E-commerce Readiness, Micro, Small, and Medium-Sized Enterprises (MSMEs), and Economic Growth: An Empirical Investigation

Anasuya Barik[*], Sidheswar Panda[**]

Abstract   With the advent of COVID-19, the world economy has undergone enormous losses and unprecedented crises. Moreover, this pandemic has put a significant effect on all business organizations, comprising the micro, small and medium enterprises (MSMEs) sector. MSMEs have been continuing to develop business strategies and are eager to compete in the market. The COVID-19 pandemic has shifted the full focus of MSMEs from 'business growth' to 'business survival' worldwide. E-commerce readiness plays a crucial role in a time of uncertainty and crisis during COVID-19 and affects the durability and sustainability of the business. This study attempts to study the readiness of online business and "E-commerce" adoption of MSMEs and its contribution to economic growth by utilizing both qualitative and quantitative techniques in the case of India. We use content analysis to determine the readiness of online business and E-commerce in the post COVID-19 period. The result highlights the specific issues of this sector such as the shortage of resources and disruptions in the supply chain & logistical issues during the COVID-19 pandemic. Qualitative analysis discloses that almost half of the respondents adopt online platforms along with additional challenges to sustain their business during the pandemic. This study utilizes annual time series data for the period from 1973-74 to 2017-18 to understand the long-run relationship between India's GDP and MSMEs units. By utilizing the co-integration technique, this study reveals that there is a long-run relationship between MSME units and the economic growth of this country.

Keywords   E-commerce Readiness, MSMEs, Economic Growth, Content Analysis, Co-integration

I. Introduction

With the advent of COVID-19, the world economy has undergone enormous losses and unprecedented crises. Moreover, this pandemic has put a significant implication for all business organizations, including the micro, small and medium enterprises (MSMEs) sector. The MSME industry is perceived as the motive power behind economic growth and is essential to the advancement of the country (Venkataramanaiah & Suneetha, 2019) with their effective and innovative entrepreneurial activities (Baumol, 2002; Acs and Armington, 2006).

In developing countries, small and medium-sized enterprises (SMEs) comprise up to 45% of total employment and 33% of gross domestic product (OECD, 2016). In India, after agriculture, MSME is the next largest employment-generating sector (Shelly et al., 2020). It contributes 45% to manufacturing output, 8% to the overall GDP and 40% to the total exports of the country, creating 70 million jobs and manufacturing more than 6,000 products. These units operate in different markets with different levels of skills, capital formation and with different levels of growth orientation in organized or unorganized sectors of the economy (Zanjurne, 2018). This sector produces a variety of products from food products, and beverages to electrical machinery (Farajollahzadeh et al., 2016; Rajalakshmi, 2016). The Ministry of MSMEs, Government of India, supports the State government in stimulating enterprise, employment and livelihood through financial support, technology support and upgrades, infrastructure development, skill development and training, improving MSME competitiveness and market support. About 20% of MSME units are entrenched in rural and backward areas, providing job opportunities to 40% of the Indian labor force (Shelly et al., 2020). According to the Ministry of Statistics and Programme Implementation, Central Statistics Office (CSO), MSMEs have contributed 33.50% in Gross value added and 30.27% in Gross Domestic Product in the year 2018-19 (Tikku & Singh, 2023; Annual report, MSME 2020-21).

The COVID-19 pandemic has shifted the full focus of MSMEs from 'business growth' to 'business survival' worldwide. This sector significantly contributes to the nation's manufacturing output, employment and exports through promoting business activities and creating large employment opportunities at a minimum cost. Hence, MSMEs must continue to develop business strategies and be eager to compete in the market. Studies find that E-commerce is an important business innovation strategy for MSMEs. Moreover, the effective utilization of E-commerce and online business platform is also considered one of the best solutions for MSMEs during recent times and particularly, Covid-19, for its resilience and survival (Priambodo et al., 2021; Hoang et al., 2021). E-commerce readiness plays a crucial role in a time of uncertainty and crisis during

COVID-19, and the level of readiness affects the durability and survival of the business. Therefore, we are interested in studying the readiness of online business and E-commerce adoption of MSMEs and its contribution to economic growth in India.

