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Women Entrepreneurs' Struggles During The Covid-19 Pandemic And Their Use Of Social Media

Ninik Sri Rahayu; Masduki Masduki; Nur Ellyanawati Esti Rahayu

Journal of Innovation and Entrepreneurship

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WOMEN ENTREPRENEURS AND THE USAGE OF SOCIAL MEDIA FOR BUSINESS SUSTAINABILITY IN THE TIME OF COVID-19

Ninik Sri Rahayu; Masduki Masduki; Nur Ellyanawati Esti Rahayu
Journal of Innovation and Entrepreneurship

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Limited understanding of the topic is demonstrated	We have reorganized the structure of our paper to demonstrate a deep understanding of the topic and to make the findings of this paper coherence with the framework. In addition, we have also revised the title to fit	See page 4-9 (indicated by the red mark)

	the framework of this paper better.	
The literature review appears incomplete and is not critical.	We have assessed the literature and compared and applied them critically to this paper's findings and analysis. We also provide a description for all the tables with a more critical analysis.	See page 8-12.
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Best wishes,

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Department of Economics
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**WOMEN ENTREPRENEURS, SOCIAL MEDIA AND THEIR BUSINESS SUSTAINABILITY DURING
THE COVID-19 PANDEMIC**

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Abstract

This study explores the efforts of Indonesian women entrepreneurs to sustain their businesses during the COVID-19 crisis of 2020–2021. Focusing on female-owned businesses in Yogyakarta, **Indonesia** this research places particular emphasis on how social media contributes to their survival. Using a quantitative approach to analyze data collected from 130 respondents, the researchers found that the pandemic has severely affected women entrepreneurs—especially those operating SMEs. Most significantly, women have experienced reduced income due to decreased sales, disrupted supply chains, and difficulty paying credit instalments. Although women entrepreneurs are particularly vulnerable to economic shocks, most lack access to assistance from government and private programmes. This study also sheds light on social media's Important role in saving women's businesses. Facebook, WhatsApp, and Instagram have become the main instruments through which women market their businesses and reach new audiences. Aggressive promotions, accompanied by attractive offers such as discounts and additional services, have helped women entrepreneurs reduce their losses.

Keywords: COVID-19; social media; social capital; sustainability; women entrepreneurs

Introduction

The COVID-19 pandemic has significantly disrupted all areas of the economy (Fendel, et al., 2020). Particularly affected by the pandemic, however, have been micro and small enterprises (MSEs) (Kaur & Kaur, 2020; Shafi et al., 2020). In this arena, female entrepreneurs face more difficult challenges than their male peers, as they must overcome obstacles such as limited access to financial resources, lack of networks, and gender biases (Halabisky, 2017; Villaseca et al., 2020). Women-owned businesses also face problems such as balancing work and family, finding and keeping qualified employees, and adapting to technological and marketplace changes (Mandishaya et al., 2015). In the developing world, women entrepreneurs must also deal with cultural and traditional mores that provide less support, emphasise motherhood, position women as subordinate to men (particularly their husbands), and limit their mobility. More so than their male counterparts, women entrepreneurs' family ties impede the growth, sustainability, and performance of their businesses (Etim, 2020;

Naidu, 2010). Women entrepreneurs are left 'triple blind', facing problems with financial capital, human capital, and social capital (Danish & Smith, 2012).

The COVID-19 crisis has been particularly detrimental for women entrepreneurs. Unlike earlier economic recessions, which primarily affected the businesses operated by men, the pandemic has left women more vulnerable (Alon et al., 2020). Dependence on informal financing and limited assets have proven significant challenges. Women tend to be concentrated in the industries most affected by the pandemic, have relatively small financial buffers, and lack access to different financial sources. On average, their businesses are smaller and younger than male-owned businesses. They are more likely to be self-funded or funded by friends and family (OECD, 2021). Other studies have confirmed that COVID-19 has disproportionately affected women entrepreneurs. Kritikos et al. (2020), for instance, reported that female self-employed were 35% more likely to experience revenue loss than men, and that women-owned businesses laid off a disproportionately higher share of their workers.

Women entrepreneurs' struggles during the pandemic have been compounded by the network limitations that prevent them from accessing mentoring and crisis management services (Henry, 2020). Furthermore, their access to government relief programmes is often hampered by eligibility issues; assistance programs generally prioritise MSEs that have developed a relationship with commercial lenders, while women entrepreneurs rely more on informal financing (Orser, 2020). To cope with these difficulties, women have adopted a range of cash management, cooperation, and digital marketing strategies (Sultan & Sultan, 2020). As such, social media has emerged as a saviour for many businesses, as entrepreneurs both big and small have used it to reach their customers and provide them with the required products and services (Kaur & Kaur, 2020). A recent survey in Indonesia indicated that women-owned businesses are more likely to use the internet to sell products. It is estimated that 54 per cent of women-owned microbusinesses now use the Internet to sell products (UN Women, 2020).

Studies on the effectiveness of social media in the development of SMEs have been conducted in many countries (Aloulou, 2019; Bernhard & Grundén, 2016; Fleet, 2012; Jones et al., 2015). Previous studies have also examined the relationship between social media and women entrepreneurs (Cesaroni et al., 2017; Etim, 2020; Genç & Öksüz, 2015; Mukolwe & Korir, 2016; Olsson & Bernhard, 2020; Ukpere et al., 2014). Studies by Kaur and Kumar (2020); Kaur and Kaur (2020); and UN Women (2020) have demonstrated that tapping into online markets has become a critical coping strategy for business owners during the COVID-19 pandemic. However, there is still limited empirical evidence on women entrepreneurs' use of social media during the pandemic. As such, this paper aims to explore the effect of the COVID-19 pandemic on women entrepreneurs as well as how social media usage has helped ensure business sustainability during the pandemic. This study contributes to the literature by exploring woman-owned MSEs and their social media usage during the course of this terrible pandemic.

This paper is organized as follows: Section 1 discusses the background of the research and is followed by a review of the relevant literature in Section 2. Section 3 discusses the research design, data collection, etc. Section 4 explores the findings of this study (the impact of COVID-19 on women entrepreneurs; the usage of social media by women entrepreneurs; sustainability of women-owned businesses). Finally, in Section 5, the conclusions, managerial implications, and limitations of this study are discussed.

Literature Review

Women Entrepreneurship and Social Media

Entrepreneurship refers to the business activities undertaken by persons with initiative, innovation, and decision-making skills, as well as specific capital and responsibility (Cadaru & Badulescu, 2015). Entrepreneurs, thus, are those who create their own business, i.e., persons who organise, operate, and assume the risks of business ventures (Garg & Eisenhardt, 2017). Women entrepreneurs are simply women who participate in entrepreneurial activities and take risks by combining resources in a unique way, thereby enabling them to take advantage of opportunities in their immediate environment by producing goods and services (Mordi et al., 2010).

Enterprises where more than 51 per cent of capital originate from women and 51 per cent of employable positions are allocated to women can be characterised as female-owned (Vijayakumar & Jayachitra, 2013). Female-owned businesses are generally small enterprises that engage in the trade and service sector (Sandri & Hardilawati, 2019). In Indonesia, nearly 40 per cent of all MSEs are women-owned (UN Women, 2020).

However, entrepreneurship has long been synonymous with men. The construction of entrepreneurship as a masculine phenomenon has deep historical roots, which are supported by cultural and economic processes and embedded in social and cultural attitudes and norms (Hamilton, 2013). Gender biases in entrepreneurship are associated with the fact that entrepreneurship has traditionally been understood as a male gender role (Gogar, 2019). As a consequence, women entrepreneurs appear invisible; they do not seem to fit the stereotypes, even though they play an essential role in developing the economy and creating jobs (Javadian & Singh, 2012; Sharma, 2018). Zeb and Ihsan (2020) emphasised that economic development is impossible without involving women. In other words, women's involvement is foundational for economic growth, and entrepreneurship is the most likely option for them (Ismail et al., 2016).

Women contribute substantially to the country's economic growth, yet many (if not most) women business owners opt to remain small and informal. According to Wei (2018), women-owned MSEs in Indonesia face several push and pull factors when deciding whether to remain small or expand their businesses. The demands of household domestic duties, as well as other time constraints, are major reasons for their decision to remain small and informal. Women's access to capital is also constrained; even when loan products are available, they do not necessarily fit their needs.

Social media usage is growing amongst global businesses, particularly during the COVID-19 pandemic, during which physical mobility has been restricted. Social media provides a relatively affordable, pervasive, user-friendly, and accessible platform that individuals can incorporate into their private lives (Högberg, 2018; Högberg & Olsson, 2019; Kaur & Kumar, 2020). Social media is very beneficial for small businesses, which often have limited resources to market their products (Barnes et al., 2012). Among the various social media platforms, Facebook and Instagram are preferred by small entrepreneurs, as they are simpler and require less technical knowledge than Blog, Google+, or LinkedIn (Genç & Öksüz, 2015). These digital platforms are designed in such a way that users can share personal data and interact online (Zuboff, 2015).

Social media is not merely an instrument for disseminating information. It also offers friendship-based business tools that enable businesses to communicate, listen to, and learn from customers in ways they have never done before (Jones et al., 2015). For women entrepreneurs, social media offers business opportunities and provides means to change the discourses and expectations about women entrepreneurs (Cesaroni et al., 2017). While the world of entrepreneurship is frequently described as a masculine area (Gogar, 2019), social media can present successful women entrepreneurs as role models. In line with that, Markowska et al. (2018) stated the importance of forefronting innovative women entrepreneurs as influencers on social media. This idea is in line with the concept of digital entrepreneurship, where entrepreneurs can find new ways of doing business based on digital technology, such as by transforming offline businesses into online ones (Kraus et al., 2018). With those ideas in mind, this paper questions two issues: First, to what extent has the COVID-19 pandemic impacted women entrepreneurs? Second, how have women employed social media to cope with the pandemic?

Research Methodology

This work employs a quantitative approach to describe women entrepreneurs and their usage of social media to cope with the COVID-19 outbreak. The research population is female entrepreneurs who actively use social media platforms such as WhatsApp, Facebook and Instagram in managing their businesses. They particularly are founders and business owners who have been in business for at least two years. Initial data for this study was obtained from the "Warung Rakyat", a website developed by the COVID-19 task force at the Islamic University of Indonesia to promote MSE products in Yogyakarta, **Indonesia during the pandemic (see: <https://www.uii.ac.id/tag/warung-rakyat/>)**. Women entrepreneurs listed on the website were then selected purposively based on their specific subsector (i.e. food, beauty, fashion, and crafts). Subsequent data collection used the snowball technique, wherein respondents identified other potential respondents.

Due to the unknown population of women entrepreneurs in Yogyakarta using social media, the sample size was determined following the formula developed by Lemeshow et al. (1997), as follow:

$$n = \frac{Z^2 \cdot 1 - \alpha / 2 \cdot P(1 - P)}{d^2}$$

Where:

n: sample size; Z: standard normal variate corresponding to the level of significance (95%)=1.96; p: expected prevalence= 0.5 ; d: absolute error or precision.

Based on this formula, the minimum sample size was calculated as below:

$$n = \frac{1,96^2 \cdot 0.5 (1 - 0.5)}{0,1^2}$$

$$n = 96.4 = 100$$

The authors collected data from 130 respondents, and thus met the minimum sampling requirement. The questionnaires were distributed to respondents via WhatsApp. Each questionnaire had two sections; the first collected demographic information on the respondents, while the second gathered information **about profile of the selected women**

entrepreneurs, their businesses, their operations, and their use of social media to ensure business sustainability during the COVID-19 pandemic.

The table 1 below summarises the demographic characteristics of 130 respondents, with a particular focus on five indicators: age, education level, business sector, source of initial capital, and number of their employees.

Table 1 Demographic characteristics of respondents

Age				
<25	25–34	35–44	45–54	>55
4.61%	28.5%	33.1%	29.2%	4.61%
Education level				
Secondary High School	Diploma	Bachelor	Post-Graduate	
33.8%	16.2%	48.5%	1.5%	
Business sector				
Food	Beauty	Fashion	Craft	Other
40.15%	3.03%	18.94%	4.55%	5.30%
Source of initial capital				
Personal savings	Spouse and family	Financial institution	Others	
70.7%	17.7%	8.5%	3.1%	
Number of employees				
0	1–3	>3		
55.3%	27.27%	17.43%		

Results and Discussion

a. *The Impact of COVID-19 on Women-owned business*

This study finds that the COVID-19 pandemic has disrupted the overall economic activity of women in Yogyakarta, Indonesia. With the sharp downturn in economic activity, women who operate MSEs have been particularly vulnerable to losing their livelihoods. In line with global trends, almost 87% of women surveyed in Yogyakarta Indonesia, confirmed that their sales had decreased since the beginning of the COVID-19 pandemic. Large-scale social restrictions (PSBB) led to a drastic decline in economic activity, as people were less likely to spend in these uncertain conditions, and this is suspected to have reduced demand for MSEs' products (UNDP & LPEM UI, 2021). However, approximately 13% of women micro-entrepreneurs indicated that the COVID-19 pandemic did not affect their MSEs.

The pandemic also severely disrupted the supply chains used by entrepreneurs. The 130 women entrepreneurs surveyed experienced problems with raw material and production (35%), delivery and distribution (32%), and communication with customers and suppliers (23%). Another 9% indicated that they had faced other problems, such as employees being unable to work due to lockdown policies or testing positive for COVID-19. Women-owned MSEs were particularly vulnerable to these issues, as they typically have weaker supply chains, smaller inventories, and limited supplier networks, making them more vulnerable to supply chain disruptions (WTO, 2020). Together, these problems reduced the sales and profits of women-owned MSEs.

The table 2 below highlights the impact of COVID-19 to the women-owned businesses in Yogyakarta, Indonesia.

Table 2 The Impact of Covid-19 on Women-owned Businesses

Criteria	Percentage
Decline in sales	
- Yes	87%
- No	13%
Supply chains	
Raw material and production	35%
Delivery and distribution	32%
Communications with the customers and suppliers	23%
Other (employees unable to work due to the lockdown, tested positive for COVID-19)	9%
Loans from financial institutions	
- Yes	42%
- No	58%
Strategy for repaying loans	
i. Rescheduling	47%
ii. Selling assets	29%
c. Other (reducing working hours for employees, borrowing money from family)	24%
Assistance related to the pandemic	
Yes	18.5%
No	81.5%

Why have the businesses of women entrepreneurs in Yogyakarta been vulnerable during the COVID-19 pandemic? There are several reasons, ranging from the business sector itself to its funding and management models. As can be seen in table 1, 40% of respondents were involved in the culinary sector. The remainder entrepreneurs were engaged in other business sectors. Of these, most were active in the fashion (28%) and retail (17%) sectors; fewer were involved in the craft (5%) and beauty (3%) sectors. The culinary sector, fashion and retail sectors are among the high dependency to consumer mobility and my consider as the second priority compared to health sectors in the pandemic period. Their market was slowdown due to the work from home policy.

