

E-Entrepreneurship Prospects and Women Empowerment: A Case Presenting Women Entrepreneurs

Ikramul Hasan¹, A. N. M. Shibly Noman Khan², Nabila Kamal³

^{1, 2, 3} Independent University, Bangladesh (IUB), Dhaka, Bangladesh

Abstract:- The rise of e-entrepreneurship, also known as digital entrepreneurship, presents an exciting opportunity for entrepreneurs to leverage digital technologies and the Internet for their business activities. This innovative approach is gaining popularity due to its low initial costs, improved access to resources, and the potential to reach a global audience. Bangladesh is an emerging economy and e-entrepreneurship offers women entrepreneurs a promising solution to traditional barriers, providing easier entry, greater access to resources, and the ability to engage with customers worldwide. The success stories of female entrepreneurs thriving in online businesses highlight the positive impact of e-entrepreneurship for women. This study aims to explore a new business paradigm and share its success to inspire others to develop their entrepreneurship and become economically stable, thus reducing poverty and economic barriers. 108 women e-entrepreneurs participated in this study to share their opinions. The study found interesting results showing different characteristics such as entrepreneurial alertness and self-efficacy among the entrepreneurs, making their e-entrepreneurship effective. The study found a positive association between entrepreneurial alertness (Scanning and Search (ScSe), Association and Connection (AsCo), Evaluation, and Judgement (EvJu)) and e-entrepreneurship effectiveness (EE), whereas self-efficacy failed to influence EE. Business operating hours worked as a moderator and significantly strengthened the relationship between Scanning and Search, and Self-Efficacy with e-entrepreneurship effectiveness. This presents an encouraging development for policymakers, educators, and industries, particularly in regions like Bangladesh, where e-entrepreneurship is emerging, especially in terms of promoting women's entrepreneurship.

Keywords: E-Entrepreneurship, Entrepreneurial Characteristics, Bangladesh, SEM.

1. Introduction

Understanding the importance of entrepreneurship in fostering economic growth is crucial, especially in certain areas and countries. Entrepreneurs play a significant role in creating economic prosperity by conceiving ideas and bringing them to life through businesses. The presence of diverse businesses is vital as it leads to job creation, fosters innovation, and enhances overall economic efficiency in various sectors. Moreover, entrepreneurship helps nations navigate economic changes, reducing poverty and promoting a self-sustaining philosophy that contributes to the overall well-being of societies [1].

Numerous studies emphasize the significance of e-entrepreneurship in generating wealth, and employment opportunities, and driving innovation and economic growth [3]. E-entrepreneurship is the digital form of entrepreneurship that utilizes the Internet to facilitate business activities. It is increasingly popular among young entrepreneurs to establish new Startups compiling various business outlets. E-entrepreneurship is an appealing venture for the initiator due to its low costs, improved access to resources, and potential for reaching a global audience [4], [5].

In Bangladesh, the population of women is larger than that of males, as indicated by the last census, with approximately 83.34 million women out of a total population of 165.15 million [6]. This implies a substantial human resource that can be leveraged to enhance the country's GDP. The significance of the gender perspective has been increasingly acknowledged, with women holding ownership of about one-third of businesses globally

since the 1980s. Over time, women's participation in business has become more important, evidenced by the growing number of women entrepreneurs. Reports show that in 74 countries, 163 million women have started their own businesses, while 111 million are managing existing ones. This progress reflects a positive trend towards promoting gender equality in entrepreneurship, as evidenced by the increase in the number of women entrepreneurs [2], [5]. In 74 countries around the world, it has been reported that 163 million women had initiated their own businesses, while 111 million were managing existing businesses. This reflects positive progress in promoting gender equality in entrepreneurship [5].

