

Financial Access and Saving Behavior in Women Entrepreneurship Development

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ABSTRACT

Women-owned businesses have become an important driver of economic growth, employment generation, and social inclusion, particularly in developing countries. Despite their growing contribution, women entrepreneurs continue to encounter barriers related to financial access, institutional support, and entrepreneurial capabilities. **This study investigates** how business support, access to finance, skill development, and saving behavior influence women entrepreneurship development among small and medium-sized enterprises in Batam City, Indonesia. Data were obtained from 244 women entrepreneurs and analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM). **The empirical results** demonstrate that business support, financial access, and skill development positively affect women entrepreneurship development, with skill development emerging as the strongest predictor. In addition, saving behavior significantly moderates the relationship between access to finance and women entrepreneurship development, indicating that financial management practices influence the effectiveness of financial resources in supporting entrepreneurial growth. **These findings** suggest that sustainable women entrepreneurship depends on the interaction between external support mechanisms and individual entrepreneurial capabilities. **The study provides** practical implications for policymakers and entrepreneurship support institutions by emphasizing the importance of integrated strategies that strengthen financial inclusion, entrepreneurial competencies, financial literacy, and institutional support to foster the long-term development of women-owned enterprises.

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1. INTRODUCTION

Entrepreneurship is widely recognized as a key driver of economic development, innovation, and employment creation in both developed and developing countries. Through the establishment of new ventures and the growth of small businesses, entrepreneurial activities contribute significantly to economic growth, productivity, and social welfare [1–3]. In developing economies, entrepreneurship also provides alternative employment opportunities and supports income generation where formal labor markets are unable to absorb the available workforce [4, 5]. In Indonesia, entrepreneurial activities are dominated by Micro, Small, and

Medium Enterprises (MSMEs), which form the backbone of the national economy by representing the majority of business entities and employing a substantial share of the labor force [6]. MSMEs also contribute significantly to national economic output and inclusive regional development, making their sustainability a major concern for policymakers. Within this sector, women entrepreneurs constitute an increasingly important segment. Their participation contributes not only to economic productivity but also to social transformation and gender empowerment [7, 8]. Women-owned businesses frequently support household income and local economic activities, particularly in developing countries [9, 10]. Although Indonesia has relatively high female entrepreneurial participation, women entrepreneurs continue to face structural barriers that limit business growth and sustainability [6, 11].

One of the primary challenges is limited access to critical business resources. According to the Resource-Based View (RBV), competitive advantage depends on entrepreneurs' ability to acquire and utilize valuable resources such as financial capital, knowledge, skills, and institutional support [12]. Among these, access to finance is essential because it enables investment, technological adoption, product improvement, and market expansion [13, 14]. Nevertheless, women entrepreneurs often face greater difficulties in obtaining formal financing due to limited collateral, insufficient financial records, and institutional barriers [15, 16]. Beyond external financing, effective financial management is equally important. Saving behavior enables entrepreneurs to accumulate capital for reinvestment and cope with economic uncertainty [17, 18]. However, women entrepreneurs often encounter challenges in building savings because of competing household financial responsibilities. Entrepreneurial success also depends on skill development, including financial management, marketing, innovation, and strategic decision-making [19, 20]. Training and mentoring programs therefore play an important role in strengthening entrepreneurial capabilities [21, 22].

Business support systems, including mentoring, incubation, training, and institutional assistance, further enhance entrepreneurs' access to knowledge, resources, and professional guidance, thereby improving business performance [7, 23]. Although previous studies have examined financial inclusion, entrepreneurial competencies, digital capabilities, and institutional support, these determinants are generally investigated separately. Consequently, limited attention has been given to understanding how access to finance, skill development, and business support jointly influence women entrepreneurship development. Furthermore, studies published between 2022 and 2026 have largely focused on financial inclusion, digital transformation, and business resilience in South Asia, Africa, and developed economies. Empirical evidence from Indonesia remains limited, particularly at the local level. More importantly, the moderating role of saving behavior in the relationship between access to finance and women entrepreneurship development has received little empirical attention, despite its potential influence on how effectively entrepreneurs utilize external financial resources.

To address these gaps, this study integrates business support, access to finance, skill development, and saving behavior into a single analytical framework. Unlike previous studies that examine these variables independently, this research investigates their combined effects and the moderating role of saving behavior among women entrepreneurs in Batam City, Indonesia. This integrated framework provides a more comprehensive understanding of the factors influencing women entrepreneurship development in an emerging economy context and offers empirical evidence that extends the existing literature on women-owned MSMEs.