Microfinance businesses in Yogyakarta are typically funded through personal savings, which can easily be transferred or repurposed to meet other needs. Most respondents (70%) indicated that the initial capital for their businesses came from their personal savings. This result supports the findings of previous studies, which have found that women mostly start businesses with internal capital sourced from personal savings (Bennett & Dann, 2000; Orser et al., 2006). Only 3% of respondents received their seed capital from formal financial institutions such as banks or microfinance. According to Chowdhury et al. (2018), women entrepreneurs face greater obstacles in accessing such institutions due to their lack of information, collateral, guarantor, and experience, as well as discriminatory laws.

Women-owned businesses are more likely to be operated individually. Approximately 40% of respondents indicated that they carried out all business activities

without any employees; some 27% employed one to three persons and 17% had more than three employees. These findings are in line with those of Powers and Magnoni (2013), who note that women-owned MSEs tend to have fewer employees than male-owned MSEs and are more likely to use temporary labour. Furthermore, this figure suggests that women are more likely to operate micro-enterprises, i.e. the smallest companies.

One of the key challenges faced by women entrepreneurs was their limited access to formal financial institutions. In many cases, women entrepreneurs are not considered bankable as they are unable to meet the criteria for receiving loans from formal financial institutions. Most operate in sectors with lower capital intensity and on a smaller scale, and this further exacerbates their difficulty seeking external funding (World Bank Group, 2016). Table 2 shows that only 42% of the women entrepreneurs surveyed received loans from formal financial institutions. To overcome their drastically reduced revenue, most women MSE owners sought to reschedule their loans (47%). Other strategies included selling assets, borrowing money from family and friends, and reducing the working hours of their staff.

Without access to financial coping strategies, women also had difficulty accessing government support and stimulus programmes. Since the onset of the pandemic, the Government of Indonesia has implemented several stimulus packages to benefit both businesses and individuals, including social assistance programmes, direct cash transfers, working capital loans, and credit guarantees (UN Women, 2020). However, almost 81% of women micro-entrepreneurs surveyed did not benefit from any of these programmes (Table 2). Government relief programmes have not specifically targeted women-owned MSEs, which has in practice prevented women from benefitting from them.

b. Women entrepreneurs and social media usage

The drastic economic changes wrought by the COVID-19 pandemic inspired women entrepreneurs to adopt social media marketing tools to ensure their continued survival. Because of its affordability, which enables women to overcome their limited financial resources, social media plays a vital role in the development of women-owned MSEs (Jones et al., 2015). Likewise, social media provides an easy, user-friendly, and very economical platform for rapidly disseminating information to diverse markets; as such, it has paved the way for the growth of women entrepreneurs (Duggal & Gupta, 2020). Supporting previous findings, most of the respondents in this study (70%) used social media for their MSEs because of its user-friendliness; another 23.8% of respondents chose social media due to its affordability. A smaller percentage of respondents (6.2%) chose social media to follow market demands and trends.

Given that the majority of respondents (66%) were female entrepreneurs under the age of 45, this study supported the arguments of Kozubíková et al. (2016) that new business strategies (using the internet, mobile applications, and other information and communication technologies) are easier for women entrepreneurs. Also, the usage of social media for entrepreneurial activities indicates that these women have had the time and education to develop their skills and knowledge, as well as the experience necessary to develop confidence in their own abilities (Zali et al., 2018).

Table 1 above shows the high education level of respondents. Approximately 66% received some form of tertiary education, and the remaining 33% had some secondary education. Education plays a key role in digital literacy, as it provides people with the skills necessary to identify opportunities, develop digital tools, and make decisions effectively. All

of these are crucial, as they have a direct impact on profitability, growth rates, job formation, and value creation (Ahmadov et al., 2021). Higher education seems to be one of the factors determining entrepreneurs' success (Hunady et al., 2018), and women's relatively high level of formal education indicates that they have the knowledge and skills needed for continued survival.

Table 3 provides examples of social media usage among the surveyed women entrepreneurs in Yogyakarta, Indonesia:

Table 3 Women entrepreneurs and social media usage

Reason for using social media for business				
User friendly	Affordable	Trend & market demand		
70%	23.8%	6.2%		
Experience using social media				
1–2 years	3–4 years	>4 years		
45.4%	30%	24.6%		
Intensity using social media during the pandemic				
<1 hour	1–5 hours	6–10 hours	> 10 hours	
10.7%	60%	26.2%	3.1%	
Main means of accessing social media				
Cellular phone	Cellular phone & tablet	Cellular phone & Laptop	Cellular phone, Tablet, & Laptop	
69.8%	5.4%	23.8%	1%	
Social media platforms used				
WhatsApp	WhatsApp & Facebook	WhatsApp & Instagram	WhatsApp, Facebook, & Instagram	Other combination
26.9%	7.7%	13.1%	45.55%	6.9%

This table indicates that Indonesian women have increasingly used social media for their business activities. Why? According to Melissa et al. (2013), this trend is driven by the facility of using digital platforms. Through social media, users can tag pictures and provide product information to potential customers with a single click (Melissa et al., 2015). In Indonesia, of the 549,740 users registered on Facebook as the owners of small and medium enterprises, 176,300 are women (Melissa et al., 2013). Women use social media platforms such as Facebook as a strategy to increase sales and communicate with customers (Ukpere et al., 2014).

In this survey, 45% of respondents had used social media for their business for 1–2 years. This indicates that the majority of respondents were relatively new social media users who likely began using the platform when the COVID-19 crisis began affecting their business. In other words, the pandemic likely encouraged women to seek alternative strategies, selling their products online when offline business activities were impossible. Rapidly embracing an online format enabled women to continue reaching customers during the lockdown, when face-to-face interactions were limited. At the same time, however, a relatively high percentage of women entrepreneurs had been using social media for 3–4 years (26%) and more than four years (30%). The majority of respondents (60%) indicated that they spent 1–5 hours using social media every day to run their business during the pandemic.

To access social media and conduct online business activities, respondents overwhelmingly (69.8%) preferred using their cellular phones. Cellular phones are considered more practical and efficient, as they can be used for multiple purposes, and are thus preferred by entrepreneurs (Rahim et al., 2020). These digital devices have thus become pillars of socio-economic development, providing entrepreneurs with business opportunities and simplifying transactions (Melchioly & Sæbø, 2010). This has changed the way entrepreneurs sell, purchase and interact with their suppliers and customers (Yahya & Mutarubukwa, 2017).

Overall, respondents' usage of social media as a means of ensuring business sustainability can be seen in the table below:

Table 4 Business sustainability and social media

Criteria	Percentage
Strategy to maintain business	
Promotion through social media (SM)	27.6%
Offering discounts	4.6%
Reducing employees	0.8%
Product diversification	2.3%
Additional servicesn	1.53%
Promotion through SM, offering discounts	14.6%
Promotion through SM, reducing employees	3.1%
Promotion through SM, product diversification	1%
Promotion through SM, additional services	6.2%
Promotion through SM, offering discounts, additional services & product diversification	36.7%
Other combination	1.6%
Marketing strategy through social media	
Posting photos and videos related to the products	43.1%
Posting photos and videos related to the products, engaging in comments, & develop friend networks	54.6%
Other	2.3%

Table 4 demonstrates the strategic role of social media in ensuring efficient business management. Social media plays a particularly important role in promoting products and reducing the need for employees. To overcome the economic difficulties triggered by the pandemic, women entrepreneurs used a variety of digital platforms. Most (45.55%) used WhatsApp in conjunction with Facebook and Instagram to expand their networks and make new connections with customers, suppliers, and peers. A smaller percentage combined WhatsApp with Instagram (31.1%) or Facebook (7.7%) or used another combination of platforms (6.7%). At the same time, however, a significant number of women entrepreneurs (26.9%) exclusively used WhatsApp to reach their customers. WhatsApp has long been the dominant app for daily personal communication in Indonesia. As such, it can easily be adapted for business use; tap into their existing networks and quickly start sharing photos and information about their business activities.

Conclusions

This paper has investigated how women entrepreneurs have ensured the survival of their businesses during the COVID-19 pandemic by surveying 130 respondents in Yogyakarta, Indonesia. It has found that the COVID-19 crisis has profoundly impacted women-owned MSEs, resulting in reduced sales decline, supply chain disruption, and difficulty repaying loans from formal financial institutions. Although women entrepreneurs have been most vulnerable to this crisis, few have received assistance from government and non-government programmes.

This research has also found that social media, especially WhatsApp, Instagram and Facebook, have emerged as significant tools for business promotion. It is predicted that the COVID-19 crisis will continue to push women entrepreneurs into the digital realm as they seek to reach a wider customer base. At the same time, they will continue providing discounts, offering additional services, and diversifying their products to cope with the COVID-19 pandemic.

Overall, this study explored the ways that women have secured their businesses during a time of crisis. These findings are important, as they offer insight into how women entrepreneurs in a developing economy face the challenge of economic instability during the COVID-19 pandemic (2020-2021). The knowledge generated through this work may help reduce the unplanned losses that businesses face during times of crisis and help policymakers address the economic and social vulnerabilities of women entrepreneurs—especially when they are disproportionately affected, as in the current pandemic (Etim, 2020; Kaur & Kaur, 2020; Villaseca et al., 2020).

Future research must therefore consider how women deal with gender issues while managing their businesses. Expanding the research sample is also important to obtain a better understanding of the complex strategies through which women entrepreneurs in Indonesia deal with unexpected situations and crises.

Abbreviations

MSEs: Micro and Small Enterprises; COVID-19: Corona Virus Disease; OECD: Organization for Economic Co-operation and Development; UN: United Nations; UNDP: United Nations Development Program; LPEM UI: Lembaga Penyelidikan Ekonomi Masyarakat Universitas Indonesia; WTO: World Trade Organization.

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Author Contributions: Conceptualization, N.S, and M; Methodology, N.S and M; software, N.E.; validation, N.S., and N.E; formal analysis, N.S and M.; investigation, N.S; M; N.E.; resources, N.E.; data curation, N.S and N.E; writing—original draft preparation, N.S.; writing—review and editing, M; visualization, M; supervision, M; project administration, N.E.; funding acquisition, N.S. and M. All authors have read and agreed to the published version of the manuscript.

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Availability of Data and Materials : All data generated or analysed during this study are included in this article. The raw data are available from the corresponding author upon reasonable request.

Competing interests

The authors declare that they have no competing interest.

Reference

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Tue, 20 Sept
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to Journal

Dear the chief editor of
Journal of Innovation and Entrepreneurship,

I am writing to you to seek information about the status of my paper. I have submitted the paper entitled "WOMEN ENTREPRENEURS, SOCIAL MEDIA AND THEIR BUSINESS SUSTAINABILITY DURING THE COVID-19 PANDEMIC" on September 14th, 2021. After receiving feedback from the editor, I submitted the revised version of the paper On March 03th 2022. I have checked the submission menu through

<https://www.editorialmanager.com/jiae/default2.aspx> and found out that at the moment, it is still on the editor assigned. Could you please provide information on how long it takes the process in the assigned editor? And how long will it take for the further step? Thank you very much.

Best regards

Ninik Sri Rahayu
Lead Author

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JIAE-D-21-00170R1

WOMEN ENTREPRENEURS, SOCIAL MEDIA AND THEIR BUSINESS
SUSTAINABILITY DURING THE COVID-19 PANDEMIC

Ninik Sri Rahayu; Masduki Masduki; Nur Ellyanawati Esti Rahayu
Journal of Innovation and Entrepreneurship

Dear Dr Rahayu,

Your manuscript 'WOMEN ENTREPRENEURS, SOCIAL MEDIA AND THEIR BUSINESS SUSTAINABILITY DURING THE COVID-19 PANDEMIC' (JIAE-D-21-00170R1) has been assessed by our reviewers. Although it is of interest, we are unable to consider it for publication in its current form. The reviewers have raised a number of points which we believe would improve the manuscript and may allow a revised version to be published in Journal of Innovation and Entrepreneurship.

Their reports, together with any other comments, are below. Please also take a moment to check our website at <https://www.editorialmanager.com/jiae/> for any additional comments that were saved as attachments.

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Reviewer reports:

Editors' comments (if any) :

Associate Editor: After careful consideration and review, we request major amendments to this manuscript before accepting it for publication.

The introduction does not adequately discuss how and why you planned to conduct this research, what the future benefits of this research will be to upcoming scholars, and what the findings of this study are.

The literature review appears incomplete, is not critical, nor is there academic support for the arguments in the article. Update and enrich the literature review with recent studies.

Start your literature review section with a description of the methodology used for this comprehensive and systematic literature review. Search the literature to find studies that have conducted a systematic literature review to get ideas about what is needed in terms of the systematic literature review methodology. For example:

Centobelli, P., Cerchione, R., & Esposito, E. (2017). Knowledge management in startups: Systematic literature review and future research agenda. *Sustainability*, 9(3), 361.

Mariano, S., & Awazu, Y. (2016). Artifacts in knowledge management research: a systematic literature review and future research directions. *Journal of Knowledge Management*, 20(6), 1333-1352.

Minhas, J., & Sindakis, S. (2021). Implications of Social Cohesion in Entrepreneurial Collaboration: a Systematic Literature Review. *Journal of the Knowledge Economy*, 1-32.

Sindakis, S., Aggarwal, S., & Chen, C. (2019). Coopetitive dynamics and inter-organizational knowledge flow among venture capital firms: A systematic literature review. *Kybernetes*, 49(1), 47-72.

Wu, F., Fu, X., Zhang, T., Wu, D., & Sindakis, S. (2022). Examining Whether Government Environmental Regulation Promotes Green Innovation Efficiency—Evidence from China's Yangtze River Economic Belt. *Sustainability*, 14(3), 1827.

Ying, S., Sindakis, S., Aggarwal, S., Chen, C., & Su, J. (2021). Managing big

data in the retail industry of Singapore: Examining the impact on customer satisfaction and organizational performance. *European Management Journal*, 39(3), 390-400.