This study utilizes both quantitative and qualitative data for the analysis. We utilize content analysis to determine the readiness of online businesses and E-commerce during the post-Coronavirus period. This work finds a strong and positive link between the MSME sector and the economic growth of the country. The result highlights the specific issues of this sector such as the shortage of resources and disruptions in the supply chain & logistical issues during the COVID-19 pandemic. Qualitative analysis discloses that almost half of the respondents adopt online platforms along with additional challenges to sustain their business during the pandemic. Further, this study utilizes annual time series data for the period from 1973-74 to 2017-18 to understand the long-run relationship between GDP and MSME units at the aggregate level. By utilizing the co-integration technique, this paper reveals a long-term relationship exists between economic growth and MSME units of this country.

The structure of this article is as follows. After this introduction, the literature is discussed in Section 2, and the research database and technique are presented in Section 3. Section 4 gives an outline of the empirical results including the content analysis and co-integration technique. Lastly, Section 5 explains the conclusion part.

II. Literature Review

E-commerce adoption and entrepreneurial adaptation contribute a lot to the sustainable development of MSMEs by increasing productivity and the product supply chain (Yacob et al., 2021). It is a powerful tool, especially for globally diversified products, where companies can assist greatly by increasing productivity, decreasing inventory levels, expanding trades, attracting clients, and marketing and distributing services. Top management support, organizational preparation, and compatibility with government policy are the vital aspects of the adoption of E-commerce (Priambodo et al., 2021). The MSME sector is not only creating large employment opportunities in the economy, thereby leading towards industrialization on the one hand, but also reducing regional inequalities, unemployment and poverty on the other hand. An empirical result on the contribution of MSMEs focuses mainly on economic growth and performance. The growth analysis has shown a rising trend in the number of MSME units, generating jobs, overall production and the market value of financial assets of this sector in the country (Shelly et al., 2020; Kumar,

2017; Dangi, 2014; Ahmed & Haseen, 2017).

Gaikwad and Dhokare (2020) highlighted the importance of MSMEs in the advancement of developing countries like India and focused on its operations and future perspectives. Shelly et al. (2020) evaluated the expansion in MSME units, and its share in GDP, employment and exports. Moreover, Zanjurne (2018) found that MSMEs significantly contributed to India's manufacturing production, exports, and generation of new jobs. In the case of Vietnam, Hoang (2021) examined the SME sector's adoption of E-commerce. By utilizing factor analysis, this study found management support, external pressure, and perceived technical compatibility had the largest effects on E-commerce adoption during the Coronavirus pandemic. Priambodo et al. (2021) investigated the extent of readiness of creative electronic commerce in Indonesia through a survey method. By using confirmatory factor analysis, they found that despite environmental pressures encouraging enterprises to adopt E-Commerce, technology preparedness has the greatest impact on a company's capacity to handle volatility. They proposed using three criteria to assess E-commerce readiness: technological readiness, organizational readiness, and environmental readiness. In the case of Iran, Gilaninia et al. (2011) found that perceived ease of use and acceptance compatibility are significant and positive predictors for adopting E-commerce or online platforms.

Other sets of literature narrate the successful stories of women entrepreneurs through E-commerce adoption (Padmannavar, 2011; Mivehchi, 2019; Masroor et al., 2020). The E-commerce platform has provided a new identity and many opportunities to women entrepreneurs facing many limitations inside and outside the home as well. De and Mondal (2018) mainly focused on the contribution of MSMEs to the Indian economy and highlighted the industrial base for the growth of women entrepreneurs in India. Despite many problems, this sector has contributed significantly towards GDP growth and export promotion. They also emphasize the initiatives taken by the Government to overcome the difficulties faced by this sector, particularly the women entrepreneurs. The role of MSMEs in the empowerment of the weaker section of society is nonetheless unremarkable. People from many different social groups, including SC, ST, OBC, and other social groups, operate MSME businesses. Despite the continued dominance of men in the entrepreneurial sector, the participation of women is growing. They now have the chance to pursue entrepreneurship and make a contribution to the economy. Over time, there has been a tremendous rise in the number of MSMEs managed and controlled by women.

