority of SMEs were closed, and others were partly open during the lockdown. As a result, the production of SMEs declined. Dropped demand and the burden of fixed costs were the reasons for the fall in profit (Islam et al., 2020a). Two thirds of the SME enterprises were facing a reduction of revenue due to COVID-19. Due to the long-term lockdown, the enterprises faced several problems, such as loss of sales, unsold products, unpaid payments, running operating costs, perishable and unsteady raw material (Iqbal et al., 2020). A study by Qamruzzaman (2020) stated that the SME sector in Bangladesh faced numerous issues including credit availability, insufficient capital, accounting deficiencies, poor cash flow, and a lack of

advanced technologies, etc. Many businesses do not receive the required government assistance. Ahmed et al. (2022) conducted a study in Cumilla district over 220 SMEs. The study found that COVID-19 has a number of negative effects on SMEs, the most significant of which is economic damage. 93.6% of SMEs experienced a drop in revenue earnings because of COVID-19, while the remaining 6.4% did not. They also looked at the asset level of SMEs, the labor cut rate, the rate of cash reserve reduction, the debt-equity ratio, as well as other issues. A study by Lalon (2020) found that the SME sector of Bangladesh faced several challenges, such as negative trade growth, a high revenue deficit, rising nonperforming loans, falling private sector investment, market interest rate volatility, and capital market discontent.

The adverse effects of COVID-19 on SMEs in Srilanka are material shortages, decreased demand for goods both globally and locally, difficulties repaying loans and interest, order cancellations, cash deficits, and a lack of savings (Robinson & Kengatharan, 2020). In Serbia, COVID-19 decreased liquidity and company capacity utilization, wage payments, insufficient labor utilization, business hours reductions, output disruptions, and limited excess resources. Moreover, most businesses are concerned about the lack of capital to run their businesses effectively, probable market share loss, financial shortages, and worker reductions (Beraha & Đuričin, 2020). Manufacturing and exports in India have decreased by 13.7 to 20.8 percent, while imports have decreased by 17.3 to 25 percent as a result of COVID-19. The impact on the trade, manufacturing, and small and medium-sized enterprise (SME) sectors was severe (Verma, 2021). During the COVID-19 period, social media (Facebook, WhatsApp, Instagram, Twitter, and others) were largely used to buy and sell goods. Changing consumer behavior affects the SME sector badly (Sheth, 2020). Inadequate money, a lack of state support, and inadequately trained and motivated human resources are the biggest impediments to SMEs rebounding from the crisis (Iancu et al., 2022). Xu and Abbasov (2021) studied the effect of the COVID-19 pandemic on the performance of SMEs in Azerbaijan, as well as ideas on how SMEs can develop and work more effectively in the face of the pandemic's severe obstacles. Around 92.96% of the enterprises are negatively affected by the COVID-19 pandemic. A study by Pedauga et al. (2021) identified that during COVID-19, the SME sector in Spain lost 43 percent of its income and two-thirds of its jobs.

Some problems of SMEs can be eradicated by lowering expenses and reducing existing barriers (McLaughlin & Richards, 2020). In Malaysia, the entrepreneurs of micro-enterprises have adopted various strategies to recover their businesses, which include running a business from home, becoming a private runner, internet marketing, multi-channel sales strategy, and creating a new market for selling their products (Fabeil et al., 2020). Knowledge of specific techniques and contacts can be used to make better use of SME's limited resources and to recover businesses after the COVID-19 pandemic by utilizing digital resources such as the Internet and communication platforms. The diversified method is essential for innovation and optimization (Caballero-Morales, 2021). To recover from the COVID-19 pandemic, small and medium-sized

enterprises must adopt e-commerce. Technology perceived compatibility, management support, external pressure and external support are the four essential factors of SMEs' adoption of E-commerce (Hoang et al., 2021). Using digital technology to keep small and medium-sized businesses running during the COVID-19 pandemic (Papadopoulos et al., 2020). Government and state assistance will be required to aid economic recovery in the SME sector after the pandemic (Ukhanov et al., 2020). In China, during COVID-19, the government took some policies to support the SME sector, such as rent reduction, direct subsidies, Social Security deferral, credit guarantee, and loan support (Chen et al., 2022).