Zhang, C., Zeng, Q., Chen, C., Sindakis, S., Aggarwal, S., & Dhaulta, N. (2022). The Strategic Resources and Competitive Performance of Family-Owned and Non-Family-Owned Firms in the Retail Business of Los Angeles. *Journal of the Knowledge Economy*, 1-29.

The methodology section is underdeveloped. The description of research philosophy and design is missing. Elaborate further on the study's sample and the strategies used to recruit participants. Elaborate further on the data collection and data analysis processes that the study has adopted.

There is a lack of critical synthesis and comparison of the primary findings in the analysis of results.

The Discussion section is missing. The Discussion should include a critical synthesis and comparison of the data with the literature.

The Conclusion is underdeveloped and does not adequately discuss the theoretical and managerial implications of the study. Also, the ideas for future research are not stated in conclusion. Make sure you create 3 subsections in the Conclusion: 1) Theoretical implications, 2) Managerial Implications, 3) Ideas for Future Research.

You may wish to study published articles that examine perspectives on this topic, which will give you an idea as to how you must revise your article. Make sure to identify, use and cite relevant studies that have been published in the *Journal of Innovation and Entrepreneurship*.

Make sure to proofread the manuscript before it is resubmitted to the journal. Please go through the journal's guidelines thoroughly and revise the paper accordingly. Thank you for submitting your paper to the *Journal of Innovation and Entrepreneurship*.

Reviewer #1: Dear author(s)

I am grateful to review your submitted research paper entitled "WOMEN ENTREPRENEURS AND THE USAGE OF SOCIAL MEDIA FOR BUSINESS SUSTAINABILITY IN THE TIME OF COVID-19."

I read your paper with great interest because of the well-timed area of inquiry about women's entrepreneurship and COVID-19. However, despite the interesting topic, I see the study has major theoretical and empirical flaws. Here are my reviews:

1. After reading your introduction and literature review section, I was still

confused about your main variable of interest (Dependent variable)? According to the title, it could be "Business sustainability" but I cannot see any discussion about this or any other variables representing the central area of interest.

2. Similarly, what are your main independent variables? Is your study being just descriptive? Because I cannot track where these numbers/percentages in the empirical part came from? And what do they represent?

3. The introduction lacks theoretical rigor. The literature review is inadequate, which places your study not novel to what we already know. I suggest acknowledging the recent papers on women entrepreneurship at times of COVID-19, especially in developing countries, to better motivate your study.

4. What is the rationale behind linking women's entrepreneurship, social media, and business sustainability? What you have presented reflects what these constructs are, not the link between them?

5. About the measures, what questions did you asked from the respondents? How have you measured the variables? Tell us more about the sample, procedure, measure, and empirical strategy you applied.

6. The contributions are not novel and not discussed evidently.

7. There are several contradictions to your theoretical and empirical statements. Just an example is on page 6, line 34 "The majority of respondents (66%) were female entrepreneurs under the age of 45 (Table 1)". Then page 8, line 10, "The pandemic also severely disrupted the supply chains used by entrepreneurs. The 130 women entrepreneurs surveyed experienced". Not sure you surveyed all women entrepreneurs, or only 66% were women entrepreneurs? There are several other such contradictions.

Overall, I suggest you thoroughly revise the paper. I hope these comments are helpful and will improve the merits of the paper.

Best of luck.

Reviewer #2: The manuscript still needs a lot of improvement:

1. The questionnaire of survey should be included at the end of the manuscript.

2. Th grammatical errors should also be removed through professional proofreading.

3. The relevant studies must also be cited. such as:

Afshan, G., Shahid, S., & Tunio, M. N. (2021). Learning experiences of women entrepreneurs amidst COVID-19. *International Journal of Gender and Entrepreneurship*.

Jiménez-Zarco, A. I., Clemente-Almendros, J. A., González-González, I., & Aracil-Jordà, J. (2021). Female Micro-Entrepreneurs and Social Networks: Diagnostic Analysis of the Influence of Social-Media Marketing Strategies on Brand Financial Performance. *Frontiers in psychology*, 12.

4. How the results were derived and analyzed, the procedure should also be mentioned.

5. The manuscript contains all the details of authors which should be removed for review.

There is additional documentation related to this decision letter. To access the file(s), please click the link below. You may also login to the system and click the 'View Attachments' link in the Action column.

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If improvements to the English language within your manuscript have been requested, you should have your manuscript reviewed by someone who is fluent in English. If you would like professional help in revising this manuscript, you can use any reputable English language editing service. We can recommend our affiliates Nature Research Editing Service (<http://bit.ly/NRES-PS>) and American Journal Experts (http://bit.ly/AJE_PS) for help with English usage. Please note that use of an editing service is neither a requirement nor a guarantee of publication. Free assistance is available from our English language tutorial (<https://www.springer.com/gb/authors-editors/authorandreviewertutorials/writinginenglish>) and our Writing resources (<http://www.biomedcentral.com/getpublished/writing-resources>). These cover common mistakes that occur when writing in English.

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Responses to Editor and Reviewer's comments

Review	Respond	Page
Editors' comments:		
The introduction does not adequately discuss how and why you planned to conduct this research, what the future benefits of this research will be to upcoming scholars, and what the findings of this study are.	We have revised the structure of introduction to demonstrate this research paper's urgency, its future benefits and our initial findings. In addition, we have also revised both the title and abstract to fit the framework of this paper better.	See page: 1-3 (indicated by red mark)
The literature review appears incomplete, is not critical, nor is there academic support for the arguments in the article. Update and enrich the literature review with recent studies. Start your literature review section with a description of the methodology used for this comprehensive and systematic literature review. Search the literature to find studies that have conducted a systematic literature review to get ideas about what is needed in terms of the systematic literature review methodology.	In the current manuscript, the literature review section already addressed your suggestion. We started our literature review section with a description of the methodology used for this review. Also, we added some suggested literatures, such as Afshan et al. (2022) that explored the learning experiences of women entrepreneurs amidst COVID-19.	See page: 3-5.
The methodology section is underdeveloped. The description of research philosophy and design is missing. Elaborate further on the study's sample and the strategies used to recruit participants. Elaborate further on the data collection and data analysis processes that the study has adopted	We now have added more detailed explanation on how we conducted this research (its study sample, data collection and its analysis) in a chronological way.	See page: 5-6.
The Discussion section is missing. The Discussion should include a critical synthesis and comparison of the data with the literature. There is also a lack of critical synthesis and comparison of the primary findings in the analysis of results.	Thanks for this inspection. The current manuscript has adopted your insightful suggestions. We added 'discussion' as a special section with a more critical	See page: 9-12 (its indicated by red mark)

	and comparative analysis to our findings.	
The Conclusion is underdeveloped and does not adequately discuss the theoretical and managerial implications of the study. Also, the ideas for future research are not stated in conclusion. Make sure you create 3 subsections in the Conclusion: 1) Theoretical implications, 2) Managerial Implications, 3) Ideas for Future Research.	Thank you. We now have reorganized our conclusion to fit with your suggestion. We also inserted implications and ideas for further research of this study.	See page: 12.
Reviewer #1		
I was still confused about your main variable of interest (Dependent variable)? According to the title, it could be "Business sustainability" but I cannot see any discussion about this or any other variables representing the central area of interest.	Thanks. Our dependent variable is women entrepreneurs and the social media usage while COVID-19 is its independent variable. The current title of this manuscript removed the term: 'sustainability' to avoid a confuse.	See, for instance page 5, ph. 1 (red colour).
Similarly, what are your main independent variables? Is your study being just descriptive? Because I cannot track where these numbers/percentages in the empirical part came from? And what do they represent?	The current revised manuscript indicates that COVID-19 as the independent variable. In its findings section, the table 1-4 indicated/addressed your suggestions.	See page: 5 to 9.
The introduction lacks theoretical rigor. The literature review is inadequate, which places your study not novel to what we already know. I suggest acknowledging the recent papers on women entrepreneurship at times of COVID-19, especially in developing countries, to better motivate your study.	In the current manuscript, the introduction and literature review already addressed your suggestion. We started our literature review section with a description of the methodology used for this review. Also, we added some suggested literatures, such as Afshan et al. (2022) that explored the learning experiences of women entrepreneurs amidst COVID-19.	See page: 2 to 5.
What is the rationale behind linking women's entrepreneurship, social	Thanks. In this manuscript, we position social media as	See page: 7 to 12.

media, and business sustainability? What you have presented reflects what these constructs are, not the link between them?	a way out/tool of struggle among women entrepreneurs during the COVID-19 pandemic. With this argument, we argue that social media usage can sustain the women businesses. The findings and discussion sections of this paper reflected those argument.	
About the measures, what questions did you asked from the respondents? How have you measured the variables? Tell us more about the sample, procedure, measure, and empirical strategy you applied	Thanks. In the revised methodology, we addressed your feedback. We also inserted research questionnaire in the end of this manuscript.	See page: 5-6.
The contributions are not novel and not discussed evidently.	In the revised manuscript, we clearly explained both contribution and novelty of this study.	See, for instance page 2, ph. 5 and page 12, ph. 3-4.
There are several contradictions to your theoretical and empirical statements. Just an example is on page 6, line 34 "The majority of respondents (66%) were female entrepreneurs under the age of 45 (Table 1)". Then page 8, line 10, "The pandemic also severely disrupted the supply chains used by entrepreneurs. The 130 women entrepreneurs surveyed experienced". Not sure you surveyed all women entrepreneurs, or only 66% were women entrepreneurs? There are several other such contradictions	Thanks for this careful inspection. In the current manuscript, we removed several contradictory sentences.	-
Reviewer #2		
The questionnaire of survey should be included at the end of the manuscript.	Thanks. We now added our survey questionnaire	See page: 18 onwards.
The grammatical errors should also be removed through professional proofreading.	Thanks. The current manuscript was inspected by native English proofreading.	-
The relevant studies must also be cited, such as: Afshan, G., Shahid, S., & Tunio, M. N. (2021). Learning experiences of women entrepreneurs amidst	Thanks. In the current manuscript, we included your suggested references. For instance, Afshan, et al.	See page: 5, ph. 1 and page 11, ph. 5.

COVID-19. International Journal of Gender and Entrepreneurship.		
How the results were derived and analysed, the procedure should also be mentioned.	Thanks. Your suggestion is now addressed in our research methodology.	See page: 5, ph. 5.
The manuscript contains all the details of authors which should be removed for review.	Thanks. We now removed all details of authors.	-

WOMEN ENTREPRENEURS' STRUGGLES DURING THE COVID-19 PANDEMIC AND THEIR USE OF SOCIAL MEDIA

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Abstract

This study examines the struggles of women entrepreneurs in Indonesia during the COVID-19 pandemic (2020–2021). Focusing on female-owned businesses in Yogyakarta, Indonesia, this paper considers carefully how social media helped these businesses survive. Using a quantitative approach to analyse data collected from 130 respondents, the researchers found that the pandemic has severely affected women entrepreneurs—especially those operating Micro and Small Enterprises (MSEs). Most significantly, women have

experienced reduced income due to decreased sales, disrupted supply chains, and difficulty paying credit instalments. Although women entrepreneurs are particularly vulnerable to economic shocks, most lack access to assistance from government and private programmes. This study further sheds light on social media's important role in sustaining female-owned businesses. Facebook, WhatsApp, and Instagram have become the main instruments through which women market their businesses and reach new audiences. Aggressive promotions, accompanied by attractive offers such as discounts and other services, helped entrepreneurs and their businesses survive during and after the pandemic.

Keywords: COVID-19; social media; social capital; struggles; women entrepreneurs

Introduction

The COVID-19 pandemic significantly disrupted all areas of the economy (Fendel et al., 2020). Particularly affected by the pandemic, however, have been micro and small enterprises (Kaur & Kaur, 2020; Shafi et al., 2020). In this arena, female entrepreneurs face more difficult challenges than their male peers, as they must overcome obstacles such as limited access to financial resources, lack of networks, and gender biases (Halabisky, 2017; Villaseca et al., 2020). This article examines the efforts of Indonesian women entrepreneurs to sustain their businesses during the COVID-19 crisis, as well as how social media contributed to their survival.

Why is this topic important? During and after the COVID-19 crisis, women-owned businesses also faced problems such as balancing work and family, finding and keeping qualified employees, and adapting to technological and marketplace changes (Mandishaya et al., 2015). In the developing world, women entrepreneurs also had to deal with cultural and traditional mores that provide less support, emphasise motherhood, position women as subordinate to men (particularly their husbands), and limit their mobility. More so than their male counterparts, women entrepreneurs' family ties impede the growth, sustainability, and performance of their businesses (Etim, 2020; Naidu, 2010). Women entrepreneurs are left 'triple blind', facing problems with financial capital, human capital, and social capital (Danish & Smith, 2012).

The COVID-19 crisis was particularly detrimental for women entrepreneurs. Unlike earlier economic recessions, which primarily affected the businesses operated by men, the pandemic left women more vulnerable (Alon et al., 2020). Dependence on informal financing and limited assets proved significant challenges. Women entrepreneurs are concentrated in the industries that were most affected by the pandemic, have relatively small financial buffers, and lack access to diverse financial sources. On average, their businesses are smaller and younger than male-owned ones. They are more likely to be self-funded or funded by friends and family (OECD, 2021). Other studies have confirmed that COVID-19 disproportionately affected women entrepreneurs. Kritikos et al. (2020), for instance, reported that female business owners were 35% more likely to experience revenue loss than men and that female-owned businesses laid off a disproportionately higher share of workers.

This paper argues that women entrepreneurs' struggles during the pandemic were compounded by various structural limitations. They lacked access to mentoring and

government relief programmes (Henry, 2020); such programmes generally prioritise MSEs that possess a relationship with commercial lenders, while women entrepreneurs rely more on informal financing (Orser, 2020). **We also find that**, to cope with these difficulties, women adopted a range of cash management and digital marketing strategies (Sultan & Sultan, 2020). Social media emerged as a saviour for many businesses, as entrepreneurs both big and small used it to reach their customers and provide them with the required products and services (Kaur & Kaur, 2020). A recent survey in Indonesia indicated that women-owned businesses are more likely to use the internet to sell products. It is estimated that 54 per cent of women-owned microbusinesses now use the internet to sell products (UN Women, 2020).