The involvement of women in entrepreneurship has a substantial impact on economic development, including job creation, GDP growth, and poverty reduction, as highlighted by various research studies (add the original paper ref). Additionally, women's entrepreneurship enhances diversity and allows women to realize their potential [4]. In less developed nations, it is especially important to support the growth and expansion of small businesses by adopting a more accessible and forward-thinking approach that prioritizes women's entrepreneurship [5]. It's important to note that women face more challenges in accessing the required resources, particularly financial ones, to start their businesses. The participation of informal groups and networks is crucial for the success of entrepreneurs, and they are commonly dominated by men. Social and cultural factors also significantly influence women's entrepreneurship [2], [5]. Therefore, it is essential to understand and address these interrelated factors to create a nurturing environment for women's entrepreneurship. The focus of this study is to bridge the existing gap above and by leveraging technological advancements, this study first proposes a model that exhibits the entrepreneurial characteristics and e-entrepreneurship effectiveness with business operating hours. More specifically, our study centers on the potential of e-entrepreneurship platforms to address the challenges faced by women, providing them with a new pathway to economic participation without the need for substantial resources such as financial investments and infrastructure. This avenue enables women to establish and expand businesses from their homes, allowing them to tap into the global market. In Bangladesh, as of today, 400,000 plus women entrepreneurs are working across the divisions. Therefore, it's worth noting that our findings hold significance for academics, policymakers, and other stakeholders as they not only showcase current successes but also identify the key characteristics contributing to the success of these entrepreneurs.

2. Literature Review and Hypotheses Development

A. E-Entrepreneurship

The idea of e-entrepreneurship is commonly linked with small and medium-sized businesses that encounter the difficulty of globalization through collaboration and rivalry in online markets. The exploration of utilizing interest for operating a small or medium-sized business has not been extensively covered in the literature in comparison to traditional entrepreneurship research. E-entrepreneurship differs from conventional entrepreneurial activities not only in the operational and communication strategies used to administer and manage the company environment but also in its reliance on digital platforms such as email, various social media platforms, online forums, e-commerce websites, and other IT-driven commercial endeavors. This digital approach to entrepreneurship provides a practical opportunity for women to engage in entrepreneurial activities within the safety and comfort of their home environment, thus allowing for greater flexibility and accessibility in pursuing entrepreneurial goals [4], [8]. Additionally, IT has sped up marketing and sales processes in electronic retailing. It also plays a significant role in e-commerce, enabling small entrepreneurs to establish "virtual stores" on websites with online catalogs, marketing, and sales. Mobile phones and internet-based communication tools, e.g., SMS, email, and internet-based phone software such as Skype or WhatsApp, are increasingly used by female entrepreneurs to connect with customers and colleagues. E-commerce contributes to economic growth, business opportunities, competition, and improved market access [1].

B. Entrepreneurs Characteristics

Understanding the characteristics of successful entrepreneurship is essential for identifying and capitalizing on new business opportunities. These characteristics empower entrepreneurs to develop specific strategies, identify essential components, and address specific needs, such as filling knowledge gaps in a particular industry. This study delves into two key entrepreneurial characters: entrepreneurial alertness (EAI) and entrepreneurial self-

efficacy, both of which can profoundly influence an entrepreneur's actions and their capacity to recognize opportunities that can enhance overall organizational effectiveness [4], [10], [11]. Entrepreneurial alertness (EAl) enables entrepreneurs to spot opportunities others might overlook and is fundamental to nurturing an entrepreneurial mindset. It makes entrepreneurs more perceptive to new ventures and better at spotting and seizing opportunities. This heightened alertness stems from actively seeking out new opportunities through consistent information gathering and observing the environment at unconventional times and places. Entrepreneurial alertness is crucial for recognizing, developing, and evaluating opportunities. Alert entrepreneurs accurately perceive trends and implications, leverage external resources, and pursue new opportunities, enhancing their companies' effectiveness. Moreover, decision-makers who are entrepreneurial alert are more likely to make strategic changes that guide them toward subsequent entrepreneurial opportunities [4], [8]. In this study, entrepreneurial alertness is represented by three elements: scanning and search (ScSe), association and connection (AsCo), evaluation, and judgment (EvJu). The concept of alert scanning and searching involves continuously observing an entrepreneur's surroundings for updates, adjustments, and changes that others may have missed [13]. This helps entrepreneurs gather a wide range of domain-relevant information. Alert association and connection emphasize the importance of taking in novel information, being creative, and stretching the boundaries of reasoning [12]. It involves the process of assembling seemingly unrelated facts into logical solutions [13]. Entrepreneurial alertness in the third dimension entails the evaluation and judgment of new developments, changes, or information to determine their potential as lucrative business opportunities [13]. An entrepreneur uses judgment to determine whether a novel piece of information presents an opportunity. Thus, this study hypothesized that:

H1: EAl plays a significant role in making EE effective.