Based on the findings described above, there has been a limited amount of research conducted in Bangladesh's SME sectors. Most of the researchers used secondary data to find out the problems of the SME sector. A small portion of the areas of SMEs are under the research program. According to the above literature review, the main objective of the research is to fill gaps by investigating the SME sectors in four districts of Bangladesh, such as Mymensingh, Jamalpur, Tangail, and Rajshahi. To the best of our knowledge, there is no work being done in the SME sector in these four regions together. The study tries to achieve the targeted objectives within the context of the selected areas. The following research question is developed forthis study:

- What are the impacts of COVID-19 on owners of SMEs in Bangladesh?

3. Methodology

3.1. Study area and sample selection: This study is carried out in four districts of Bangladesh, such as Mymensingh, Jamalpur, Tangail, and Rajshahi. The data were collected during the time between 14th March 2022 and 13th May 2022. A sample size of 103 respondents was selected purposively for this study to collect the required data.

3.2. Survey area and questionnaire formulation: In this study, a cross-sectional survey questionnaire method was used to collect data. We asked respondents to provide information about demography in part A. Part B includes 35 items regarding the impact of COVID-19 on production, wage, and profit related issues. Before starting the data collection, the questionnaires were given to 10 respondents to evaluate the appropriateness of language and understanding of the item. We then conducted a pilot survey for testing the questionnaire. Based on the pilot survey, the questionnaire was modified to correct weaknesses. The questionnaires were distributed by the researchers and enumerators, and the respondents were made aware of their rights to withdraw their participation at any time during the study. The study distributed 103 questionnaires, and all the returned responses were found to be valid for further analysis. In this study, the participation of the respondents was completely voluntary, and no payment was given.

3.3. Analytical Technique: The qualitative research method was used in this study. To conduct the required statistical analysis, the collected data were inputted into the IBM statistical package for Social Science (SPSS) 20.0 software (Armork, NY, USA) to generate different frequency

distribution tables based on the objective of the study. The results of the study were presented using descriptive statistics.

4. Results and discussion

4.1. Types of the surveyed business organizations

The types of surveyed business organizations are presented in Table 1 where 27.2 percent of business organizations were medium-sized, and 72.8 percent of business organizations were small-sized.

Table 1

Types of the surveyed business organizations

	Frequency	Percentage
Small-sized	75	72.8
Medium-sized	28	27.2
Total	103	100

4.2. Duration of running the SMEs

According to Table 2, most of the SMEs (68%) were formed more than 11 years ago. Only 11.7% of SMEs have been being operated for less than five years.

Table 2

Duration of running the SMEs

	Frequency	Percentage
Less than 5 years	12	11.7
5 to 10 years	21	20.4
11 to 15 years	24	23.3
16 to 20 years	14	13.6
More than 20 years	32	31.1

Total	103	100

4.3. Number of workers working in the surveyed SMEs

The number of workers employed by the owners of SMEs is shown in Table 3. Most of the SMEs (72.8%) employed between 1 and 50 workers, 25.3% of SMEs employed from 51 to 200 workers, and rest of the SMEs (2%) employed between 201 and 300 workers.

Table 3

Number of workers working in the surveyed SMEs

	Frequency	Percentage
1 to 50 workers	75	72.8
51 to 100 workers	18	17.5
101 to 200 workers	8	7.8
201 to 250 workers	1	1.0
251 to 300 workers	1	1.0
Total	103	100

4.4. Total capital of the selected SMEs

The total capital of the selected SMEs is shown in Table 4. In our survey, 93 (90.2%) respondents reported having capital up to Tk. 75 lakh. On the other hand, 10 (9.7%) respondents stated that their business organizations had capital ranging from Tk. 76 lakh to Tk.15 crore.