This study offers empirical evidence and discussion of the effect COVID-19 pandemic on women entrepreneurs and how social media usage helped them ensure the survival of their businesses during the terrible pandemic. It contributes particularly to the recent debate on MSEs' sustainability by exploring female-owned MSEs and their social media usage during the COVID-19 pandemic. Studies of the effectiveness of social media in the development of MSEs have been conducted in many countries (Aloulou, 2019; Bernhard & Grundén, 2016; Fleet, 2012; Jones et al., 2015). Previous studies have also examined the relationship between social media and women entrepreneurs (Cesaroni et al., 2017; Etim, 2020; Genç & Öksüz, 2015; Mukolwe & Korir, 2016; Olsson & Bernhard, 2020; Ukpere et al., 2014). Studies by Kaur and Kumar (2020); Kaur and Kaur (2020); and UN Women (2020) have demonstrated that tapping into online markets became a critical coping strategy for business owners during the COVID-19 pandemic. However, there is still limited empirical evidence on women entrepreneurs' use of social media during the pandemic as mean of business survival. **For instance, the recent study of Engidau (2022) on the challenges faced by small businesses during COVID-19 took place in Ethiopia, Africa, not Indonesia or elsewhere in Asia.**

This paper is organised as follows. Section 1 discusses the background of the research and is followed by a review of the relevant literature in Section 2. Section 3 discusses the research design, data collection, etc. Section 4 explores the findings of this study (the impact of COVID-19 on women entrepreneurs and women entrepreneurs' usage of social media as an exit strategy). Finally, in Section 5, the conclusions, implications, and limitations of this study are discussed.

Women Entrepreneurship and Social Media

In this section, we review relevant literature which discusses women's entrepreneurship and its managerial issues. Particular attention was given to the literature dealing with women's struggles managing their businesses during the COVID-19 pandemic and the extent to which the rapid growth of digital technology helped them. We start by assessing entrepreneurship and the critical position of women in this male-dominated sector. We then discuss the social media use by entrepreneurs and social media's use facilitating their digital entrepreneurship during the pandemic.

Zeb and Ihsan (2020) emphasised that economic development is impossible without involving women and that entrepreneurship is the most likely option for them (Ismail et al., 2016). Entrepreneurship widely refers to the business activities undertaken by persons with initiative and decision-making skills, as well as specific capital and responsibility (Cadaru & Badulescu, 2015). Entrepreneurs, thus, are those who create their own businesses. They are persons who organise, operate, and assume the risks of business ventures (Garg & Eisenhardt,

2017). In other words, women entrepreneurs are simply women who participate in business activities and take risks by combining resources in a unique way, thereby enabling them to take advantage of opportunities in their immediate environment by producing goods and services (Mordi et al., 2010).

Any enterprise where more than 51 per cent of its capital/product originates from women and 51 per cent of the company's employable positions are allocated to women can be characterised as female-owned (Vijayakumar & Jayachitra, 2013). Female-owned businesses are generally small enterprises that engage in the trade and service sector (Sandri & Hardilawati, 2019). In Indonesia, according to recent studies nearly 40 per cent of all MSEs are women-owned (UN Women, 2020).

Looking at the experience of Indonesia and countries around the globe, we find however, entrepreneurship has long been synonymous with men rather than women. The construction of entrepreneurship as a masculine phenomenon has deep historical roots, which are supported by cultural and economic processes and embedded in social and cultural attitudes and norms (Hamilton, 2013). What we can identify as gender biases in entrepreneurship are associated with the fact that entrepreneurship has traditionally been understood as a male gender role (Gogar, 2019). As a consequence, women entrepreneurs appear invisible; they do not seem to fit the stereotypes, even though they play an essential role in developing the economy and creating jobs (Javadian & Singh, 2012; Sharma, 2018).

Women contribute substantially to the country's economic growth, yet many (if not most) women business owners opt to remain small and informal. According to Wei (2018), women-owned MSEs in Indonesia face several push and pull factors when deciding whether to remain small or expand their businesses. The demands of household domestic duties, as well as other time constraints, are major reasons for their decision to remain small and informal. Women's access to capital is also constrained; even when loan products are available, they do not necessarily fit their needs.

With the arrival of the global COVID-19 pandemic and the economic crisis that ensued, female-owned businesses faced a managerial crisis. Unlike earlier economic recessions, which primarily affected the businesses operated by men, the COVID-19 pandemic left women more vulnerable (Alon et al., 2020). Dependence on informal financing and limited assets proved significant challenges. Women entrepreneurs had relatively small financial buffers and lacked access to different financial sources. During the COVID-19 pandemic, physical mobility was restricted and thus MSEs used social media to keep connected with their market. On the one hand, social media offers an affordable, pervasive, user-friendly, and accessible platform that individuals could incorporate into their private lives (Högberg, 2018; Högberg & Olsson, 2019; Kaur & Kumar, 2020). On the other hand, social media brought benefits for small businesses, which often have limited resources to market their products (Barnes et al., 2012).

During the pandemic, social media played important role in maintaining female-owned MSEs. It is not merely an instrument for sharing data; it also ensured the survival of businesses during the COVID-19 pandemic. Unlike traditional media, social media offers friendship-based business tools that enable women to listen to and learn from customers in ways they have never done before (Jones et al., 2015). Of the various social media platforms, WhatsApp and Instagram are preferred by small entrepreneurs, as they are simpler and require less technical knowledge than blogs, Google+, or LinkedIn (Genç & Öksüz, 2015).

These digital platforms are designed in such a way that users can share personal data and interact online (Zuboff, 2015).

Evidence from many developed countries shows that social media offers women entrepreneurs business opportunities and provides means to change the discourses and expectations about women entrepreneurs (Cesaroni et al., 2017). While the world of entrepreneurship is frequently described as a masculine area (Gogar, 2019), social media can present successful women entrepreneurs as role models. In line with that, Markowska et al. (2018) highlighted the importance of forefronting innovative women entrepreneurs as influencers on digital platforms. This idea is in-line with the general concept of digital entrepreneurship, where entrepreneurs can find new ways of doing business based on digital technology, from offline to online ones (Kraus et al., 2018). Afshan et al. (2022) explored the learning experiences of women entrepreneurs amidst COVID-19. The authors stressed the importance of entrepreneurs' technical skills when coping with the pandemic. The implementation of lockdown policies, which restricted movement, paused all offline economic and social activities, and pushed them into the virtual/online realm.

With those ideas in mind, this paper seeks to answer two questions: *First*, to what extent did the COVID-19 pandemic impact women entrepreneurs in Indonesia? *Second*, how did women employ social media to cope with the pandemic?

Research Methodology

In this paper, we use a quantitative approach to gather empirical data. This helped us identify the problems faced by women entrepreneurs from their own perspectives and understand how social media was adopted to deal with the problems. It also helped us analyse our empirical findings about women entrepreneurs' struggles and engagement with digital platforms. We positioned COVID-19 as an independent variable, with women entrepreneurship as its dependent variable. Research was conducted through the following stages.

First, we determined the respondents for this study. All were extracted from the research population, i.e., female entrepreneurs in Yogyakarta, Indonesia, who actively used social media platforms such as WhatsApp, Facebook, and Instagram to manage their businesses. To be more precise, we selected women who were business founders and owners who had been in business for at least two years. Initial respondent data for this study was obtained from "Warung Rakyat", a website developed by the COVID-19 task force at the Universitas Islam Indonesia (UII) to promote the products of small enterprises in Yogyakarta, Indonesia (see: <https://www.uui.ac.id/tag/warung-rakyat/>). Women entrepreneurs listed on the website were then selected purposively based on their specific subsector (i.e., food, beauty, fashion, and crafts). Subsequent data collection used the snowball technique, wherein respondents identified other potential respondents.

Due to the unknown population of women entrepreneurs in Yogyakarta, Indonesia using social media, the sample size was determined following the formula developed by Lemeshow et al. (1997), as follow:

$$n = \frac{Z^2 \cdot 1 - \alpha / 2 \cdot P(1 - P)}{d^2}$$

Where:

n: sample size; Z: standard normal variate corresponding to the level of significance (95%)=1.96; p: expected prevalence= 0.5 ; d: absolute error or precision.

Based on this formula, the minimum sample size was calculated as below:

$$n = \frac{1,96^2 \cdot 0.5 (1 - 0.5)}{0,1^2}$$

$$n = 96.4 = 100$$

From the above formula, we selected and collected data from 130 respondents, and thus met the minimum sampling requirement. They come from five districts of Yogyakarta Indonesia that represented small business.

Second, after respondents were chosen, we created questionnaires that dealt with two conceptual issues and key questions: the effect of the COVID-19 pandemic on women entrepreneurs and how social media usage has helped them ensure business survival during the pandemic.

Third, questionnaires were distributed. As the COVID-19 pandemic limited our mobility and interactions, questionnaires were distributed to respondents digitally, primarily through WhatsApp. Each questionnaire consisted of two sections; the first collected demographic information on the respondents while the second gathered a profile of the selected women business operations and social media usage.

The table 1 below summarises the demographic characteristics of 130 respondents, with a particular focus on their five indicators: age, education level, business sector, source of initial capital, and number of employee.

Table 1 Demographic characteristics of respondents

Age				
<25	25–34	35–44	45–54	>55
4.61%	28.5%	33.1%	29.2%	4.61%
Education level				
Secondary High School	Diploma	Bachelor	Post-Graduate	
33.8%	16.2%	48.5%	1.5%	
Business sector				
Food	Beauty	Fashion	Craft	Other
40.15%	3.03%	18.94%	4.55%	5.30%
Source of initial capital				
Personal savings	Spouse and family	Financial institution	Others	
70.7%	17.7%	8.5%	3.1%	
Number of employees				
0	1–3	>3		
55.3%	27.27%	17.43%		

Fourth, data were analysed. We connected all empirical findings about their experiences during the COVID-19 pandemic and their shift from offline to online business activities. To organise our analysis, we use the interactive analysis model Miles and Hubermann (2001). This formula guided us in addressing and interpreting data by connecting them to the broader discussion on the economic impact of COVID-19, women's entrepreneurship, social media usage, etc.

Results: The Impact of COVID-19 on Female-owned business

The general survey results showed how COVID-19 impacted female-owned businesses and how women entrepreneurs found solutions using digital platforms. We find that the COVID-19 pandemic disrupted the overall economic activities of women in Indonesia. With the sharp downturn in economic activity, the women who operate MSEs were particularly vulnerable to losing their livelihoods. In line with global trends, almost 87% of women surveyed in Yogyakarta, Indonesia, confirmed that their sales decreased after the beginning of the COVID-19 pandemic. The large-scale social restrictions applied by the Indonesian authorities led to a drastic decline in economic activity, as people were less likely to spend in these uncertain conditions. This is suspected to have reduced demand for MSEs' products (UNDP & LPEM UI, 2021).

The pandemic also severely disrupted the supply chains used by entrepreneurs. The 130 women entrepreneurs surveyed experienced problems with raw materials and production (35%), delivery and distribution (32%), and communication with customers and suppliers (23%). Another 9% indicated that they faced other problems, such as employees being unable to work due to lockdown policies or testing positive for COVID-19. Female-owned MSEs are particularly vulnerable to such issues, as they typically have weaker supply chains, smaller inventories, and limited supplier networks, making them more vulnerable to supply chain disruptions (WTO, 2020). Together, these problems reduced the sales and profits of female-owned MSEs.

The table 2 below highlights the detailed impact of COVID-19 to the women-owned businesses in Yogyakarta province, Indonesia.

Table 2 The Impact of Covid-19 on Women-owned Businesses

Criteria	Percentage
Decline in sales	
- Yes	87%
- No	13%
Supply chains	
Raw material and production	35%
Delivery and distribution	32%
Communications with the customers and suppliers	23%
Other (employees unable to work due to the lockdown, tested positive for COVID-19)	9%
Loans from financial institutions	
- Yes	42%

- No	58%
Strategy for repaying loans	
l.Rescheduling	47%
m.Selling assets	29%
n.Other (reducing working hours for employees, borrowing money from family)	24%
Assistance related to the pandemic	
Yes	18.5%
No	81.5%

How did most female-owned businesses cope with those problems? This study made interesting findings regarding the role of social media in sustaining businesses during and after the COVID-19 pandemic. Table 3 below summarises the reasonings and types of social media usage among the surveyed women entrepreneurs in Yogyakarta, Indonesia.

Table 3 Women entrepreneurs and social media usage

Reason for using social media for business				
User friendly	Affordable	Trend & market demand		
70%	23.8%	6.2%		
Experience using social media				
1–2 years	3–4 years	>4 years		
45.4%	30%	24.6%		
Intensity using social media during the pandemic				
<1 hour	1–5 hours	6–10 hours	> 10 hours	
10.7%	60%	26.2%	3.1%	
Main means of accessing social media				
Cellular phone	Cellular phone & tablet	Cellular phone & Laptop	Cellular phone, Tablet, & Laptop	
69.8%	5.4%	23.8%	1%	
Social media platforms used				
WhatsApp	WhatsApp & Facebook	WhatsApp & Instagram	WhatsApp, Facebook, & Instagram	Other combination
26.9%	7.7%	13.1%	45.55%	6.9%

Table 3 demonstrates that affordability and user-friendliness were common reasons for using social media, as was this media's usage for societal communication. As for the devices used, smartphones were the most commonly used, followed by laptops. The table also indicates that women-owned businesses mixed a variety of social media platforms in their digital engagement. Table 4 below details the strategies used by women entrepreneurs during the COVID-19 pandemic.

Table 4 Women business survival with social media

Criteria	Percentage
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Strategy to maintain business	
Promotion through social media (SM)	27.6%
Offering discounts	4.6%
Reducing employees	0.8%
Product diversification	2.3%
Additional services	1.53%
Promotion through SM, offering discounts	14.6%
Promotion through SM, reducing employees	3.1%
Promotion through SM, product diversification	1%
Promotion through SM, additional services	6.2%
Promotion through SM, offering discounts, additional services & product diversification	36.7%
Other combination	1.6%
Marketing strategy through social media	
Posting photos and videos related to the products	43.1%
Posting photos and videos related to the products	54.6%
Engaging in comments, & develop friend networks	2.3%
Other	

Table 4 demonstrates how social media plays a key role in ensuring efficient business management. It is particularly important in promoting products and reducing the need for employees. To overcome the economic difficulties triggered by the pandemic, women entrepreneurs used a variety of digital platforms. Most (45.55%) used WhatsApp in conjunction with Facebook and Instagram to expand their networks and make new connections with customers, suppliers, and peers. A smaller percentage of surveyed women businesses combined WhatsApp with Instagram (31.1%) or Facebook (7.7%) or used another combination of platforms (6.7%). WhatsApp has long been the dominant application for daily personal communication in Indonesia. Likewise, it can easily be adapted for business use by tapping into their existing networks and quickly sharing information about their business activities.