H1a: ScSe plays a significant role in making EE effective

H1b: AsCo plays a significant role in making EE effective

H1c: EvJu plays a significant role in making EE effective

Entrepreneurial self-efficacy (ES) influences an entrepreneur's decision-making, objectives, and overall performance. This area has been extensively researched across various disciplines, notably social psychology, as it provides insights into human behavior, drives, and accomplishments. This kind of self-efficacy significantly impacts an entrepreneur's decision-making, dedication, and perseverance. Studies have demonstrated that entrepreneurial self-efficacy strongly predicts entrepreneurial aspirations and is critical in pursuing new entrepreneurial endeavors [4]. Numerous references in the literature confirm these conclusions, emphasizing that improved entrepreneurial self-efficacy can produce identifiable effects on entrepreneurial success, business performance, and overall results. Self-efficacy was defined by [14] as an individual's belief in their capacity to fulfill various roles and duties within entrepreneurship competently. These roles encompass aspects such as marketing, innovation, management, risk-taking, and financial management. Entrepreneurial self-efficacy cultivates optimism, and individuals with high levels of self-efficacy maintain a robust belief in their entrepreneurial competencies. Consequently, it can be inferred that heightened levels of entrepreneurial self-efficacy may potentially hinder entrepreneurial motivation to adopt technology as a means of acquiring new resources other than financial ones. The entrepreneur's firm belief in their abilities may inadvertently impede the process of identifying opportunities and hinder the pursuit of new inputs [1], [4], [5]. Thus, this study hypothesized that:

H2: ES plays a significant role in making EE effective.

C. Business Operating Hours (BO)

Engaging in online entrepreneurship places a strong focus on achieving success as an entrepreneur. Flexible operating hours provide greater convenience for addressing customer needs, cost-effectiveness, and accessing global markets. Technological advancements and automation have streamlined the operations of e-commerce businesses, enabling round-the-clock customer service and order processing through automated processes like

chatbots, virtual assistants, and transactions [7]. Additionally, this study introduces BO as a moderator to make e-entrepreneurship effective. Thus, it confers that:

H3a: BO moderates the relationship between ScSe and EE

H3b: BO moderates the relationship between ES and EE

3. Methodology

The study focuses on Bangladeshi e-entrepreneurs and gathers responses from various parts of Bangladesh through a questionnaire survey. The questionnaire consists of two sections. The first section assesses e-entrepreneurship effectiveness and entrepreneurial characteristics, while the second section collects demographic data. To scale the responses, this study uses a 5-point Likert scale ranging from strongly disagree to strongly agree. Questionnaire items are adopted from [4], [5], [8], [9], [12], and [15]. The data was analyzed using PLS-based SEM. This study also measures the impact of control variables, e.g., education and age.

4. Data Analysis

The evaluation of the measurement model in PLS involved examining four indicators (See Table 1):

- (1) Indicator reliability – In structural equation modeling, the reliability of latent variables is deemed satisfactory when Cronbach's alpha exceeds 0.50 [21]. This study also presents a commendable range of Cronbach's alpha, measuring between 0.663 and 0.879.
- (2) Composite reliability – Composite reliability comprises with coefficients 0.7 is satisfactory [23]; and the result of this confirm this (0.818–0.912).
- (3) Convergent validity – [22]; [16] and [19] suggest that factor loading should be 0.5 or above for convergent validity. The factor loadings in Table 1 range from 0.648 to 0.921, indicating convergent validity.
- (4) Discriminant validity – The results, found in Table 2a, demonstrate acceptable discriminant validity based on AVE (square root of the average variance extracted) and align with previous studies by [16] and [23].

[8]; [18]; [20] propose using full collinearity VIFs in Table 2b to understand common method bias in multivariate analysis. The study found no common method bias and multicollinearity since values are less than 5.

Table 1 Latent variable coefficient index

Latent Variable Items	Loading	Composite reliability	Cronbach's alpha
ee1	0.715	0.886	0.845
ee2	0.846		
ee3	0.717		
ee4	0.676		
ee5	0.771		
ee6	0.777		
scse1	0.828	0.912	0.879
scse2	0.850		
scse3	0.875		
scse4	0.840		
scse5	0.708	0.866	0.767
asco1	0.761		
asco2	0.883		
asco3	0.832	0.818	0.663
evju1	0.648		

Latent Variable Items	Loading	Composite reliability	Cronbach's alpha
evju2	0.875		
evju3	0.790		
se1	0.749	0.891	0.814
se2	0.921		
se3	0.889		
R-squared = 0.810			
Adjusted R-squared = 0.789			