Table 4

Total capital of the selected SMEs

	Frequency	Percentage
Less than 10 lakh	43	41.7
10 to 75 lakh	50	48.5
76 lakh to 2 crore	8	7.8

2 crore to 15 crore	2	1.9
Total	103	100

4.5. Duration (days per week) of running the SMEs during COVID-19 pandemic

Table 5 shows that 60 (58.3%) SMEs were completely closed during the pandemic, and just 6 (5.8%) SMEs were fully operational in the whole week. These results indicate that the remaining 35.9% SMEs were partially run. Since 58.3% SMEs were completely closed, and 35.9% SMEs were partially run, the production of the SME industries was reduced substantially during corona pandemic.

Table 5

Duration (days per week) of running SMEs during COVID-19 pandemic

	Frequency	Percentage
7 days	6	5.8
5 days	6	5.8
4 days	8	7.8
3 days	23	22.3
Was closed	60	58.3
Total	103	100

4.6. Challenges which were faced during COVID-19 pandemic

Data in table 6 shows that the respondents (46.6%) mainly faced problems while selling their products. The other 53.3% of respondents faced several problems at that time, such as rising production costs, reduced raw material supply, rising transportation costs, and so on.

Table 6

Challenges which were faced during COVID-19 pandemic

	Frequency	Percentage
Production cost has increased	22	21.4

Raw materials supply has reduced	17	16.5
Wages of worker has increased	2	1.9
Wages of worker has reduced	1	1.0
Transport cost has increased	4	3.9
Sell of products has reduced	48	46.6
Export of product has shut down	9	8.7
Total	103	100

4.7. Whether the government sponsored incentives were received or not by the SME owners to reduce loss during COVID-19 pandemic

Data in Table 7 shows that most of the respondents 88 (85.4%) did not get any incentive opportunity from the government sponsored. Only 15 (14.6%) confirmed that they received incentive opportunities from the government sponsored. Therefore, the findings indicate that the government incentives were not enough to combat with COVID-19 loss. Government and private organizations should provide SMEs with more stimulus packages to recover from the severe loss during the pandemic.

Table 7

Whether the government sponsored incentives were received or not by the SME owners to reduce loss during COVID-19 pandemic

	Frequency	Percentage
Yes	15	14.6
No	88	85.4
Total	103	100

4.8. If the previous answer is “no”, what are the reasons for not getting government sponsored incentives

Data in Table 8 shows the reasons of not getting the government incentives by the SME owners. Here, 30 respondents (29.1%) claimed that nepotism prevented them from receiving incentives.

Of the 25 (24.3%) respondents said the government incentive distribution schemes were not satisfactory. Other respondents also stated several reasons, such as political motives (19.5%), not knowing about incentive packages (21.4%), and other things (5.7 %).

Table 8

The reasons for not getting government sponsored incentives

	Frequency	Percentage
Nepotism	30	29.1
Political cause	20	19.5
Having no knowledge about incentive package	22	21.4
Fault in distribution system	25	24.3
others	6	5.7
Total	103	100

4.9. Time required to get back business firms like before COVID-19

Data in table 9 presents that 95 (92.2%) of the respondents need more than 1 year to get back their business firms like before COVID-19. The remaining 8 (7.7%) respondents need 1 year or less than 1 year to get back their business firms like before COVID-19.