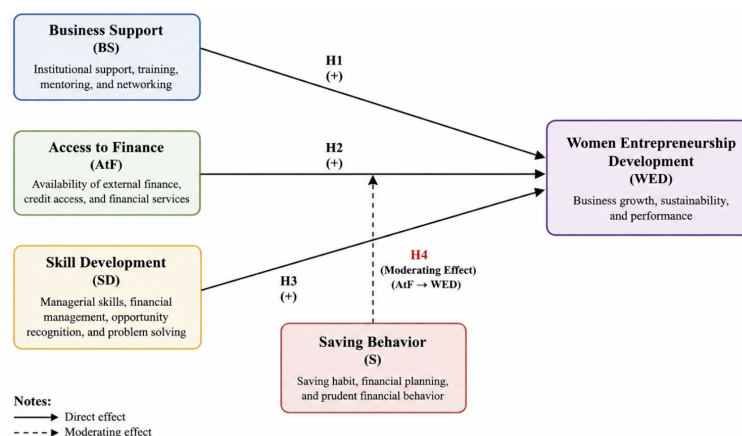


Figure 1. Conceptual Framework of Women Entrepreneurship Development

Figure 1 illustrates the conceptual framework of the study. The model proposes that Business Support, Access to Finance, and Skill Development have direct effects on Women Entrepreneurship Development. In addition, Saving Behavior is proposed as a moderating variable that influences the relationship between Access to Finance and Women Entrepreneurship Development. Drawing on the Resource-Based View (RBV), the framework assumes that financial resources, entrepreneurial competencies, and institutional support constitute strategic resources that enhance entrepreneurial performance and business development among women entrepreneurs.

Batam City is one of Indonesia's major industrial and trade centers because of its strategic location near international markets. Despite its rapid economic growth driven by industrialization, foreign investment, and trade, the city continues to face relatively high unemployment, indicating that entrepreneurship remains an important source of employment and economic sustainability. Accordingly, this study examines the effects of business support, access to finance, saving behavior, and skill development on women entrepreneurship development in Batam City. This study also supports the Sustainable Development Goals (SDGs), particularly SDG 5 (Gender Equality), SDG 8 (Decent Work and Economic Growth), and SDG 9 (Industry, Innovation and Infrastructure). Strengthening access to finance, entrepreneurial competencies, and institutional support can enhance women entrepreneurs' capacity to generate employment, foster innovation, and promote sustainable economic development [24, 25].

2. LITERATURE REVIEW

2.1. Business Support

Business support refers to various forms of assistance provided by institutions, organizations, or stakeholders that aim to help entrepreneurs overcome operational, managerial, and institutional challenges in developing their businesses. For women entrepreneurs, business support plays an important role in overcoming structural barriers that often limit their participation in entrepreneurial activities [26, 27]. Many women entrepreneurs face challenges such as limited access to information, lack of professional networks, and insufficient managerial knowledge. Institutional support programs can therefore provide valuable resources that enable women entrepreneurs to improve their business strategies, increase productivity, and expand market opportunities.

Previous studies have highlighted the importance of business support in promoting the development of women entrepreneurship. For instance, research conducted in Sri Lanka shows that business support initiatives can significantly enhance entrepreneurial capacity and stimulate business growth among women entrepreneurs [28]. Similarly, studies conducted in Bangladesh indicate that institutional and social support mechanisms contribute positively to women entrepreneurship development by strengthening innovation capability and risk-taking behavior [29, 30]. Research in the Indonesian context has also shown that business support programs can improve the sustainability and competitiveness of women-owned enterprises [31, 32].

From the perspective of the Resource-Based View (RBV), external support mechanisms can be considered valuable resources that enhance entrepreneurs' capabilities and improve their competitive advantage. When women entrepreneurs receive adequate support from institutions, training programs, and professional networks, they are more likely to develop sustainable businesses and achieve better performance outcomes. Therefore, based on theoretical arguments and empirical evidence from previous studies, the following hypothesis is proposed: H1: Business support positively influences women entrepreneurship development.

2.2. Access to Finance

Access to finance refers to the ability of entrepreneurs to obtain financial resources from formal or informal financial institutions in order to support business operations and expansion. Financial capital plays a critical role in entrepreneurship because it enables entrepreneurs to invest in production facilities, purchase equipment, hire employees, and develop new products or services. For women entrepreneurs, access to finance is particularly important because financial constraints often represent one of the most significant barriers to business growth [33]. Many women entrepreneurs face difficulties in obtaining loans or credit from formal financial institutions due to limited collateral, insufficient financial documentation, or institutional biases. As a result, restricted financial access can hinder their ability to expand business activities and compete effectively in the market [34, 35].