Table 2a Correlations and square roots of AVE's

	EE	ScSe	AsCo	EvJu	ES
EE	0.752				
ScSe	0.589	0.822			
AsCo	0.626	0.632	0.827		
EvJu	0.684	0.634	0.513	0.777	
ES	0.208	0.51	0.394	0.301	0.856

Table 2b Variance inflation factors

	ScSe	AsCo	EvJu	SE
EE	4.139	4.091	4.088	1.464

The software provides three fit indices that are relevant in the context of variance-based SEM [8]; [16]; [17]: average path coefficient (APC), average R² (ARS), and average variance inflation factor (VIF). Their calculated values are as follows: APC = 0.180, $p < 0.001$; ARS = 0.810, $p < 0.001$; and AVIF = 2.556. These values indicate a good model fit with the data (statistically significant APC and ARS) and low overall collinearity (AVIF < 5) (refer to Table 3 for fit measurement results of other models).

Table 3 Model fit and quality indices

Measurement	Results	Remarks
APC	0.180	P=0.013
ARS	0.810	P<0.001
AARS	0.795	P<0.001
AVIF	2.556	acceptable if ≤ 5 , ideally ≤ 3.3
AFVIF	2.513	acceptable if ≤ 5 , ideally ≤ 3.3
GoF	0.818	small ≥ 0.1 , medium ≥ 0.25 , large ≥ 0.36
SPR	1.000	acceptable if ≥ 0.7 , ideally = 1
RSCR	1.000	acceptable if ≥ 0.9 , ideally = 1
SSR	1.000	acceptable if ≥ 0.7
NLBCDR	1.000	acceptable if ≥ 0.7

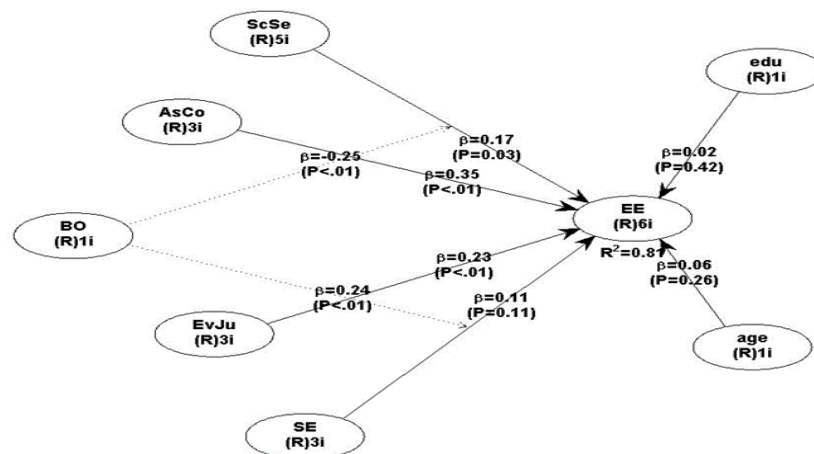
The SEM analysis results, presented in Figure 1, show the relationships between EL and EE effectiveness, all three elements were found significant. SE was found insignificant to influence EE. BO was found significant to confer EE and moderate the influence through SeSc and SE. The study also considered the impact of control variables, such as education and age, and found it insignificant to improve the EE. (See table 4)

Notes:

APC: Average path coefficient, ARS: Average R-squared, AARS: Average adjusted R-squared, AVIF: Average block VIF, Average full collinearity VIF, GoF: Tenenhaus GoF, SPR: Simpson's paradox ratio, RSCR: R-squared contribution ratio, SSR: Statistical suppression ratio, NLBCDR: Nonlinear bivariate causality direction ratio

Table 5 Path coefficients and significances

Path	Beta (<i>p</i> -value)	Supported or Not
ScS → EE	0.17(<i>P</i> =0.03)	Yes
AsCo → EE	0.35(<i>P</i> <.01)	Yes
EvJu → EE	0.23(<i>P</i> <.01)	Yes
SE → EE	0.11(<i>P</i> =.11)	No
ScSe → BO → EE	0.25(<i>P</i> <.01)	Yes
SE → BO → EE	0.24(<i>P</i> <.01)	Yes

**Figure. 1 Estimated parameters in the structural equation model***Notes:*

ScSe=Scanning and Search, AsCo=Association and Connection, EvJu=Evaluation and Judgement, ES=Self-efficacy, EE=E-entrepreneurship Effectiveness, edu=Education

5. Discussion and Conclusion

Bangladesh's economy is on the rise, fueled by increasing technological integration. As we step into a new decade, it's clear that artificial intelligence will revolutionize our labor-intensive society. This study not only assesses the country's present state but also forecasts its future technological landscape. Additionally, it sheds light on the challenges faced by women confined within traditional societal roles. While Bangladesh's GDP continues to grow, it's essential to ensure that a significant portion of the population is included in this progress. Therefore, the results of this study may offer valuable insights into how women can actively contribute to the country's economic growth.