Table 9

Time required to get back business firms like before COVID-19

	Frequency	Percentage
1 to 3 months	3	2.9
4 to 6 months	2	1.9
7 to 12 months	3	2.9
1 to 2 years	45	43.7
More than 2 years	50	48.5
Total	103	100

4.10. The ways of reducing loss during COVID-19 pandemic

Table 10 reveals that 48 (46.6%) respondents had thoughts about lowering bank interest to reduce loss. Other respondents shared their opinions on various opportunities to mitigate the COVID-19 pandemic's losses, including expanding bank credit time (13.6%), selling goods that remained unsold during the pandemic (2.9%), lowering tariffs (4.9%), lowering transportation and raw material costs (11.7%), expanding exporting opportunities (4.9%), and managing government subsidies (15.5%).

Table 10

The ways of reducing loss during COVID-19 pandemic

	Frequency	Percentage
Reduction of bank interest	48	46.6
Increasing the credit time of bank or credit institution	14	13.6
Sell of products that remain unsold in corona period	3	2.9
Reducing tariff in importing raw materials	5	4.9
Reducing transportation and raw material cost	12	11
Increasing exporting opportunity	5	4.9
Managing government subsidy properly	16	15.5
Total	103	100

4.11. Whether the wages of workers were paid or not during COVID-19 pandemic

According to data in table 11, 58 (56.3 percent) of respondents paid the wages of workers on time, while the remaining 45 (43.7 percent) respondents did not pay any wages to the workers. Based these findings, we can understand that many workers were not paid during that period. Therefore, these workers had to suffer a lot to earn their livelihood.

Table 11

Whether the wages were paid or not during COVID-19 pandemic

	Frequency	Percentage
Yes	58	56.3
No	45	43.7
Total	103	100

4.12. The operational condition of SMEs during COVID-19 pandemic (22nd March 2020 to 30th May 2020)

The operational condition of SMEs during COVID-19 pandemic is portrayed by the data in Table 12. 65 respondents (63.1%) stated that their SMEs were completely closed. Only 2 (1.9%) of the SMEs were fully operational at that time, and 36 (34.9%) SMEs were partially opened.

Table 12

The operational condition of SMEs during COVID-19 pandemic (from 22 March 2020 to 30 May 2020)

	Frequency	Percentage
Closed	65	63.1
Partially opened	36	34.9
Opened	2	1.9
Total	103	100

4.13. The reduction of sales during COVID-19 pandemic

Table 13 shows that most of the respondents (74.8%) stated that sales declined by 50 to 100 percent during pandemic. Only 2 (1.9%) respondents opined that their sales did not fall. Consequently, due to the vast sales reduction in SMEs, many works were laid off which caused unemployment and decreased the standard of living of the workers.

Table 13

The reduction of sales during COVID-19 pandemic

	Frequency	Percentage
10%	7	6.8
20%	1	1.0
30%	4	3.9
40%	12	11.7
50%	21	20.4
80%	28	27.2
100%	28	27.2
Not reduced	2	1.9
Total	103	100

4.14. The reduction of profit during COVID-19 pandemic

The range of profit reduction during COVID-19 pandemic is shown in Table 14. According to the table, 93 (90.3 percent) of respondents estimated that their profit was dropped by 50 to 100 percent over the COVID-19 pandemic, indicating a significant loss in earnings. Only 1.9 percent of respondents said that they did not lose profits. These results are also consistent with the study of Uzonwanne et al. (2022). They identified that COVID-19 is deteriorating SMEs' performance by decreasing sales and profitability.

Table 14

The reduction of profit during COVID-19 pandemic

	Frequency	Percentage
10%	3	2.9
20%	1	1.0

30%	3	2.9
40%	1	1.0
50%	30	29.1
80%	46	44.7
100%	17	16.5
Not reduced	2	1.9
Total	103	100

4.15. Whether e-commerce platform was used or not for selling products during COVID-19 pandemic

According to data in Table 15, just 21 (20.4%) of respondents used an e-commerce platform to sell their products, while 82 (79.6%) did not use any e-commerce platform. Therefore, it indicates that most of the SMEs did not adopt e-commerce in the selected districts of Bangladesh during corona pandemic. However, these findings are contradictory with the findings of e-commerce Association of Bangladesh (e-CAB). According to a report by the e-CAB, e-commerce sales in Bangladesh grew by 70 to 80 percent during the corona pandemic in 2020, with many SMEs turning to digital channels to survive. The report also stated that many SMEs commenced using e-commerce for the first time during the pandemic, and this trend is likely to continue even after the crisis has passed (Hasan, 2020).