Discussion: The Managerial Crisis and Survival of Women Entrepreneurs

Drawing from the conceptual and analytical discussion of women entrepreneurs during the COVID-19, it can be said that the pandemic female-owned businesses. The question is: why have these businesses been vulnerable during the COVID-19 pandemic? We found several answers, ranging from the business sectors themselves to the funding and management models used. As shown by Powers and Magnoni (2013), women-owned MSEs tend to have fewer employees than male-owned MSEs and are more likely to use temporary labour. As can be seen in Table 1, 40% of respondents were involved in the culinary sector. The remainder were engaged in other business sectors, including the fashion (28%) and retail (17%) sectors; fewer were involved in the craft (5%) and beauty (3%) sectors. The culinary, fashion, and retail sectors are highly dependent on consumer mobility, and thus slowed down significantly after the work-from-home policy was implemented.

According to Rianti et al. (2022), the failure/success of a business is defined from many dimensions, including personal, organizational, and external factors. With this notion,

we find that COVID-19 disrupted and potentially undermined their business activities. Government assistance was lacking before the pandemic and continued amidst the pandemic. The lack of digital competencies delayed the migration of women entrepreneurs to digital platforms.

This paper also supports the findings of previous studies, which have found that women mostly start businesses with internal capital sourced from personal savings (Bennett & Dann, 2000; Orser et al., 2006). **The businesses are typically funded through personal savings, which can easily be transferred or repurposed to meet emergency needs.** Most respondents (70%) indicated that their initial capital came from their personal savings. Only 3% of respondents received their seed capital from formal financial institutions such as banks or microfinance. We also proved the argument of Chowdhury et al. (2018) that women entrepreneurs face greater obstacles in accessing such institutions due to their lack of information, collateral, guarantor, and experience, as well as discriminatory laws.

It is important to note that, before and during the pandemic, women-owned businesses were more likely to be MSEs and tended to be operated individually. For example, approximately 40% of respondents indicated that they carried out all business activities without any employees; some 27% employed one to three persons; and 17% had more than three employees.

Female entrepreneurs were strongly dependent on personal savings, leaving them vulnerable, as they had limited access to formal financial institutions. Our survey indicates that women entrepreneurs are not considered bankable as they are unable to meet the criteria for receiving loans from formal financial institutions. Most operate in sectors with lower capital intensity and on a smaller scale, and this further exacerbates their difficulty in seeking external funding (World Bank Group, 2016). Table 2 shows that only 42% of the women entrepreneurs surveyed received loans from formal financial institutions. To overcome their drastically reduced revenue, most women MSE owners sought to reschedule their loans (47%). Other strategies included selling assets, borrowing money from family and friends, and reducing working hours for staff.

Without access to financial coping strategies, women also had difficulty accessing government support and stimulus programmes. Since the onset of the pandemic, the Government of Indonesia has implemented several stimulus packages to benefit both businesses and individuals, including social assistance programmes, direct cash transfers, working capital loans, and credit guarantees (UN Women, 2020). However, almost 81% of the women micro-entrepreneurs surveyed did not benefit from any of these programmes (Table 2). Government relief programmes have not specifically targeted female-owned MSEs. In practice, this has prevented women from benefitting from them. Social media, thus, helped them reduce operational costs.

Furthermore, this study showed that the drastic changes brought by the COVID-19 pandemic drove entrepreneurs to bring their offline business activities online and use social media for digital marketing. We agree with Jones et al., (2015), who write that social media plays a vital role in the development of female-owned MSEs because of its affordability, which enables women to overcome their limited financial resources. Social media provides an easy, user-friendly, and economical platform for rapidly disseminating information to diverse markets; as such, it has paved the way for the growth of women entrepreneurs (Duggal & Gupta, 2020). Supporting previous findings, most of the respondents in this study (70%) used

social media for their MSEs because of its user-friendliness; another 23.8% of respondents chose social media due to its affordability. A smaller percentage of respondents (6.2%) chose social media to follow market demands and trends.

Given that the majority of respondents (66%) were female entrepreneurs under the age of 45, this study supports Kozubíková et al. (2016), who argue that new business strategies (using the internet, mobile applications, and other information and communication technologies) are easier for women entrepreneurs. The usage of social media for entrepreneurial activities indicates that these women have had the time and education to develop their skills and knowledge, as well as the experience necessary to develop confidence in their abilities (Zali et al., 2018).

We also find women's level of education determines the ease of their migration to digital technology. Table 1 shows that approximately 66% of respondents received some form of tertiary education; the remaining 33% had some secondary education. Higher education generally seems to be one factor determining women entrepreneurs' success (Hunady et al., 2018), and women with higher levels of formal education indicated that they have the knowledge and skills needed for continued survival. Education plays a key role in digital literacy, as it provides people with the skills necessary to identify opportunities, develop digital tools, and make decisions effectively. All of these are crucial, as they have a direct impact on profitability, growth rates, job formation, and the creation of digital economic values (Ahmadov et al., 2021).

Following the COVID-19 pandemic, women's business models and technology use changed. They have increasingly used social media for interaction with clients, as can be seen in the above table. We agree with Melissa et al. (2013), who argue that this trend is driven by the facility of using digital platforms. Using social media, users can tag pictures and provide product information to potential customers with a single click (Melissa et al., 2015). In Indonesia, of the 549,740 users registered on Facebook as owners of small and medium enterprises, 176,300 are women (Melissa et al., 2013). Women use social media platforms such as Facebook as a strategy to increase sales and communicate with customers (Ukpere et al., 2014).

Our survey demonstrated that COVID-19 increased entrepreneurs' usage of social media after it was declared a global pandemic in 2020 (45% of respondents). This also shows that most respondents were relatively new social media users when the COVID-19 crisis began affecting their businesses. The pandemic likely encouraged women to seek alternative strategies, selling their products online to replace offline business. Rapidly embracing an online format enabled them to continue reaching customers during the lockdown, when face-to-face interactions were limited. At the same time, however, we find a relatively high percentage of women entrepreneurs had been using social media for 3–4 years (26%) and more than four years (30%). The majority of respondents (60%) confirmed that they spent 1–5 hours on social media every day to run their businesses during the pandemic.

It can also be seen that social media was overwhelmingly accessed via cellular phone (69.8%). These devices were deemed to be more practical and efficient, as they can be used for multiple purposes (Rahim et al., 2020). Such digital devices have become pillars of socio-economic development during the crisis, providing entrepreneurs with new opportunities and simplifying transactions (Melchioly & Sæbø, 2010). In this sense, we agree with Yahya and Mutarubukwa (2017), who write that digital platforms changed the way entrepreneurs interact with their customers.

Finally, to compare the case of Indonesia with other developing societies such as Ethiopia, the findings of this study reflect those of Engidau (2022), who noted that COVID-19 reduced revenue, undermined business performance, and resulted in job loss. To cope with this situation, governments should partner with non-government organisations to offer financial aid and marketing tools to female-owned small businesses. This study supports the findings of Afshan et al. (2022), who investigated women entrepreneurs learning experiences when transitioning to virtual business activities in Indonesia.

Conclusions

This study demonstrated that the COVID-19 crisis has profoundly impacted women-owned MSEs, resulting in reduced sales, supply chain disruptions, and difficulty repaying loans from formal financial agencies. Although women entrepreneurs have been most vulnerable to this crisis, few have received assistance from government and non-government programmes. Government support may take the form of giving permission to entrepreneurs to open e-businesses, developing internet infrastructure, providing mentoring services, and offering financial assistance.

Coping with the COVID-19 pandemic, women entrepreneurs advanced their corporate goals by migrating to digital platforms. Social media platforms, especially WhatsApp, Instagram, and Facebook, have emerged as significant tools for the survival of small businesses. The study demonstrated that women entrepreneurs have continued providing business services: product promotion, discounts, and diversifying their products to cope with the crisis.

Using Indonesia as a case study, this study provides a conceptual view of the interlink between the survival of small businesses and social media usage. It explored the ways that women have secured their businesses during COVID-19, thereby offering insight into how women entrepreneurs in a developing economy have faced the challenge of economic instability and struggled for their future.

The knowledge generated through this work may help reduce the unplanned losses faced by businesses face during times of crisis and help policymakers address the economic and social vulnerabilities of women entrepreneurs. Using Indonesia as a case study, we advanced previous studies on the utilisation of social media platforms to ensure the viability of female-owned MSEs, social media usage in the beauty and wellness industry, and start-up financing during the COVID-19 pandemic (Etim, 2020; Kaur & Kaur, 2020; Villaseca et al., 2020).

It is predicted that, following the COVID-19 crisis, women entrepreneurs will continue to push into the digital realm as they seek to reach a broader customer base. Future research must therefore consider how women deal with gender issues on digital platforms while managing their businesses. Expanding the research sample is also important to obtain a better view of the complex strategies through which women entrepreneurs in Indonesia deal with unexpected situations and crises.

Abbreviations

MSEs: Micro and Small Enterprises; COVID-19: Corona Virus Disease; OECD: Organization for Economic Co-operation and Development; UN: United Nations; UNDP: United Nations

Development Program; LPEM UI: Lembaga Penyelidikan Ekonomi Masyarakat Universitas Indonesia; WTO: World Trade Organization.

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Availability of Data and Materials : All data generated or analysed during this study are included in this article. The raw data are available from the corresponding author upon reasonable request.

Competing interests

The authors declare that they have no competing interest.

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QUESTIONNAIRE

WOMEN ENTREPRENEURS' STRUGGLES DURING THE COVID-19 PANDEMIC AND THEIR USE OF SOCIAL MEDIA

Before filling out the questionnaire sheet, please read the instructions for filling in each section

Part 1

Personal identity

- Name (you may not fill in this section)
- Age
- Marital status
- a. Married
 - b. Divorced
- Educational background
- a. Secondary High School
 - b. Diploma
 - c. Bachelor
 - d. Post graduate
- Business sector
- a. Food
 - b. Beauty
 - c. Fashion
 - d. Craft
 - e. Other
- Source of initial capital
- a. Personal savings
 - b. Spouse and family
 - c. Financial institution
 - d. Other

Part 2

The second part of this questionnaire contains opinions and experiences of running a business before and after the Covid-19 pandemic

- Does the Covid-19 pandemic have an impact on business turnover or income?
- a. Yes
 - b. No
- Do you have a loan at a commercial bank/family/informal financial institution?
- a. Yes
 - b. No
- If so, has the Covid-19 pandemic impacted your ability to pay instalments?
- a. Yes
 - b. No
- This question is related to previous question. What strategy do you use if you are having trouble paying your loan instalments due to Covid-19?
- a. Postponing instalment payments
 - b. Selling assets to pay instalments
 - c. Other
- Did you get any assistance/assistance programs during the Covid-19 pandemic?
- a. Yes
 - b. No
- What are the obstacles in running a business during a pandemic that you are facing?
- a. Raw material and production
 - b. Delivery and distribution
 - c. Communications with the customers and suppliers
 - d. Other
- What strategy did you use to save your business during a pandemic (you may answer more than one option)
- a. Promotion through social media
 - b. Offering discounts
 - c. Reducing employees
 - d. Product diversification
 - e. Additional services

Part 3

The third part of the questionnaire concerns your opinion and social media experiences during the Covid-19 pandemic

- | | |
|--|--|
| What is your reason for using social media for business? | a. User friendly
b. Affordable
c. Trend & market demand |
| How long have you been using social media? | a. 1–2 years
b. 3–4 years
c. >4 years |
| How intensively do you use social media during the pandemic? | a. <1 hour
b. 1–5 hours
c. 6–10 hours
d. > 10 hours |
| What is your main means of accessing social media? | a. Cellular phone
b. Cellular phone & tablet
c. Cellular phone & Laptop
d. Cellular phone, Tablet, & Laptop |
| What social media platforms do you use? | a. WhatsApp
b. WhatsApp & Facebook
c. WhatsApp & Instagram
d. WhatsApp, Facebook, & Instagram
e. Other combination |
| What strategies that you use for marketing the product and service through social media? | a. Posting photos and videos related to the products
b. Posting photos and videos related to the products
c. Engaging in comments, & develop friend networks
a. Other |

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AND THEIR USE OF SOCIAL MEDIA

Ninik Sri Rahayu; Masduki Masduki; Nur Ellyanawati Esti Rahayu
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Your manuscript 'WOMEN ENTREPRENEURS' STRUGGLES DURING THE COVID-19 PANDEMIC AND THEIR USE OF SOCIAL MEDIA' (JIAE-D-21-00170R2) has been assessed by our reviewers. Based on these reports, and my own assessment as Editor, I am pleased to inform you that it is potentially acceptable for publication in Journal of Innovation and Entrepreneurship, once you have carried out some essential revisions suggested by our reviewers.

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Abstract

The abstract is relatively brief—a good informative abstract acts as a surrogate for the work itself. The researcher presents and explains the paper's main arguments, significant results, and evidence. An informative abstract includes the information found in a descriptive abstract [purpose, methods, scope]. However, it also consists of a judgment or comment about the study's validity, reliability, or completeness, the results and conclusions of the research, and the author's recommendations.

Introduction

The introduction does not adequately discuss how and why you planned to conduct this research, what the future benefits of this research will be to upcoming scholars, and what the findings of this study are. Make sure to:

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Literature Review

The literature review is well-developed, mentioning exceptional content related to the topic. However, it has certain weaknesses that must be addressed. Start your literature review section with a description of the methodology used for this comprehensive literature review. Search the literature to find studies that have conducted a systematic literature review to get ideas about what is needed in terms of the systematic literature review methodology. For example:

Minhas, J., & Sindakis, S. (2021). Implications of Social Cohesion in Entrepreneurial Collaboration: a Systematic Literature Review. *Journal of the Knowledge Economy*, 1-32.

Sindakis, S., Aggarwal, S., & Chen, C. (2019). Coopetitive dynamics and inter-

organizational knowledge flow among venture capital firms: A systematic literature review. *Kybernetes*, 49(1), 47-72.

Wu, F., Fu, X., Zhang, T., Wu, D., & Sindakis, S. (2022). Examining Whether

Government Environmental Regulation Promotes Green Innovation Efficiency— Evidence from China's Yangtze River Economic Belt. *Sustainability*, 14(3), 1827.