MSMEs have been continuing to develop business strategies and are eager to compete in the market. The COVID-19 pandemic has shifted the full focus of MSMEs from 'business growth' to 'business survival' worldwide. E-commerce readiness plays a crucial role in a time of uncertainty and crisis during COVID-

19 and affects the durability and sustainability of the business. Therefore, this study attempts to study the readiness of online business and E-commerce adoption of MSMEs and its relationship to economic growth.

III. Data Methodology

This study utilizes both quantitative and qualitative data. To identify the E-commerce readiness and its potential impact on the MSME sector, a qualitative technique, namely, content analysis is used. Early in the 20th century, content analysis was employed as an analytical method for the first time in the United States. Content analysis was largely employed as a quantitative research technique, where text data was explicitly categorized and statistically characterized. Qualitative content analysis research centers on the properties of language as a means of communication, paying particular emphasis to the context. Text data can come from interviews, focus groups, narrative answers, open-ended survey questions, print material like books, journals, or manuals, or it can come from verbal, print, or electronic sources.

Conventional content analysis is used in this investigation. It is typically employed in conjunction with a study design that seeks to characterize phenomena. Open-ended questions will be utilized if interviews are the main method of data collection. To attain immersion and gain a feeling of the totality, data analysis begins by reading all of the data several times, much like one would read a novel. Then, by first underlining the precise phrases from the text that seem to encapsulate important ideas or concepts, data are read word by word to extract codes. The researcher then examines the text, taking notes on initial ideas, perceptions, and analyses. As this process proceeds, labels for codes that represent many central ideas start to appear. These are frequently taken straight out of the text and used as the first coding scheme. After that, codes are grouped into groups according to the connections and relationships between them (Hsieh & Shannon, 2005).

The qualitative analysis is carried out by conducting personal telephonic interviews on structured open-ended questionnaires from 40 MSME units in the city of Bhubaneswar. Respondents were asked questions regarding the specific problems they faced during COVID-19 and their perception of the adoption of online business and E-commerce platforms as a possible solution for sustenance as well as recovery from the losses. Questions were also asked to identify the factors for non-adoption of online business platforms from the respondents who did not adopt. The MSME units, who had adopted online business platforms and

E-commerce platforms, were also interviewed to understand the challenges and difficulties they had faced during COVID-19.

Annual time series data (Panda & Mohanty, 2015) has been used during 1973-74 - 2017-18 to understand the long-run relationship (Shrestha & Bhatta, 2018) between India's GDP and MSMEs units. We collected data from various sources, namely, The Reserve Bank of India (RBI), the Handbook of Statistics on Indian Economy published by the Ministry of Micro, Small, and Medium Enterprises, Government of India.

A simple time series model has been used in this study, which is presented below:

$$lnGDP_t = \beta_0 + \beta_1 lnMSMEs_t + \varepsilon_{tn} \tag{1}$$

Where $lnGDP_t$ depicts the logarithm of the real GDP of India at time t, $lnMSMEs_t$ presents the logarithm of MSME units of India at time t. India's real GDP is used as a dependent variable, and the MSME units are used as independent variables in this time series analysis.

1. Unit Root Test

Johansen's (1991) co-integration test permits each variable to be integrated in the same order. To undertake this, we use the Augmented Dickey-Fuller (ADF) test to validate that each series is I (1) processed. The series under study has a single unit root, and it is integrated in the same order, suggesting a probable co-movement of the series (Johansen, 1991; Panda & Mohanty, 2015; Shrestha & Bhatta, 2018).

2. The Co-integration Technique

If the series under consideration has a single unit root and is integrated in the same order, this indicates the series progresses together. This indicates the variables have a long-term connection and that their linear combination is stationary. Hence, we apply the Johansen (1991) co-integration test, which is the existence of at least one long-run linear relationship between the series (Johansen, 1991; Panda & Mohanty, 2015).