Table 15

Whether E-Commerce platform was used or not for selling products during COVID-19 pandemic

	Frequency	Percentage
Yes	21	20.4
No	82	79.6
Total	103	100

4.16. The best way of increasing profit during COVID-19 pandemic and afterwards

Data in table 16 shows the best way to increase income during and after COVID-19, with 31 (30.1%) of the respondents stated that they should lower the cost of production. Other respondents suggested to launch new goods or services (23.3%), selling goods on an internet marketplace (19.4%), promoting market diversity (12.6%), collaborating with other organizations (1.9%), and learning new skills (12.6%).

The stated findings are supported by the findings of the previous researchers. For example, according to a survey by the Centre for Policy Dialogue (CPD) in Bangladesh, 46% of small and medium-sized enterprises (SMEs) that reduced their costs during the pandemic reported an increase in profits (CPD, 2020). A study by Sarker et al. (2022) stated that SMEs that diversified their products and services had a greater chance of surviving the pandemic. Gao et al. (2023) found that SMEs that adopted e-commerce during the pandemic reported an increase in sales. In addition, Qamruzzaman (2020) identified that SMEs' sales increased following the formation of partnerships during the pandemic. By forming alliances with other SMEs and larger companies, SMEs can expand their customer base, increase their revenue, and benefit from the sharing of knowledge and resources.

Table 16

The best way of increasing profit during COVID-19 pandemic and afterwards

	Frequency	Percentage
Introducing new products or services	24	23.3
Reducing cost of production	31	30.1
Selling products in online platform	20	19.4
Diversity in market system	13	12.6
Partnership with other institution	2	1.9
Learning new skills	13	12.6
Total	103	100

4.17. The impact of COVID-19 pandemic on income tax in 2020 compared to 2019

Data in Table 17 shows the impact of COVID-19 on income tax in 2020 compared to 2019. There was no change in income tax during COVID-19 pandemic stated by 33 (32.0%)

respondents, while 43 (41.7%) respondents opined that their income tax was reduced by 25 to 50%. These results are also supported by the study of Sarker et al. (2022). They found that there was a decrease in income tax collection due to the economic slowdown, and reduced revenue and profitability of SMEs caused by the COVID-19 pandemic.

Table 17

The impact of COVID-19 pandemic on income tax in 2020 compared to 2019

	Frequency	Percentage
Nearly 25% reduced	26	25.2
Nearly 25 to 50% reduced	6	5.8
More than 50% reduced	11	10.7
Nearly 25% increased	1	1.0
Nearly 25 to 50% increased	2	1.9
More than 50% increased	3	2.9
No increase or decrease	33	32.0
I don't know about it	21	20.4
Total	103	100

4.18. The best way to reduce cost during COVID-19 pandemic

Table 18 shows the steps taken by the SMEs to reduce costs during COVID-19 pandemic. The majority of the respondents (49.5%) did not appoint any new workers to reduce cost. The owners of SMEs have also taken other steps to reduce costs, such as reducing wages (10.7%), retrenching workers (11%), reducing travel allowance (1%), and so on. These findings are consistent with the findings of the previous study by Khan (2020). The researcher found that SMEs can reduce operational expenses by delaying the hiring of new employees and workers, and by reducing costs in rent, utilities, and travel costs.