Ying, S., Sindakis, S., Aggarwal, S., Chen, C., & Su, J. (2021). Managing big data in the retail industry of Singapore: Examining the impact on customer satisfaction and organizational performance. *European Management Journal*, 39(3), 390-400.

Zhang, C., Zeng, Q., Chen, C., Sindakis, S., Aggarwal, S., & Dhaulta, N. (2022). The Strategic Resources and Competitive Performance of Family-Owned and Non-Family-Owned Firms in the Retail Business of Los Angeles. *Journal of the Knowledge Economy*, 1-29.

Also, there is a lack of critical synthesis of the studies reviewed in the literature review, i.e., the literature review appears to be descriptive rather than a critical analysis of the examined studies. The critical evaluation of each work should consider:

- Provenance -- what are the author's credentials? Are the author's arguments supported by evidence [e.g., primary historical material, case studies, narratives, statistics, recent scientific findings]?
- Methodology -- were the techniques used to identify, gather, and analyze the data appropriate to addressing the research problem? Was the sample size appropriate? Were the results effectively interpreted and reported?
- Objectivity -- is the author's perspective even-handed or prejudicial? Is contrary data considered, or is certain pertinent information ignored to prove the author's point?
- Persuasiveness -- which of the author's theses are most convincing or least convincing?
- Value -- are the author's arguments and conclusions convincing? Does the work ultimately contribute to an understanding of the subject in any significant way?

Also, create a narrative supporting the research gaps identified in the literature.

Research Methodology

Although there is a sufficient description and explanation of the research design adopted, the description of the research philosophy needs to be included. The descriptions of the research philosophy and design adopted in the study need to be sufficiently developed.

Research philosophy is a set of beliefs about collecting, analyzing, and using evidence concerning a phenomenon. Numerous research methods and philosophical frameworks are included under epistemology, which refers to what is known to be accurate, as opposed to doxology, which refers to what is thought to be true.

Research design is the blueprint for data collection, measurement, and analysis. The research design is the approach adopted to combine the numerous components of the study consistently and logically, thereby ensuring that they will successfully solve the research topic.

Elaborate further on the study's sample and the strategies used to recruit

participants.

Elaborate further on the study's data collection and analysis processes.

Conclusion

The Conclusion is underdeveloped and does not adequately discuss the theoretical and managerial implications of the study. Summarize your thoughts and convey the larger significance of your research. Identify and discuss how a gap in the literature has been addressed and demonstrate the importance of your ideas. Introduce possible new or expanded ways of thinking about the research problem.

Also, state the ideas for future research in the conclusion. Make sure you create 3 subsections in the Conclusion: 1) Theoretical implications, 2) Managerial Implications, and 3) Ideas for Future Research.

You may wish to study published articles that examine perspectives on this topic, which will give you an idea of how you must revise your article.

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Make sure to proofread the manuscript before it is resubmitted to the journal. Please go through the journal's guidelines thoroughly and revise the paper accordingly. Thank you for submitting your paper to the Journal of Innovation and Entrepreneurship.

Reviewer #3: Thanks for the interesting topic and your comments on reviewers' feedback.

Still, it is not clear for me the following:

- What about the Reliability
- What about the Validity
- What about Generalizing the results?
- Why did not you do a Regression analysis between variables.
- In page 5, why did you consider "COVID-19 as an independent variable, with women entrepreneurship as its dependent variable". Please support your model with relevant literature.
- How statistically show that businesses use social media were significantly survival than others.

If improvements to the English language within your manuscript have been requested, you should have your manuscript reviewed by someone who is fluent in English. If you would like professional help in revising this manuscript, you can use

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Responses to Editor and Reviewer's comments

Review	Respond	Page
Associate Editors' comments:		
<p>Abstract</p> <p>The abstract is relatively brief—a good informative abstract acts as a surrogate for the work itself. The researcher presents and explains the paper's main arguments, significant results, and evidence. An informative abstract includes the information found in a descriptive abstract [purpose,</p>	<p>We have revised the abstract. The current abstract contains the paper's argument, method, significant result, conclusion and recommendations.</p>	<p>See page: 1</p>

<p>methods, scope]. However, it also consists of a judgment or comment about the study's validity, reliability, or completeness, the results and conclusions of the research, and the author's recommendations.</p>		
<p>Introduction The introduction does not adequately discuss how and why you planned to conduct this research, what the future benefits of this research will be to upcoming scholars, and what the findings of this study are. Make sure to:</p> <ol style="list-style-type: none"> 1. Establish an area to research by highlighting the importance of the topic, and/or making general statements about the topic, and/or presenting an overview of current research on the subject. 2. Identify a research niche by opposing an existing assumption, and/or revealing a gap in existing research, and/or formulating a research question or problem, and/or continuing a disciplinary tradition. 3. Place your research within the research niche by stating the intent of your study, outlining the key characteristics of your research, describing important results, and giving a brief overview of the structure of the paper. 	<p>In the current manuscript, we have addressed all suggestions, including highlighting the importance of the topic and its future benefits, the main findings. More importantly, we declared a research niche and/or revealing a gap in existing research as well as the overview of our paper's structure.</p>	<p>See page: 2-3</p>
<p>Literature Review The literature review is well-developed, mentioning exceptional content related to the topic. However, it has certain weaknesses that must be addressed. Start your literature review section with a description of the methodology used for this comprehensive literature review. Search the literature to find studies that have conducted a systematic literature review to get ideas about what is needed in terms of the systematic literature review methodology.</p>	<p>We now have added information of method used for literature review.</p>	<p>See page: 3, ph. 1.</p>
<p>Also, there is a lack of critical synthesis of the studies reviewed in the literature review, i.e.,</p>	<p>Thanks for this inspection. We now</p>	

<p>the literature review appears to be descriptive rather than a critical analysis of the examined studies. The critical evaluation of each work should consider:</p> <ul style="list-style-type: none"> • Provenance -- what are the author's credentials? Are the author's arguments supported by evidence [e.g., primary historical material, case studies, narratives, statistics, recent scientific findings]? 	<p>added a critical synthesis of our studies reviewed in the literature review by emphasizing three issues within the women-owned SMEs.</p>	<p>See page: 4, ph. 1-3.</p>
<p>Methodology -- were the techniques used to identify, gather, and analyse the data appropriate to addressing the research problem? Was the sample size appropriate? Were the results effectively interpreted and reported?</p> <ul style="list-style-type: none"> • Objectivity -- is the author's perspective even-handed or prejudicial? Is contrary data considered, or is certain pertinent information ignored to prove the author's point? • Persuasiveness -- which of the author's theses are most convincing or least convincing? • Value -- are the author's arguments and conclusions convincing? Does the work ultimately contribute to an understanding of the subject in any significant way? 	<p>Thank you. We now detailed description of our method to address all these suggestions. We explain design, participants and chronological steps of our empirical study.</p>	<p>See page: 5-7.</p>
<p>Also, create a narrative supporting the research gaps identified in the literature.</p>	<p>Thanks. We described this issue both in our introduction and literature review sections.</p>	<p>See page 1 and 2</p>
<p>Research Methodology Although there is a sufficient description and explanation of the research design adopted, the description of the research philosophy needs to be included. The descriptions of the research philosophy and design adopted in the study need to be sufficiently developed.</p> <p>Research philosophy is a set of beliefs about collecting, analysing, and using evidence</p>	<p>Thank You. We have added an explanation of the descriptive research philosophy that we use in this study as well as our fieldwork steps to evidence the research philosophy.</p>	<p>See: page 5-6</p>

<p>concerning a phenomenon. Numerous research methods and philosophical frameworks are included under epistemology, which refers to what is known to be accurate, as opposed to doxology, which refers to what is thought to be true.</p> <p>Research design is the blueprint for data collection, measurement, and analysis. The research design is the approach adopted to combine the numerous components of the study consistently and logically, thereby ensuring that they will successfully solve the research topic.</p> <p>Elaborate further on the study's sample and the strategies used to recruit participants. Elaborate further on the study's data collection and analysis processes.</p>		
<p>Conclusion The Conclusion is underdeveloped and does not adequately discuss the theoretical and managerial implications of the study. Summarize your thoughts and convey the larger significance of your research. Identify and discuss how a gap in the literature has been addressed and demonstrate the importance of your ideas. Introduce possible new or expanded ways of thinking about the research problem.</p> <p>Also, state the ideas for future research in the conclusion. Make sure you create 3 subsections in the Conclusion: 1) Theoretical implications, 2) Managerial Implications, and 3) Ideas for Future Research.</p>	<p>In the revised manuscript, we reworked our conclusion, making it cohesive from a general summary of the research's findings theoretical implication, policymaking contribution up to future research direction.</p>	<p>See page: 12-13</p>
<p>Make sure to proofread the manuscript before it is resubmitted to the journal. Please go through the journal's guidelines thoroughly and revise the paper accordingly. Thank you for submitting your paper to the Journal of Innovation and Entrepreneurship.</p>	<p>Thanks. The current manuscript has been proofread by a professional English proof-reader.</p>	<p>-</p>

	<p>(independent), without making comparisons, connecting with other variables, and testing hypotheses. Thus, this study did not do regression analysis.</p>	<p>See page: 5-7</p>
<p>In page 5, why did you consider "COVID-19 as an independent variable, with women entrepreneurship as its dependent variable". Please support your model with relevant literature.</p> <p>- How statistically show that businesses use social media were significantly survival than others.</p>	<p>Thank you. We have revised that section and provided a better explanation of our research method.</p> <p>The design of our study is a descriptive quantitative. It aims at determining the independent value variable, either one variable or more (independent), without making comparisons, connecting with other variables, and testing hypotheses (Siedlecki, 2020). We use three independent variables, including the impact of COVID-19 on female-owned businesses, social media usage during the crisis, and the managerial tactics to maintain the small and medium business in Indonesia.</p>	<p>See page: 5-7</p>

WOMEN ENTREPRENEURS' STRUGGLES DURING THE COVID-19 PANDEMIC AND THEIR USE OF SOCIAL MEDIA

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Abstract

Small and medium enterprises (SMEs) throughout the world are facing a very complicated crisis due to COVID-19 pandemic and other structural challenges. This study is aimed at demonstrating the challenges faced by SMEs, particularly the struggles that women entrepreneurs of SMEs in Indonesia experienced to survive against these structural issues: COVID-19, digital presence and the male dominated business sector in the country. Focusing on female-owned businesses in Yogyakarta, Indonesia, this paper carefully considers how social media platforms helped these businesses to continue. Using a descriptive quantitative approach, we collected data from 130 respondents and found that the COVID-19 pandemic has severely affected women entrepreneurs—especially those operating small and medium enterprises. They have experienced reduced income due to decreased sales, disrupted supply chains, difficulty paying credit instalments, and lack of access to government assistances. This study further sheds light on social media's important role in sustaining women-owned

businesses. Facebook, WhatsApp, and Instagram have become the newly tools through which women promote their products and reach new audiences. To overcome this issue, we advise a stronger government intervention to women-owned SMEs in the post-pandemic. Aside of managing social media for selling, we recommend women-owned small companies to internally intensify digital engagement, promotions, coupled by innovative products and attractive offers such as discounts.

Keywords: COVID-19; social media; SMEs; struggles; women entrepreneurs

Introduction

The extensive impact that the COVID-19 pandemic had during the 2020-2022 period to all areas in the economic sector has gained prominent academic attention globally and in Indonesia. Scholars, for instance, paid attention to the role of COVID-19 in disrupting all areas of the economy (Fendel et al., 2020), including small enterprises (S. Kaur & Kaur, 2020; Shafi et al., 2020). Other studies have confirmed that COVID-19 disproportionately affected women entrepreneurs (Jiménez-Zarco et al., 2021). Kritikos et al. (2020), for instance, reported that female business owners were 35% more likely to experience revenue loss than men and that female-owned businesses laid off a disproportionately higher share of workers. Halabisky (2017) and Villaseca et al. (2020) previously found that female entrepreneurs face more difficult challenges than their male peers, as they had to overcome various obstacles such as limited access to financial resources, lack of networks, and gender biases.

Similar to the COVID-19 pandemic studies, studies of social media use in the development of SMEs have been conducted in many countries (Aloulou, 2019; Bernhard & Grundén, 2016; Fleet, 2012; Jones et al., 2015). Numerous studies have examined the relationship between social media and women entrepreneurs (Cesaroni et al., 2017; Etim, 2020; Genç & Öksüz, 2015; Mukolwe & Korir, 2016; Olsson & Bernhard, 2020; Ukpere et al., 2014). Studies by K. Kaur & Kumar, (2020); S. Kaur & Kaur, (2020); UN women, (2020) have demonstrated that tapping into online markets had been a critical coping strategy for business owners during the COVID-19 pandemic. However, there is still limited empirical evidence on women entrepreneurs' use of social media during the pandemic as a means of business survival. For instance, the recent study by Engidaw (2022) on the challenges faced by small businesses took place in Ethiopia, not Indonesia or elsewhere in Asia.

To advance those academic debate and fill the gap, this article examined the impact that the COVID-19 pandemic has on women entrepreneurs and explored the efforts made to sustain these businesses during the pandemic with a strong emphasis on the use of social media. Why we study women-owned small entrepreneur? The COVID-19 crisis was particularly detrimental for the female entrepreneurs around the world. Unlike earlier economic recessions, which primarily affected businesses operated by men, the pandemic left women more vulnerable (Alon et al., 2020). Women entrepreneurs concentrated in industries that were most affected by the pandemic, have relatively small financial buffers, and lack access to diverse financial sources. They are more likely to be self-funded or funded by friends and family (OECD, 2021). On average, their businesses are younger than male-owned ones.

Moreover, compared to male-owned businesses, women-owned ones faced problems such as balancing work and family responsibilities, finding and keeping qualified employees, and adapting to technological and marketplace changes (Mandishaya et al., 2015). In

developing countries, women entrepreneurs also have to deal with cultural and traditional mores that provide less support, emphasise motherhood, position women as subordinate to men (particularly their husbands), and limit their mobility. More so than their male counterparts, women entrepreneurs' family ties impede the growth, sustainability, and performance of their businesses (Etim, 2020; Naidu, 2010). In short, we agree with the notion of Danish & Smith (2012) that women entrepreneurs are left 'triple blind', facing problems with financial capital, human capital, particularly during the COVID-19 pandemic.