IV. Empirical Results

1. Content Analysis

The qualitative data has been analyzed through content analysis. A research technique called content analysis uses a methodical coding and theme-identification approach to assess text data's meaning subjectively. The qualitative data was collected by conducting personal telephonic interviews on a structured open-ended questionnaire from 40 MSMEs units in the city of Bhubaneswar. The main purpose of the study is to obtain a complete understanding of the challenges and experiences of micro-entrepreneurs during the epidemic. Therefore, the interviews were done informally. The study also intended to discuss the knowledge and perception of micro-entrepreneurs on the adoption of online platforms and E-commerce for the survival of their business during the time. Questions were also asked to identify the reasons for non-adoption of online business platforms from the respondents who did not adopt. The MSME units, who had adopted online business platforms and E-commerce platforms, were also interviewed to understand the challenges and difficulties they had faced during COVID-19 and recommendations.

The study has utilized a convenient sampling procedure to collect data, which implies a non-probabilistic sampling technique that draws samples from groups of people who is in contact or easily reachable. The interviews were done through phone during the lockdown, and this is the limitation of our study. All the collected data were then analyzed. The majority of the respondents belong to the age group of 31-40 years. The majority of the respondents have the educational qualification of graduation, and 20% of respondents have above graduation. Around 80% are married. In the context of occupation, 17.50% have beauty parlors, 15% have vegetable shops, 12.5% have grocery shops, 12.5% have snacks shops,10% have play schools, 10% have coaching centers, 10% have tailoring shops, and 5% have boutiques.

The content analysis produces knowledge that is based on real facts and derived from the distinct viewpoints of the participants. These approaches have been constructed to capture such complexity, perceptions, and their reactions during the period. The study has identified some specific problems faced by the MSME units in Bhubaneswar during the COVID-19. The major socio-economic problems faced by the respondents during the pandemic, some direct quotes are discussed below.

1. "A 42-year-old respondent, who owned two beauty salons, was forced to sell one because of financial difficulties during this crisis. They couldn't pay for their many business-related obligations in addition to their domestic bills.

During the epidemic, they encountered difficulties paying the rent on the property and their employees' salaries."

2. A thirty-year-old woman talked about her contented life with her mother-in-law, husband, and kid. To provide for her family, she ran a beauty salon while her husband ran a pharmacy. Her mother-in-law and spouse provided a lot of assistance as well.   While everything was going well, she lost her husband during the epidemic. She was left on her own to manage her business while caring for her son and mother-in-law. She stated that it took her a year and a half to resume her business, that she had encountered several difficulties during the lockdown, and that she could stay with them for the remaining part of her life."

3. "A 42-year-old respondent who owns a snack store and has two children said, "We are having trouble paying other bills and have little money to buy food. Along with financial difficulties, I fear that my family may contract the fatal illness."

4. "A 45-year-old who was selling vegetables remarked that we were unable to obtain vegetable supplies because of the lack of veggies and our restricted mobility. During these lockdowns, we were compelled to raise the pricing at which we sold vegetables."

Content analysis is employed in the study to examine the data. Reading each transcript from start to end as if it were a book. Following that, every transcript is meticulously examined, emphasizing any portion that seems to describe the situation and opinion of participants. Then, the texts are coded, and themes or contexts are developed. Then, the texts are reviewed again and again and organized properly to present the report. Thus, through the process, the problems identified are presented in Table 1.

**Table 1. Coding and derived texts**

| Codes	Sub-codes	Final text
Loss of family members due to the fear of the deadly virus.	Fear of contamination	Fear of disease
Because of their dread of illness or the dangers outdoors, they move around very little.	Low movement	Unsafe outside
Due to the pandemic, merchandise is reduced which causes income paucity and an inability to meet basic necessities of life.	Decrease in revenue	Money Problem
Due to this pandemic, fear of the virus, money crisis and downturn of business appear.	Anxiety and depression	High mental pressure

Due to this deadly virus, there is low mobility and unavailability of raw materials at times.	Lack of labor, low sales, and supply chain disconnected.	Marketing and raw material problem
Complete lockdown during this pandemic. Unavailability of raw materials, manpower, and low business activities.	Financial, marketing and raw material problems	Business Closure
During the pandemic, business got hampered due to various reasons and some of them finally closed down except the necessaries.	Feeling helpless, money crisis, no other aid and anxiety about business recovery.	No Government support

The study explained that most of the respondents faced the above problems. Some of the respondents expressed that they did not face these problems during the pandemic. As they have already adopted an online platform to sustain the business. Though there is no increase in their business activity, they did not undergo these problems. However, online platforms only help them to sustain their business activity. 100% of the respondents have opined that they have not gotten any financial support from the government during this pandemic.