Table 18

The best way to reduce cost during COVID-19 pandemic

	Frequency	Percentage
Not appointing new worker	51	49.5
Reducing wages	10	9.7
Retrenchment of worker	11	10.7
Obligatory leave without paying wages	1	1.0
Reducing development allowance of worker	2	1.9
Reducing maintenance cost of the institution	17	16.5
Reducing travel allowance	1	1.0
No exact calculation data	10	9.7
Total	103	100

4.19. The number of workers who worked from home during COVID-19 pandemic

According to Table 19, the majority of respondents (69.9%) claimed that there was no option for workers to work from home since SME sectors are the places where workers use a number of different technologies and work physically. Only 14 (13.6%) of the respondents said that their workers worked from home between 80 and 100%. These findings are also supported by the results of previous study by Islam et al. (2021a). They stated that the lack of knowledge and interest, financial constraints, bureaucracy, communication problem, high employee turnover rate, and the difficulty in finding trustworthy employees are the primary obstacles for implementing remote working practices in SMEs of Bangladesh.

Table 19

The number of workers who worked from home during COVID-19 pandemic

	Frequency	Percentage
Not work from home	72	69.9
Nearly 10%	1	1.0

Nearly 10 to 20%	1	1.0
Nearly 20 to 40%	4	3.9
Nearly 50 to 60%	5	4.9
Nearly 60 to 80%	6	5.8
Nearly 80 to 100%	14	13.6
Total	103	100

4.20. Whether the respondent is infected by COVID-19 or not

Table 20 shows that 99 (96.1%) of the respondents did not experience any COVID-19 causes. Only 4 (3.9%) of the respondents were infected by COVID-19 that interrupted their work. The COVID-19 infection rate is found relatively low among the owners of SMEs in Bangladesh because the government of Bangladesh imposed a nationwide lockdown early in the pandemic, which may have helped to limit the virus's spread (Islam et al., 2020b). The lockdown was subsequently lifted in stages, and measures, such as mask-wearing requirements and social isolation, were implemented (Islam et al., 2020b).

Table 20

Whether the respondent is infected by COVID-19 or not

	Frequency	Percentage
Yes	4	3.9
No	99	96.1
Total	103	100

4.21. The range of effects of the corona pandemic on the demand of the products that are produced in the SMEs

The ranges of effects of the coronavirus pandemic on the demand of the products of SMEs are shown in Table 21. The majority of those respondents (83.5%) claimed that COVID-19 reduced the demand for their products. Only 8 (7.8%) of the respondents said that there had no change in the demand of their goods, while 9 (8.8%) claimed that they were able to increase it. These findings are also consistent with the findings of the previous study by Qamruzzaman (2020). The researcher found that SMEs have witnessed a decline in demand for their products due to changes in consumer behavior, such as decreased spending and an increased preference for online shopping. In addition, supply chain disruptions caused by the pandemic have resulted in delays and shortages, which can decrease demand for SME products.

Table 21

The range of effects of the corona pandemic on the demand of the products of SMEs

	Frequency	Percentage
25 to 50% reduced	82	79.6
Nearly 25% reduced	4	3.9
Nearly 25% increased	1	1.0
25 to 50% increased	3	2.9
More than 50% increased	5	4.9
No change	8	7.8
Total	103	100

4.22. The range of retrenchment of workers in the SMEs due to the corona pandemic

Table 22 shows that 71 (68.9%) of respondents retrenched their SMEs' workers, while the remaining 32 (31.1%) did not. These findings can be supported by previous studies by Pu et al. (2021) and Qamruzzaman (2020). They found that many SMEs in Bangladesh were compelled to reduce their labor force and wages during the corona pandemic. According to Habiba (2022), SMEs in certain industries, including tourism and hospitality, were badly affected due to the declined demand and government restrictions on mobility.