This paper argues that the development of women entrepreneurs during the pandemic were compounded by various structural limitations. Dependence on informal financing and limited assets proved to be significant challenges. Yet, we corroborated Henry (2020) that they lacked access to mentoring and government relief programmes, where such programmes generally prioritise SMEs that possess a relationship with commercial lenders, while women entrepreneurs rely more on informal financing (B. Orser, 2020). The result of this study validates Sultan & Sultan (2020) finding that to cope with these difficulties, women adopted a range of digital marketing strategies. We particularly found that social media emerged as a saviour for both small and medium women entrepreneurs who used it to reach their customers and provide them with the required products and services (S. Kaur & Kaur, 2020). It is globally estimated that 54 per cent of women-owned microbusinesses were use the internet to market their products (UN women, 2020). Meanwhile, in Indonesia women-owned businesses are more likely to use the social media to sell their products.

Using the COVID-19 pandemic within the rapid growth of social media users as its background, this study advances those issue and offers evidence as well as discussion on the effect that COVID-19 had on women entrepreneurs and how social media usage helped them ensure the survival of their businesses. The present study particularly contributes to the recent debate on SMEs' sustainability by exploring social media usage during the COVID-19 pandemic. This paper is organised as follows. Section 1 discusses the study background followed by a review of the relevant literature in Section 2. Section 3 discusses the research design, data collection, etc. Section 4 explores the findings of the study (the impact of COVID-19 on women entrepreneurs and the use of social media as an exit strategy). Finally, in Section 5, the conclusion, implications, and limitations of the study are discussed.

Women Entrepreneurship and Social Media

To understand the development of SMEs and social media use, we examined academic literatures that discuss managerial issues faced by female small entrepreneurs. Particular attention was given to literature dealing with women's struggles in managing their business during the COVID-19 pandemic and the extent to which the rapid growth of digital technology had helped them. We shall start by looking at the definition of entrepreneurship and the critical position that women has in this male-dominated sector. We will then discuss the use of social media by entrepreneurs and how social media use facilitated their digital entrepreneurship during the pandemic.

The term entrepreneurship widely refers to the business activities undertaken by persons with initiative and decision-making skills, as well as specific capital and responsibility . Entrepreneurs, thus, are those who create their own businesses, operate, and assume its risks (Garg & Eisenhardt, 2017). With this regards, we agree with Mordi et al., (2010) that women entrepreneurs are women who participate in business and take risks by combining

resources in a unique way, thereby enabling them to take advantage of opportunities in their immediate environment by producing goods and services. Zeb and Ihsan (2020) emphasised that economic development is impossible without involving women and that entrepreneurship is the most likely option for them (Ismail et al., 2016).

Any enterprise where more than 51 per cent of its capital/product originates from women and 51 per cent of the company's employable positions are allocated to women can be characterised as female-owned (Vijayakumar & Jayachitra, 2013). Female-owned businesses are generally small enterprises that engage in the trade and service sector (Sandri & Hardilawati, 2019). In Indonesia, according to recent studies nearly 40 per cent of all SMEs are women-owned (UN Women, 2020).

Looking at Indonesia's experience and many other developing countries around the globe, three issues come to mind. First, the long-standing stereotype that entrepreneurship has long been synonymous with men rather than women. The construction of entrepreneurship as a masculine phenomenon has deep historical roots, which are supported by cultural and economic processes and embedded in social and cultural attitudes and norms (Gogar, 2019; Hamilton, 2013). What we can identify as gender biases in entrepreneurship are associated with the fact that entrepreneurship has traditionally been seen as a male gender role. As a consequence, women entrepreneurs appear invisible; they do not seem to fit the stereotypes, even though they play a key role in creating jobs (Javadian & Singh, 2012; Sharma, 2018).

The second issue is the marginalized position of women businesses. Women contribute substantially to a country's economic growth, yet many (if not most) women business owners opt to remain small and informal. Women entrepreneurs have relatively small financial buffers and lack access to different financial sources. Wei (2018), said, women-owned SMEs face several push and pull factors when deciding whether to remain small or expand their businesses. The demands of household domestic duties, as well as other time constraints, are major reasons for their decision to remain small and informal. Women's access to capital is also constrained; even when loan products are available, they do not necessarily fit their needs.

The advent of the global COVID-19 pandemic marked the third issue where female-owned businesses faced a managerial crisis. Unlike earlier economic recessions, which primarily affected businesses operated by men, the COVID-19 pandemic left women even more vulnerable (Alon et al., 2020), and stressed the importance of digital skills when coping with the pandemic (Afshan et al., 2021). The application of lockdown policies, which restricted mobility, paused all offline economic and social activities, and pushed them into the virtual/online realm. During the pandemic, physical mobility was restricted and, consequently, SMEs pushed to adopt social media platforms to keep connections with their market. On the one hand, social media offers an affordable, pervasive, user-friendly, and accessible platform that individuals could incorporate into their private lives (Högberg, 2018; Högberg & Olsson, 2019; K. Kaur & Kumar, 2020). On the other hand, social media bring benefits for small businesses, which often have limited resources to market their products (Barnes et al., 2012).

Scholars (i.e., Genç & Öksüz, 2015; Jones et al., 2015) argue that social media played an important role in maintaining female-owned SMEs. It is not merely an instrument for sharing data; it also ensured the survival of businesses during the COVID-19 pandemic. Unlike traditional media, social media offers friendship-based business tools that enable women to listen to and learn from customers in ways they have never done before. WhatsApp and

Instagram are preferred by small entrepreneurs, as they are simpler and require less technical knowledge than blogs, Google+, or LinkedIn. These digital platforms are designed in such a way making users capable of sharing personal data and interacting online (Zuboff, 2015).

Evidences from many developed countries show that social media platforms offer women entrepreneurs a new space for marketing and challenge the unequal position between men and women in SMEs (Cesaroni et al., 2017). While the world of entrepreneurship is frequently described as a masculine area (Gogar, 2019), social media can present successful women entrepreneurs as role models. In line with that, Markowska et al. (2018) highlighted the importance of forefronting innovative women entrepreneurs as influencers on digital platforms. This idea is in-line with the general concept of digital entrepreneurship, where entrepreneurs can find new ways of doing business based on digital technology, from offline to online ones (Kraus et al., 2018). With those ideas in mind, this paper seeks to answer two questions: *First*, to what extent did the COVID-19 impact women entrepreneurs in Indonesia? *Second*, how did women employ social media to cope with the pandemic?

Research Methodology

To address the research question illustrated above, this study employed a quantitative method. It helped us identify the empirical problems faced by informants, henceforth, women entrepreneurs from their own perspectives and allowed us to understand how the entrepreneurs adopted social media to deal with the challenges they encountered. The method also helped us analyse our empirical findings about women entrepreneurs' struggles and engagement with digital platforms.

Design

This research employs a descriptive quantitative design. It aims at determining the independent value variable, either one variable or more (independent), without making comparisons, connecting with other variables, and testing hypotheses (Siedlecki, 2020). We use three independent variables, including the impact of COVID-19 on female-owned businesses, social media usage during the crisis, and the managerial tactics to maintain the small and medium business in Indonesia.

The impact of COVID-19 on female-owned businesses was measured by using five dimensions, including the pandemic impact on sales, supply chains, loans from financial institutions, strategies for paying instalments, and assistance programs from external parties. The variable of social media usage during the crisis was assessed by using six indicators comprising reason for using social media for business, experience in using social media, intensity of social media use during the pandemic, primary means of accessing social media, and social media platforms used. Meanwhile, the strategy to maintain the business was measured using two elements, namely managerial strategies to maintain SMEs and social media marketing strategy.

Participants

The research participants were female entrepreneurs from five districts in Yogyakarta province with the following criteria: (1) actively used social media platforms such as WhatsApp, Facebook, and Instagram to manage their businesses; (2) female business founders and owners who had been in business for at least two years. Initial respondent data

for this study was obtained from "Warung Rakyat", a website developed by the COVID-19 task force at Universitas Islam Indonesia (UII) to promote products made by small enterprises in Yogyakarta province, Indonesia (see: <https://www.uui.ac.id/tag/warung-rakyat/>). Women entrepreneurs listed on the website were then selected purposively based on their specific sector (i.e., food, beauty, fashion, and crafts). Subsequent data collection was made by using the snowball technique, wherein respondents identified other potential respondents.

Due to the unknown population of women entrepreneurs in Yogyakarta, Indonesia using social media, the sample size was determined following the formula developed by Lemeshow et al. (1997), as follow:

$$n = \frac{Z^2 \cdot 1 - \alpha / 2 \cdot P(1 - P)}{d^2}$$

Where:

n: sample size; Z: standard normal variate corresponding to the level of significance (95%)=1.96; p: expected prevalence= 0.5 ; d: absolute error or precision.

Based on this formula, the minimum sample size was calculated as below:

$$n = \frac{1,96^2 \cdot 0.5 (1 - 0.5)}{0,1^2}$$

$$n = 96.4 = 100$$

From the above formula, we selected and collected data from 130 respondents, and thus met the minimum sampling requirement.

Instruments

A close-ended questionnaire was used to explore how women entrepreneurs struggle in times of crisis by using social media. The validity of the questionnaire was tested by using internal or logical validity. The term logical implies reasoning or rationality. The instrument has internal validity given that the criteria contained in it theoretically (rationally) reflect what is being measured (Cahit, 2015). As the COVID-19 pandemic limited our mobility and interactions, questionnaires were distributed to respondents digitally, primarily through WhatsApp. Each questionnaire consisted of two sections; the first collected demographic information on the respondents while the second gathered a profile of the selected women business operations and social media usage. The table 1 below summarises the demographic characteristics of 130 respondents, with a particular focus on their five indicators: age, education level, business sector, source of initial capital, and number of employee.

Table 1 Demographic characteristics of respondents

Age				
<25	25–34	35–44	45–54	>55
4.61%	28.5%	33.1%	29.2%	4.61%
Education level				
Secondary High School	Diploma	Bachelor	Post-Graduate	
33.8%	16.2%	48.5%	1.5%	
Business sector				

Food 40.15%	Beauty 3.03%	Fashion 18.94%	Craft 4.55%	Other 5.30%
Source of initial capital				
Personal savings 70.7%	Spouse and family 17.7%	Financial institution 8.5%	Others 3.1%	
Number of employees				
0 55.3%	1–3 27.27%		>3 17.43%	

Data Analysis

To organise our analysis, this study used descriptive statistics by comparing the frequency and tendency of each variable. We connected all empirical findings pertaining to the participants' experiences during the COVID-19 pandemic and their shift from offline to online activities. This formula guided us in interpreting data by connecting them to the broader discussion on the economic impact of COVID-19, women's entrepreneurship, social media usage, etc.

Results

The general survey results showed how COVID-19 impacted female-owned businesses and how women entrepreneurs found solutions using digital platforms. We find that the COVID-19 pandemic disrupted the overall economic activities of women in Indonesia. With the sharp downturn in economic activity, the women who operate SMEs were particularly vulnerable to losing their livelihoods. In line with global trends, almost 87% of women surveyed in Yogyakarta, Indonesia, confirmed that their sales decreased after the beginning of the COVID-19 pandemic. The large-scale social restrictions applied by the Indonesian authorities led to a drastic decline in economic activity, as people were less likely to spend in these uncertain conditions. This is suspected to have reduced demand for SMEs' products (UNDP & LPEM UI, 2021).

The pandemic also severely disrupted the supply chains used by entrepreneurs. The 130 women entrepreneurs surveyed experienced problems with raw materials and production (35%), delivery and distribution (32%), and communication with customers and suppliers (23%). Another 9% indicated that they faced other problems, such as employees being unable to work due to lockdown policies or testing positive for COVID-19. Female-owned SMEs are particularly vulnerable to such issues, as they typically have weaker supply chains, smaller inventories, and limited supplier networks, making them more vulnerable to supply chain disruptions (WTO, 2020). Together, these problems reduced the sales and profits of female-owned SMEs.

The table 2 below highlights the detailed impact of COVID-19 to the women-owned businesses in Yogyakarta province, Indonesia.

Table 2 The Impact of Covid-19 on Women-owned Businesses

Criteria	Percentage
Decline in sales	

▪ Yes	87%
▪ No	13%
Supply chains	
Raw material and production	35%
Delivery and distribution	32%
Communications with the customers and suppliers	23%
Other (employees unable to work due to the lockdown, tested positive for COVID-19)	9%
Loans from financial institutions	
▪ Yes	42%
▪ No	58%
Strategy for repaying loans	
▪ Rescheduling	47%
▪ Selling assets	29%
▪ Other (reducing working hours for employees, borrowing money from family)	24%
Assistance related to the pandemic	
▪ Yes	18.5%
▪ No	81.5%

How did most female-owned businesses cope with those problems? This study made interesting findings regarding the role of social media in sustaining businesses during and after the COVID-19 pandemic in Yogyakarta, Indonesia. Table 3 below summarises the reasonings and types of social media usage among the surveyed women entrepreneurs in Yogyakarta, Indonesia.

Table 3 Women entrepreneurs and social media usage

Reason for using social media for business				
User friendly	Affordable	Trend & market demand		
70%	23.8%	6.2%		
Experience using social media				
1–2 years	3–4 years	>4 years		
45.4%	30%	24.6%		
Intensity using social media during the pandemic				
<1 hour	1–5 hours	6–10 hours	> 10 hours	
10.7%	60%	26.2%	3.1%	
Main means of accessing social media				
Cellular phone	Cellular phone & tablet	Cellular phone & Laptop	Cellular phone, Tablet, & Laptop	
69.8%	5.4%	23.8%	1%	
Social media platforms used				
WhatsApp	WhatsApp & Facebook	WhatsApp & Instagram	WhatsApp, Facebook, & Instagram	Other combination
26.9%	7.7%	13.1%	45.55%	6.9%

Table 3 demonstrates that affordability and user-friendliness were common reasons for using social media, as was this media's usage for societal communication. As for the devices used, smartphones were the most commonly used, followed by laptops. The table also indicates that women-owned businesses mixed a variety of social media platforms in their digital engagement. Table 4 below details the strategies used by women entrepreneurs during the COVID-19 pandemic.