Qualitative data have also been collected by conducting personal interviews with these respondents about their understanding and opinion about the adoption of online business platforms and E-Commerce as a possible solution for this pandemic or crisis like COVID-19. An analysis of this qualitative data on the adaptation of E-Commerce has been presented below.

Adoption of E-commerce:

Adopting E-Commerce(%)

■ Yes
■ No

**Providing training to the existing employees
for the adoption of online business(%)**
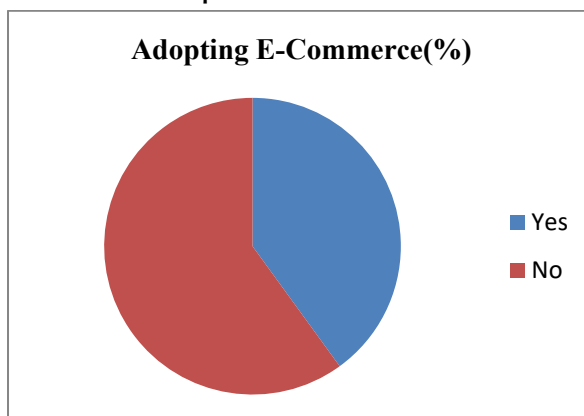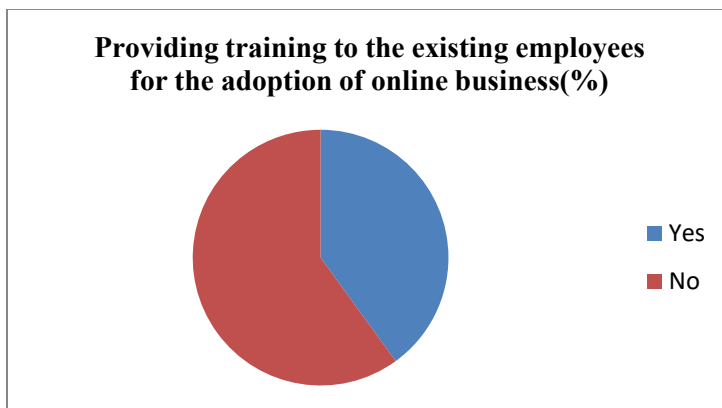
Have you thought of adopting E-Commerce so that you can promote your product and access the market to sustain your business and recover their loss? The attitudes of the respondents have been shown in the pie chart.

The above Pie charts reveal that 40% of the respondents thought of adopting E-Commerce and thought of giving training to the existing employees for the adoption of online business. 40% of the interviewed respondents adopt online business platforms to sustain their business. 60% of the respondents could not adopt online business platforms during COVID-19.

The study also pointed out some of the major reasons for their inability to adopt online business platforms and E-commerce to survive their business during the crisis of COVID-19 and the challenges faced by those who have adopted online platforms.

The analysis found the major reasons behind the non-adoption of E-commerce by the micro-enterprises to survive their business during the pandemic in Bhubaneswar. 100% of the respondents admitted that lack of knowledge and skill and lack of skilled labor were the major reasons for their inability to adopt E-commerce. Only the units related to education, having adequate knowledge and skilled manpower, are able to survive their business through online services. Further, they faced a fall in profit and additional expenses for adopting online services. 90% of the respondents stated that price negation by their clients; more time consumption and additional finance were among the main reasons. And 80% admitted a reduction in profit as the main reason for not adopting online business during the COVID-19 pandemic. 60% said that the reason behind the non-adoption of E-commerce was the nature of the business**.**

The MSME units like beauty parlors, boutiques, tailoring, and cosmetics had not adopted online business during the pandemic because they were forced to shut down partially, and some units fully their shops as the demand for their

services became unnecessary and inadequate during the pandemic. Only the shops relating to necessities like food and medicines were in need, and some were able to adopt online businesses.

The MSME units that have already adopted E-commerce and online business platforms were also interviewed about the challenges they faced during COVID-19. Acquiring additional knowledge (knowledge of online transactions, digital photography and arrangements of courier services), lack of high-speed internet, lack of technical knowledge of cloud to manage online business in remote areas, and attracting new clients are the factors identified. These are the challenges they faced to survive their business during the pandemic.