Table 22

The range of retrenchment of workers in the SMEs due to the corona pandemic

	Frequency	Percentage

Nearly 1 to 10%	17	16.5
Nearly 11 to 20%	21	20.4
Nearly 21 to 30%	16	15.5
Nearly 31 to 40%	17	16.5
No retrenchment	32	31.1
Total	103	100

4.23. Whether the government incentive was effective or not during corona pandemic

In Table 23, data shows that 35 (34%) of the respondents thought government incentives were effective, whereas 31 (30.1%) of respondents stated that government incentives were ineffective, and the remaining 37 (35.9%) respondents had no idea about this. These findings are surprising because only a small portion of the respondents (34%) stated the government incentives were effective (see table 23), while Bangladesh government declared a stimulus package of Tk. 20,000 crore for cottage, micro, small and medium (CMSME) businesses, 15% of which 15 is intended for small businesses in rural regions (Rapti et al., 2022). Therefore, researchers need to further investigate this phenomenon to explore the actual reasons of lower effectiveness of government incentives in SMEs of Bangladesh.

Table 23

Whether the government incentive was effective or not

	Frequency	Percentage
Yes	35	34.0
No	31	30.1
No idea	37	35.9
Total	103	100

5. Implications for research and practice

This research contributes greatly to the SMEs research in Bangladesh. Regarding the theoretical point of view, this research assesses the impact of COVID-19 on SMEs and evaluation of SME's

stimulus package in four districts of Bangladesh. This study also contributes to theory by exploring the overall scenarios of SME sectors during COVID-19.

The empirical findings of the study provide valuable information regarding the development of practical guidelines for the expansion and development of SMEs in Bangladesh. This analysis revealed that the business owners lay off employees in order to cut costs and deal with the crisis. But this is detrimental to the workers. So, the study recommends them to launch an e-commerce marketplace or minimize their salary for the crisis period so that they can handle these types of crisis situations more easily. The majority of business owners, according to this research, did not receive the required incentives to maintain their operations during the pandemic. Therefore, they require additional incentives, subsidies, etc. to run their businesses smoothly, just like before the corona pandemic. Our study examined the fact that the majority of workers were unemployed during COVID-19.

The respective authority of SMEs should focus on creating alternative job opportunities to address the pandemic crisis. Most of the employees, we discovered, are men. Due to the greater availability of female workers, hiring them in SMEs sectors will be more profitable and cost-effective. As a result, in our study, we analyze the difficulties faced by the SME sector during the pandemic and attempt to formulate some policies to overcome the adverse situation in order to sustain their businesses after the pandemic period has passed.

6. Limitations and future research directions

This research paper has some limitations that should be mentioned here. The sample size in this study is small which can be increased in future study to have more reliable results. Because of the inadequate funding, researchers were not able to collect much data. The study was conducted in only four districts of Bangladesh. Therefore, the budget should be increased for future research to collect large number of data and cover many areas of Bangladesh. The study was carried out during peak time of COVID-19 when the data collection was particularly difficult. Besides, there were fewer female respondents than male respondents. To understand the actual condition of women in these areas, more women entrepreneurs should be included in the future research. Moreover, more econometric models can be used in future studies to increase the accuracy of the results.

7. Conclusion

This study investigated the impact of COVID-19 on SME output, production, turnover, employment. To serve the purpose, 103 data have been collected from four districts of Bangladesh purposively. The results show that production reduced by more than 50% in around

70% of SMEs and the demand reduced by 25 to 50 % in 80% of SMEs. The study found that 58.3% of the institutions were completely closed. The study also found that the demand for goods reduced by 83.5% while production costs increased by 21.4%. As a result, production dropped by 48.5%. Approximately, 78.3% of respondents stated that from 10% to 70% of products remained unsold during the pandemic. According to our research, 85.4% of participants said that they were excluded from incentive opportunities because of nepotism, political motivations, a faulty distribution system, and other issues. Therefore, the study suggests that the policymakers should concentrate on taking necessary steps to solve the existing problems in SMEs of Bangladesh.

Data availability

The data generated or analyzed during this study can be available on request.

Conflicts of interest

The authors declare that they have no conflicts of interest.

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