Previous studies have consistently highlighted the positive relationship between access to finance and women entrepreneurship development. For example, research conducted in Bangladesh demonstrates that im-

proved access to financial resources significantly increases the growth potential of women-owned enterprises [23, 36]. Similarly, empirical evidence from Ethiopia shows that access to financial capital enables women entrepreneurs to increase their production capacity and strengthen their business competitiveness [37, 38]. Furthermore, access to microfinance services has been shown to support the development of small businesses by providing entrepreneurs with the necessary financial resources to sustain their operations. When women entrepreneurs can access adequate financing, they are more likely to expand their businesses, generate employment opportunities, and improve their economic independence. Based on the above discussion, the following hypothesis is proposed: H2: Access to finance positively influences women entrepreneurship development.

2.3. Skill Development

Skill development refers to the process of enhancing the knowledge, competencies, and capabilities required for effective business management and entrepreneurial decision-making. Entrepreneurial skills include various abilities such as financial management, marketing strategies, innovation capability, opportunity recognition, and strategic planning [39, 40]. For women entrepreneurs, skill development plays an essential role in improving business sustainability and competitiveness. Many women entrepreneurs begin their businesses without formal entrepreneurial training, which may limit their ability to manage business operations effectively. Training programs and educational initiatives can therefore help entrepreneurs acquire the skills needed to improve business performance and adapt to changing market conditions [41].

The development of entrepreneurial skills has been widely recognized as a key factor in promoting entrepreneurship growth. Women who possess strong managerial and technical skills are better equipped to manage financial resources, develop innovative products, and respond to market competition [42, 43]. In addition, skill development contributes to increased confidence and motivation among entrepreneurs, enabling them to overcome external challenges such as economic uncertainty and competitive pressures. Several studies have demonstrated the positive impact of skill development on women entrepreneurship [44, 45]. Training programs that focus on business management, financial literacy, and market analysis have been shown to significantly improve entrepreneurial performance and business sustainability among women entrepreneurs. Based on these arguments, the following hypothesis is proposed: H3: Skill development positively influences women entrepreneurship development.

2.4. Saving as a Moderating Variable

Saving refers to the practice of allocating a portion of income or financial resources for future use. For entrepreneurs, savings represent an important internal financial resource that can support business operations, manage financial risks, and finance future investments. Women entrepreneurs often rely on personal savings as a primary source of capital, particularly when access to external financing is limited [17, 46]. Consequently, savings serve as a financial buffer that enables entrepreneurs to sustain business activities during periods of financial uncertainty and supports women entrepreneurship development, particularly among micro and small enterprises with limited access to formal credit.

In addition to functioning as a direct financial resource, savings may also strengthen the relationship between access to finance and entrepreneurial development. Entrepreneurs who possess savings may find it easier to obtain external financing because they are perceived as financially disciplined and capable of managing financial resources [47, 48]. Savings can also be used as complementary capital when entrepreneurs obtain external loans or credit. Therefore, saving behavior may enhance the effectiveness of financial access in supporting business development. When women entrepreneurs have both external financial access and internal financial reserves, they are more likely to utilize financial resources effectively for business expansion [49]. Based on this reasoning, the following hypothesis is proposed: H4: Saving moderates the relationship between access to finance and women entrepreneurship development.

3. RESEARCH METHODOLOGY

This study employs a quantitative research approach to examine the factors influencing women entrepreneurship development. The questionnaire consisted of measurement items adapted from established studies on access to finance, business support, saving behavior, skill development, and women entrepreneurship development. All indicators were measured using a five-point Likert scale ranging from strongly disagree to strongly agree. Data were collected from women entrepreneurs operating SMEs in Batam City during the

period of [Month–Month, Year]. Respondents were selected using purposive sampling based on the following criteria:

- Female business owner or manager.
- Actively involved in business operations.
- Operating a business for at least one year.

Prior to data collection, respondents were provided with information regarding the objectives of the study, and their participation was based on voluntary consent. The privacy and confidentiality of all participants were ensured throughout the research process. This study utilizes a causal research design to investigate the causal relationships between the proposed independent variables and the dependent variable. The research population consists of women entrepreneurs managing SMEs in Batam City. Women entrepreneurs were chosen as the unit of analysis because of their important contribution to entrepreneurial activities, employment generation, and sustainable local economic development.