The units have expressed that 50% get minimum benefits and the remaining 50% get, to some extent, benefits by adopting online business platforms to recover their business from the effects of the COVID-19 pandemic.

2. Regression Results

Annual time series data for the period from 1973-74 to 2017-18 is applied to understand the long-run relationship between India's GDP and MSME units at the aggregate level.

2.1 Unit Root Test Results

The study applied the Augmented Dickey-Fuller (ADF) to verify the order of the integration of the variables. The findings are presented in Table 2.

Table 2. Unit Root Results

Variables	Level	First Difference	Inference
LnGDP	1.63	8.43***	I (1)
LnMSMEs	2.61	6.76***	I (1)

Note: ***, ** represents significance level at 1% and 5%, respectively.

The above table reveals that all the variables are stationary in the first difference but non-stationary in their level. This means that all three variables are I(1) series. So, to measure the long-run relationship among the variables, we can employ the Johansen co-integration test (Panda & Mohanty, 2015).

2.2 Johansen Co-integration result

It is revealed from the unit root test result that all variables are integrated in the same order. Tables 3 and Table 4 reveal the study results.

Table 3. Multivariate co-integration test Results (Trace Test)

Null Hypothesis λTrace Test Value	Alternative Hypothesis	λTrace Test Value	5% critical Value	P- Value
r=0	r>0	12.36	15.49	0.14
r≤1	r>1	4.79**	3.84	0.03

Note: **represents the hypothesis that is rejected at the 5% level.

Table 4. Multivariate co-integration test Results (Max Test)

Null Hypothesis λMax Test	Alternative Hypothesis	λMaxTest Value	5% critical Value	P- Value
r=0	r>0	7.56	14.26	0.42
r≤1	r>1	4.79**	3.84	0.03

Note: **represents at the 5% level, the hypothesis is rejected.

By employing the Johansen- co-integration test, the findings from both the Trace statistic and the Maximum Eigenvalue statistic have rejected the null hypothesis of no co-integration at the 5% significance level. At least there exists one long-run relationship between the MSMEs sector and the economic growth of the country.

V. Conclusion

This study analyses the readiness of online business and electronic commerce adoption of MSMEs in the aftermath of the COVID-19 pandemic situation and its contribution to economic growth by utilizing both qualitative and quantitative techniques in the case of India. Through content analysis, the study highlights the specific issues of this sector during the pandemic such as the shortage of resources and disruptions in the supply chain & logistical issues and, finally, business closure. Further, this study discloses that almost half of the respondents adopt online platforms along with additional challenges to sustain their business during the pandemic. Further, this study utilizes annual time series data from 1973 - 2017 to explore the long-run relationship between economic growth and MSME units at the aggregate level. This paper perceives that all the variables are non-stationary at the level and stationary in the first difference by using Augmented Dickey-Fuller (ADF). The empirical findings reveal a long-term connection between the MSMEs units and the nation's economic growth by utilizing the Johansen co-integration test. This study suggests that the

government should put a special focus on the MSME sector growth and provide ample platforms to do business through the adoption of technology. Policymakers should take appropriate measures by providing financial assistance and training facilities for the human resources and technical knowledge of these MSME units. The measures should provide a digital environment that will provide fast solutions to issues ranging from liquidity access, payments, and operations to management of this sector.

References

Acs, Z., and Armington, C. (2006). Entrepreneurship, geography, and American economic growth, Cambridge: Cambridge University Press.

Ahmed, I., and Haseen, S. (2017). Growth of MSME sector and its contribution to Exports of India in post reform period, ZENITH International Journal of Business Economics & Management Research, 7(12), 54-65.

Baumol, W. (2002). The free-market innovation machine: analyzing the growth miracle of capitalism, Princeton: Princeton University Press.

Dangi, N. (2014). Women entrepreneurship and growth and performance of MSMEs in India, International Journal, 2(4), 174-182.

De, N., and Mondal, T. (2018). Micro, Small & Medium Enterprises (MSMEs) and Potential Women Entrepreneurs for Inclusive Growth in India, International Journal of Research in Management, Economics and Commerce, 8(1), 95-107.