This study examines three hypothesized relationships demonstrating the essential entrepreneurial characteristics required for successful e-entrepreneurship. These characteristics include scanning and search, association and connection, evaluation and judgment. When conducting business in the e-platform, monitoring competitors and other offerings on platforms such as social media and e-marketplaces is crucial. The study establishes a significant relationship between ScSe and EE, highlighting the important role of women entrepreneurs in generating new ideas and staying competitive in the e-marketplace through continuous observation and search. The result of the

study also confirms the association between AsCo and EE. It provides insights that women entrepreneurs are trying to gather information from the market to make their offer creative but also tagged the facts based on the logical explanation. Exploring the new drivers of the market to make changes in the business strategy is absolutely necessary to compete with your rivals. The result of this study is convergent to prove these facts, and it found that EvJu is significant in predicting EE in the Bangladeshi e-marketplace.

In contrast, when examining the influence of entrepreneurial efficacy on ensuring EE effectiveness, the study's findings contradict those of previous studies by [4], [15], as the impact was found to be insignificant. Self-efficacy, representing the decision-making abilities of entrepreneurs, aligns with social psychology, as it may not always reflect positive outcomes due to the barriers faced in their daily pursuit of business performance.

The study revealed fascinating results regarding the connection between self-efficacy, scan and search, and entrepreneurial effectiveness. It found that business operations (BO) act as a moderator. The act of searching and scanning the market is time-driven, with more hours spent resulting in better market observation and the development of effective strategies for the business. Additionally, self-efficacy plays a crucial role in the decision-making of women entrepreneurs. Spending more hours in their business boosts their confidence, helping them better understand various aspects of the business such as marketing, innovation, management, risk-taking, and financial control. This suggests that investing more time in their business can lead to improved business performance.

This study also represents the control variables education and age, and found no impact over to EE effectiveness. (See Figure 1)

The study has several limitations that need to be addressed. Firstly, in order to represent the entire industry, a larger sample size is needed to ensure that the findings can be generalized. Secondly, to provide a more comprehensive understanding of women's behavior, a longitudinal study should be conducted in the future. Additionally, future research should consider including variables such as leadership and ICT capacities to enrich the model.

References

- [1] Abu Shriha, S., AL-Shboul, M.A. and Abaddi, S., "The e-entrepreneurial intentions of Jordanian business students to start an online business in emerging economies: an application of planned behavior theory", *Management & Sustainability: An Arab Review*, Vol. ahead-of-print No. ahead-of-print, April 2024. <https://doi.org/10.1108/MSAR-08-2023-0042>
- [2] Mand, H.S., Atri, M., Gill, A. and Amiraslany, A., "The impact of bank financing and internal financing sources on women's motivation for e-entrepreneurship", *International Journal of Gender and Entrepreneurship*, Vol. 10 No. 2, pp. 102-115, July 2018. <https://doi.org/10.1108/IJGE-07-2017-0041>
- [3] Li, L. and Kang, K., "Impact of opportunity and capability on e-entrepreneurial motivation: a comparison of urban and rural perspectives", *Journal of Entrepreneurship in Emerging Economies*, Vol. 16 No. 4, pp. 932-953, June 2024. <https://doi.org/10.1108/JEEE-06-2022-0178>
- [4] Troise, C. and Tani, M., "Exploring entrepreneurial characteristics, motivations and behaviours in equity crowdfunding: some evidence from Italy", *Management Decision*, Vol. 59 No. 5, pp. 995-1024, 2021. <https://doi.org/10.1108/MD-10-2019-1431>
- [5] Mouazen, A.M. and Hernández-Lara, A.B., "Entrepreneurial ecosystem, gig economy practices and Women's entrepreneurship: the case of Lebanon", *International Journal of Gender and Entrepreneurship*, Vol. 15 No. 3, pp. 249-274, 2023. <https://doi.org/10.1108/IJGE-07-2022-0116>
- [6] DhakaTribune, "Census 2022: Bangladesh's female population 83.34m, male 81.71m", 2022. Available at: <https://www.dhakatribune.com/bangladesh/274865/census-2022-bangladesh%E2%80%99s-female-population>
- [7] HelpCenter, "Why 24/7 business hours are becoming more popular and affordable in eCommerce", 2023. Available at: <https://www.helpcenterapp.com/blog/why-24-7-business-hours-are-becoming-more-popular-and-affordable-in-ecommerce/S>