Table 4 Women business survival with social media

Criteria	Percentage
Strategy to maintain business	
Promotion through social media (SM)	27.6%
Offering discounts	4.6%
Reducing employees	0.8%
Product diversification	2.3%
. Additional servicesn	1.53%
. Promotion through SM, offering discounts	14.6%
. Promotion through SM, reducing employees	3.1%
. Promotion through SM, product diversification	1%
. Promotion through SM, additional services	6.2%
. Promotion through SM, offering discounts, additional services & product diversification	36.7%
. Other combination	1.6%
Marketing strategy through social media	
Posting photos and videos related to the products	43.1%
Posting photos and videos related to the products, engaging in comments, & develop friend networks	54.6%
Other	2.3%

Table 4 shows the strategic roles of social media in sustaining the engagement of women business with its consumers. It also shows that to overcome the crisis triggered by the pandemic, women entrepreneurs used a variety of digital platforms, such as the use WhatsApp (45.55%) in conjunction with Facebook and Instagram to make stable as well as new connections with customers, suppliers, and peers. A smaller percentage of surveyed women businesses combined WhatsApp with Instagram (31.1%) or Facebook (7.7%) or used another combination of platforms (6.7%). WhatsApp has long been the dominant application for daily personal communication in Indonesia. Likewise, it can easily be adapted for business use by tapping into their existing networks and quickly sharing information about their business activities.

Discussion

Drawing from the findings above, it can be said that the pandemic irritated female-owned businesses. Why have these businesses been vulnerable to the COVID-19 pandemic?

We conceptually found several answers, ranging from the business sectors themselves to the funding and management models used. As shown by Powers and Magnoni (2013), women-owned SMEs tend to have fewer employees than male-owned SMEs and are more likely to use temporary labour. As can be seen in Table 1, 40% of respondents were involved in the culinary sector. The remainder were engaged in other business sectors, including the fashion (28%) and retail (17%) sectors; fewer were involved in the craft (5%) and beauty (3%) sectors. The culinary, fashion, and retail sectors are highly dependent on consumer mobility, and thus slowed down significantly after the work-from-home policy was implemented.

According to Riyanti et al. (2022), the failure/success of a business is defined from many dimensions, including personal, organizational, and external factors. With this notion, we find that COVID-19 disrupted and potentially undermined their business activities. Government assistance was lacking before the pandemic and continued amidst the pandemic. The lack of digital competencies delayed the migration of women entrepreneurs to digital platforms.

This paper also supports the findings of previous studies, which have found that women mostly start businesses with internal capital sourced from personal savings (Bennett & Dann, 2000; Orser et al., 2006). The businesses are typically funded through personal savings, which can easily be transferred or repurposed to meet emergency needs. Most respondents (70%) indicated that their initial capital came from their personal savings. Only 3% of respondents received their seed capital from formal financial institutions such as banks or microfinance. We also proved the argument of Chowdhury et al. (2018) that women entrepreneurs face greater obstacles in accessing such institutions due to their lack of information, collateral, guarantor, and experience, as well as discriminatory laws.

It is important to note that, before and during the pandemic, women-owned businesses were more likely to be SMEs and tended to be operated individually. For example, approximately 40% of respondents indicated that they carried out all business activities without any employees; some 27% employed one to three persons; and 17% had more than three employees.

Female entrepreneurs were strongly dependent on personal savings, leaving them vulnerable, as they had limited access to formal financial institutions. Our survey indicates that women entrepreneurs are not considered bankable as they are unable to meet the criteria for receiving loans from formal financial institutions. Most operate in sectors with lower capital intensity and on a smaller scale, and this further exacerbates their difficulty in seeking external funding (World Bank Group, 2016). Table 2 shows that only 42% of the women entrepreneurs surveyed received loans from formal financial institutions. To overcome their drastically reduced revenue, most women MSE owners sought to reschedule their loans (47%). Other strategies included selling assets, borrowing money from family and friends, and reducing working hours for staff.

Without access to financial coping strategies, women also had difficulty accessing government support and stimulus programmes. Since the onset of the pandemic, the Government of Indonesia has implemented several stimulus packages to benefit both businesses and individuals, including social assistance programmes, direct cash transfers, working capital loans, and credit guarantees (UN Women, 2020). However, almost 81% of the women micro-entrepreneurs surveyed did not benefit from any of these programmes (Table 2). Government relief programmes have not specifically targeted female-owned SMEs. In

practice, this has prevented women from benefitting from them. Social media, thus, helped them reduce operational costs.

Furthermore, this study showed that the drastic changes brought by the COVID-19 pandemic drove entrepreneurs to bring their offline business activities online and use social media for digital marketing. We agree with Jones et al., (2015), who write that social media plays a vital role in the development of female-owned SMEs because of its affordability, which enables women to overcome their limited financial resources. Social media provides an easy, user-friendly, and economical platform for rapidly disseminating information to diverse markets; as such, it has paved the way for the growth of women entrepreneurs (Duggal & Gupta, 2020). Supporting previous findings, most of the respondents in this study (70%) used social media for their SMEs because of its user-friendliness; another 23.8% of respondents chose social media due to its affordability. A smaller percentage of respondents (6.2%) chose social media to follow market demands and trends.

Given that the majority of respondents (66%) were female entrepreneurs under the age of 45, this study supports Kozubíková et al. (2016), who argue that new business strategies (using the internet, mobile applications, and other information and communication technologies) are easier for women entrepreneurs. The usage of social media for entrepreneurial activities indicates that these women have had the time and education to develop their skills and knowledge, as well as the experience necessary to develop confidence in their abilities (Zali et al., 2018).

We also find women's level of education determines the ease of their migration to digital. Table 1 shows that approximately 66% of respondents received some form of tertiary education; the remaining 33% had some secondary education. Higher education generally seems to be one factor determining women entrepreneurs' success (Hunady et al., 2018), and women with higher levels of formal education indicated that they have the knowledge and skills needed for continued survival. Education plays a key role in digital literacy, as it provides people with the skills necessary to identify opportunities, develop digital tools, and make decisions effectively. All of these are crucial, as they have a direct impact on profitability, growth rates, job formation, and the creation of digital economic values (Ahmadov et al., 2021).

Following the COVID-19 pandemic, women's business models and technology use changed. They have increasingly used social media for interaction with clients, as can be seen in the above table. We agree with Melissa et al. (2013), who argue that this trend is driven by the facility of using digital platforms. Using social media, users can tag pictures and provide product information to potential customers with a single click (Melissa et al., 2015). In Indonesia, of the 549,740 users registered on Facebook as owners of small and medium enterprises, 176,300 are women (Melissa et al., 2013). Women use social media platforms such as Facebook as a strategy to increase sales and communicate with customers (Ukpere et al., 2014).

Our survey demonstrated that COVID-19 increased entrepreneurs' usage of social media after it was declared a global pandemic in 2020 (45% of respondents). This also shows that most respondents were relatively new social media users when the COVID-19 crisis began affecting their businesses. The pandemic likely encouraged women to seek alternative strategies, selling their products online to replace offline business. Rapidly embracing an online format enabled them to continue reaching customers during the lockdown, when face-to-face interactions were limited. At the same time, however, we find a relatively high percentage of

women entrepreneurs had been using social media for 3–4 years (26%) and more than four years (30%). The majority of respondents (60%) confirmed that they spent 1–5 hours on social media every day to run their businesses during the pandemic.

It can also be seen that social media was overwhelmingly accessed via cellular phone (69.8%). These devices were deemed to be more practical and efficient, as they can be used for multiple purposes (Rahim et al., 2020). Such digital devices have become pillars of socio-economic development during the crisis, providing entrepreneurs with new opportunities and simplifying transactions (Melchioly & Sæbø, 2010). In this sense, we agree with Yahya and Mutarubukwa (2017), who write that digital platforms changed the way entrepreneurs interact with their customers.

Finally, to compare the case of Indonesia with other developing societies such as Ethiopia, the findings of this study reflect those of Engidaw (2022), who noted that COVID-19 reduced revenue, undermined business performance, and resulted in job loss. To cope with this situation, governments should partner with non-government organisations to offer financial aid and marketing tools to female-owned small businesses. This study supports the findings of Afshan et al. (2021), who investigated women entrepreneurs learning experiences when transitioning to virtual business activities in Indonesia.

Conclusion

This study concluded that the COVID-19 crisis has profoundly impacted women-owned SMEs in Indonesia, resulting in particularly reduced sales and difficulty in repaying loans from formal financial agencies. Among all women entrepreneurs, only a few had received assistance from government and non-government programmes. We can also conclude that, coping with the pandemic, the entrepreneurs advanced their corporate goals by migrating to digital platforms. This shows that social media helped women entrepreneurs to continue providing business services: product promotion, discounts, and diversifying their products to cope with the crisis. Several platforms, especially WhatsApp, Instagram, and Facebook, have emerged as significant tools for the marketing survival of small and medium businesses.

In terms of academic contribution, this study provides a conceptual view of the interlink between the survival of small businesses and social media usage in Indonesia. It explored the approaches taken by women to secure their business during COVID-19, thereby offering an insight into how women entrepreneurs in a developing economy face the challenge of economic instability and struggle for their future.

Using Indonesia as a case study, we advanced previous studies on the utilisation of social media platforms to ensure the viability of female-owned SMEs, social media usage in the beauty and wellness industry, and start-up financing during the COVID-19 pandemic (Etim, 2020; S. Kaur & Kaur, 2020; Villaseca et al., 2020)

Moreover, the knowledge generated through this work may help policymakers reduce unplanned losses businesses face during times of crisis and help them to address the economic vulnerabilities of women entrepreneurs.

It is predicted that, following the pandemic, women entrepreneurs will continue to push into the digital realm as they seek to reach a broader customer base. Expanding the research sample is crucial to obtain a better view of the complex tactics that women entrepreneurs implement to deal with unexpected situations and crises. Although we consider gender issue following the pandemic, the current study leaves this for future

research, which should consider investigating how women deal with gender issues on digital platforms while managing their small companies.

Abbreviations

SMEs: Small and Medium Enterprises; COVID-19: Corona Virus Disease; OECD: Organization for Economic Co-operation and Development; UN: United Nations; UNDP: United Nations Development Program; LPEM UI: Lembaga Penyelidikan Ekonomi Masyarakat Universitas Indonesia; WTO: World Trade Organization.

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Competing interests

The authors declare that they have no competing interest.

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QUESTIONNAIRE

WOMEN ENTREPRENEURS' STRUGGLES DURING THE COVID-19 PANDEMIC AND THEIR USE OF SOCIAL MEDIA

Before filling out the questionnaire sheet, please read the instructions for filling in each section

Part 1

Personal identity

- Name (you may not fill in this section)
- Age
- Marital status
c. Married
d. Divorced
- Educational background
e. Secondary High School
f. Diploma
g. Bachelor
h. Post graduate
- Business sector
f. Food
g. Beauty
h. Fashion
i. Craft
j. Other
- Source of initial capital
e. Personal savings
f. Spouse and family
g. Financial institution
h. Other

Part 2

The second part of this questionnaire contains opinions and experiences of running a business before and after the Covid-19 pandemic

- Does the Covid-19 pandemic have an impact on business turnover or income? c. Yes
d. No
- Do you have a loan at a commercial bank/family/informal financial institution? c. Yes
d. No
- If so, has the Covid-19 pandemic impacted your ability to pay instalments? c. Yes
d. No
- This question is related to previous question. d. Postponing instalment payments
- What strategy do you use if you are having trouble paying your loan instalments due to Covid-19? e. Selling assets to pay instalments
f. Other

- Did you get any assistance/assistance programs during the Covid-19 pandemic? c. Yes
d. No
- What are the obstacles in running a business during a pandemic that you are facing? e. Raw material and production
f. Delivery and distribution
g. Communications with the customers and suppliers
h. Other

Part 3

The third part of the questionnaire concerns your experience using social media as strategy to maintain business during the Covid-19 pandemic

- What is your reason for using social media for business? d. User friendly
e. Affordable
f. Trend & market demand
- How long have you been using social media? d. 1–2 years
e. 3–4 years
f. >4 years
- How intensively do you use social media during the pandemic? e. <1 hour
f. 1–5 hours
g. 6–10 hours
h. > 10 hours
- What is your main means of accessing social media? e. Cellular phone
f. Cellular phone & tablet
g. Cellular phone & Laptop
h. Cellular phone, Tablet, & Laptop
- What social media platforms do you use? f. WhatsApp
g. WhatsApp & Facebook
h. WhatsApp & Instagram
i. WhatsApp, Facebook, & Instagram
j. Other combination
- What strategies that you use for marketing the product and service through social media? d. Posting photos and videos related to the products
e. Posting photos and videos related to the products
f. Engaging in comments, & develop friend networks
b. Other
- What strategy did you use to save your business during a pandemic (you may answer more than one option) f. Promotion through social media
g. Offering discounts
h. Reducing employees
i. Product diversification
j. Additional services

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to Ninik

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JIAE-D-21-00170R3

WOMEN ENTREPRENEURS' STRUGGLES DURING THE COVID-19 PANDEMIC
AND THEIR USE OF SOCIAL MEDIA

Ninik Sri Rahayu; Masduki Masduki; Nur Ellyanawati Esti Rahayu

Journal of Innovation and Entrepreneurship

Dear Dr Rahayu,

I am pleased to inform you that your manuscript "WOMEN ENTREPRENEURS' STRUGGLES DURING THE COVID-19 PANDEMIC AND THEIR USE OF SOCIAL MEDIA" (JIAE-D-21-00170R3) has been accepted for publication in Journal of Innovation and Entrepreneurship.

Before publication, our production team will check the format of your manuscript to ensure that it conforms to the standards of the journal. They will be in touch shortly to request any necessary changes, or to confirm that none are needed. Articles in this journal may be held for a short period of time prior to publication.

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Any final comments from our reviewers or editors can be found, below. Please quote your manuscript number, JIAE-D-21-00170R3, when inquiring about this submission.

We look forward to publishing your manuscript and I hope you will consider Journal of Innovation and Entrepreneurship again in the future.

Best wishes,

Elias G. Carayannis, PhD
Journal of Innovation and Entrepreneurship
<https://innovation-entrepreneurship.springeropen.com/>

Editors' comments (if any) :

Reviewer #3: Thank you for the interesting article and your patient in revising the manuscript.

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Ninik Sri Rahayu <ninik.sriahayu@uii.ac.id>

Mon, 14 Aug
2023, 07:33

to Journal

Dear Elias G. Carayannis, PhD

Thank you very much for accepting our manuscript for publication in the Journal of Innovation and Entrepreneurship. Thank you for handling the paper and getting it reviewed. We also thank the Reviewers for their valuable work, which helped us to improve the manuscript. We are looking forward to the further process of publication.

Best regards,

Dr.Phil. Ninik Sri Rahayu
Department of Financial Analysis,
Faculty of Business and Economics

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