Farajollahzadeh, G et al. (2016). Role of MSMEs in Economic Growth of India, International Journal of Multidisciplinary Research and Modern Education, 2(1).

Gaikwad, A., and Dhokare, C.S. (2020). India: A Growth opportunities for MSME, International Journal of Multidisciplinary Research, 6(6), 25-30.

Gilaninia, S., Danesh, S.Y., Amiri, M., Mousavian, S.J., and Eskandarpour, B. (2011). Effective factors on adoption of E-commerce in SME cooperative, Interdisciplinary journal of contemporary research in business, 3(6), 144-161.

Hoang, T.D. L., Nguyen, H.K., and Nguyen, H.T. (2021). Towards an economic recovery after the COVID-19 pandemic: empirical study on electronic commerce adoption of small and medium enterprises in Vietnam, Management & Marketing. Challenges for the Knowledge Society, 16(1), 47-68.

Hsieh, H.F., and Shannon, S.E. (2005). Three approaches to qualitative content analysis, Qualitative health research, 15(9), 1277-1288.

Johansen, S. (1991). Estimation and hypothesis testing of cointegration vectors in Gaussian vector autoregressive models, Econometrica: journal of the Econometric Society, 1551-1580.

Kumar, V. (2017). An Analysis of Growth of MSMEs in India and Their contribution in Employment and GDP of the Country, International Journal of Interdisciplinary and Multidisciplinary Studies, 4(2), 187-191.

Li, Y., and Zhang, S. (2022). Qualitative data analysis, In Applied Research Methods in Urban and Regional Planning (pp. 149-165), Cham: Springer International Publishing.

Masroor, N., Asim, M., & Hussain, S. (2020). E-Commerce: A Gateway to Mobilizing Female Entrepreneurs in the Digital Era, International Journal of Advance Science and Technology, 29(10), 1-17.

Mivehchi, L. (2019). The Role of Information Technology in Women Entrepreneurship (The Case of E-Retailing in Iran), Procedia Computer Science, 158, 508–512.

OECD. (2016). Entrepreneurship at a glance 2016, Paris: OECD Publishing.

Padmannavar, S.S. (2011). A review on E-Commerce empowering Women's, International Journal of Computer Science and Telecommunications, 2(8), 74-78.

Panda, S., and Mohanty, R.K. (2015). Effects of exchange rate volatility on exports: Evidence from India, Economics Bulletin, 35(1), 305-312.

Priambodo, I.T., Sasmoko, S., Abdinagoro, S.B., and Bandur, A. (2021). E-Commerce readiness of creative industry during the COVID-19 pandemic in Indonesia, The Journal of Asian Finance, Economics and Business, 8(3), 865-873.

Rajalakshmi, G.R. (2016). Role of MSME's in economic growth of India, International Journal of Commerce and Management Research, 2(12), 171-175.

Shrestha, M.B., and Bhatta, G.R. (2018). Selecting appropriate methodological framework for time series data analysis, The Journal of Finance and Data Science, 4(2), 71-89.

Shelly, R., Sharma, T., and Bawa, S.S. (2020). Role of micro, small and medium enterprises in Indian economy, International Journal of Economics and Financial Issues, 10(5), 84.

Tikku, S.R., and Singh, A.K. (2023). Financial Disruption and Micro entrepreneurs: Empirical Study on Adoption of E-Wallet Among Micro-Entrepreneurs in India, International Journal of e-Collaboration (IJeC), 19(1), 1-14.

Venkataramanaiah, M., and Suneetha, B. (2019). Performance evaluation of MSMEs during pre-and post-liberalisation era, SEDME (Small Enterprises Development, Management & Extension Journal), 46(4), 282-294.

Yacob, S., Sulistiyo, U., Erida, E., & Siregar, A.P. (2021). The importance of E-commerce adoption and entrepreneurship orientation for sustainable micro, small, and medium enterprises in Indonesia, Development Studies Research, 8(1), 244-252.

Zanjurne, P. (2018). Growth and future prospects of MSME in India, International Journal of Advanced Engineering, Management and Science (IJAEMS), 4(8), 2454-1311.

Reserve Bank of India Reports.

Annual Reports of MSMEs, Government of India.