- [8] Hasan I, Islam MN. Leadership instills organizational effectiveness a viewpoint on business organizations. SN Business and Economics, Volume 2, article number 26, February 2022. [https:// doi. org/ 10. 1007/ s43546- 021- 00193-z](https://doi.org/10.1007/s43546-021-00193-z)
- [9] Islam, M. Z., Jasimuddin, S. M. and Hasan, I., "Determinants that influence knowledge sharing: an integrated literature review". International Journal of Knowledge Management Studies, Vol.9 No. 4, pp. 363-380, November 2018.
- [10] Obschonka, M., Hakkarainen, K., Lonka, K. and Salmela-Aro, K., "Entrepreneurship as a twenty-first century skill: entrepreneurial alertness and intention in the transition to adulthood", Small Business Economics, Vol. 48, pp. 487-501, 2017.
- [11] Roundy, P.T., Harrison, D.A., Khavul, S., Perez-Nordtvedt, L. and McGee, J.E., "Entrepreneurial alertness as a pathway to strategic decisions and organizational performance", Strategic Organization, Vol. 16 No. 2, pp. 192-226, 2018.
- [12] Tang, J., Kacmar, K.M. and Busenitz, L. "Entrepreneurial alertness in the pursuit of new opportunities", Journal of Business Venturing, Vol. 27 No. 1, pp. 77-94, 2012.
- [13] Sassetti, S., Cavaliere, V., & Lombardi, S., "The rhythm of effective entrepreneurs' decision-making process. The pathways of alertness scanning and search and cognitive style. A mediation model", International Entrepreneurship and Management Journal, Vol. 18 No.2, pp.555-578, 2022.
- [14] Chen, C.C., Greene, P.G. and Crick, A., "Does entrepreneurial self-efficacy distinguish entrepreneurs from managers?", Journal of Business Venturing, Vol. 13 No. 4, pp. 295-316, 1998.
- [15] Zhao, H., Hills, G.E. and Seibert, S.E., "The mediating role of self-efficacy in the development of entrepreneurial intentions", Journal of Applied Psychology, Vol. 90 No. 6, pp. 1265-1272, 2005.
- [16] Ketkar, S., Kock, N., Parente, R., & Verville, J. "The impact of individualism on buyer-supplier relationship norms, trust and market performance: An analysis of data from Brazil and the U.S.A". International Business Review, Vol.21 No.5, pp.782-793, 2012. doi:10.1016/j.ibusrev.2011.09.003
- [17] Kock, N., "Using WarpPLS in e-Collaboration Studies: Descriptive Statistics, Settings, and Key Analysis Results", International Journal of e-Collaboration, Vol. 7 No.2, pp.1-18, 2011. doi:10.4018/jec.2011040101
- [18] Kock, N., "A note on how to conduct a factor-based PLS-SEM analysis", International Journal of e-Collaboration, Vol. 11 No.3, pp. 1-9, 2015.
- [19] Hair JF Jr, Sarstedt M, Hopkins L, Kuppelwieser VG, Partial Least Squares Structural Equation Modeling (PLS-SEM): an emerging tool for business research. European Business Review, Vol. 26 No. 2, pp.106-121, 2014.
- [20] Fuller C, Simmering M, Atinc G, Atinc Y, Babin B., "Common methods variance detection in business research". Journal of Business Research, Vol. 69 No. 8, pp. 3192-3198, 2016.
- [21] Nunnally JC (1978) Psychometric theory, 2nd edn. McGraw Hill, NY
- [22] Hasan, I., Jahangir, N. Social power and organizational commitment in banks: the mediating aspect of procedural justice. SN Business and Economics, Vol. 4, article 1, (2024). <https://doi.org/10.1007/s43546-023-00594-2>
- [23] Fornell, C., & Larcker, D. F., "Evaluating structural equation models with unobservable variables and measurement error. JMR", Journal of Marketing Research, Vol. 18 No.1, pp. 39-50, 1981. doi:10.1177/002224378101800104