Since the exact number of women entrepreneurs in the target population could not be accurately determined, this study employed a non-probability sampling approach. A purposive sampling technique was adopted to recruit respondents who satisfied the predefined inclusion criteria. Eligible participants were women who owned or managed a business and were actively engaged in its daily operations. In total, 244 valid responses were obtained for analysis. This sample size is considered sufficient for Partial Least Squares Structural Equation Modeling (PLS-SEM), which is widely recognized as an appropriate analytical technique for exploratory studies and complex research models with moderate sample sizes. The collected data were processed using SmartPLS software to estimate both the measurement and structural models. Statistical significance was assessed through a bootstrapping procedure with 5,000 resamples. Furthermore, the structural model was evaluated using several recommended PLS-SEM criteria, including the coefficient of determination (R^2), effect size (f^2), predictive relevance (Q^2), and the Standardized Root Mean Square Residual (SRMR) to assess overall model fit.

Table 1. Respondent Profile

Variable	Description	Qty
Age	17–23 years old	91
	>23 years old	153
Income	<Rp 5,000,000	30
	Rp 5,000,000–Rp 10,000,000	131
	>Rp 10,000,000	83
Education	Junior High School	16
	Senior High School	39
	Diploma	47
	Undergraduate	142
Family Business Successor	Yes	86
	No	158
Business Type	Agriculture	9
	F&B	144
	Fashion & Textile	21
	Services	24
	Beauty & Cosmetic	18
	Craft	28

As shown in Table 1, the respondent profile summarizes the demographic and business characteristics of the women entrepreneurs included in this study. The age distribution indicates that the majority of respondents are over 23 years old, suggesting that most participants are in a relatively mature stage of adulthood. This demographic profile reflects individuals who are generally more likely to possess greater life experience, stronger financial responsibility, and increased readiness to manage and develop their business activities.

From an income perspective, most respondents fall within the middle-income category, indicating that their businesses generate moderate revenue typical of micro and small enterprises. Most respondents have completed undergraduate education, suggesting that formal education may support entrepreneurial competencies

such as business management and decision-making. In addition, the majority are first-generation entrepreneurs rather than successors of family businesses, reflecting the increasing role of self-initiated entrepreneurship among women. The sample is dominated by businesses in the food and beverage sector, followed by services, craft industries, fashion and textile, beauty and cosmetics, and agriculture, indicating a preference for consumer-oriented businesses with relatively low entry barriers and flexible operations.

Table 2. Validity and Reliability Assessment

Construct	Indicator	Outer Loading	AVE	Composite Reliability (ρ_c)	VIF	R^2
Access to Finance (AtF)	AtF1	0.777	0.601	0.883	1.687	–
	AtF2	0.794			1.767	
	AtF3	0.773			1.675	
	AtF4	0.740			1.557	
	AtF5	0.791			1.755	
Business Support (BS)	BS1	0.805	0.585	0.894	2.056	–
	BS2	0.716			1.642	
	BS3	0.754			1.713	
	BS4	0.795			1.947	
	BS5	0.776			1.840	
	BS6	0.739			1.621	
Saving Behavior (S)	S1	0.799	0.605	0.884	1.779	–
	S2	0.797			1.753	
	S3	0.727			1.551	
	S4	0.806			1.842	
	S5	0.757			1.625	
Skill Development (SD)	SD1	0.780	0.586	0.876	1.707	–
	SD2	0.802			1.728	
	SD3	0.762			1.573	
	SD4	0.753			1.603	
	SD5	0.729			1.544	
Women Entrepreneurship Development (WED)	WED1	0.778	0.638	0.898	1.732	0.668
	WED2	0.793			1.879	
	WED3	0.810			1.920	
	WED4	0.807			1.995	
	WED5	0.804			1.877	

Table 2 reports the outcomes of the measurement model assessment. The evaluation focused on examining indicator reliability, convergent validity, internal consistency, multicollinearity, and the explanatory power of the proposed model before testing the structural relationships.

The outer loading values indicate that every measurement item exceeds the recommended cut-off value of 0.70. This result confirms that each indicator contributes adequately to its respective latent construct and is suitable for representing the underlying concept. Convergent validity was further verified through the Average Variance Extracted (AVE). All constructs obtained AVE values above 0.50, demonstrating that the latent variables account for more than half of the variance of their corresponding indicators.

The consistency of each construct was then evaluated using Composite Reliability (ρ_c). Every construct achieved a reliability coefficient greater than 0.70, suggesting that the indicators consistently measure the same underlying concept and provide reliable estimates.

Potential collinearity among the indicators was examined using the Variance Inflation Factor (VIF). Since all VIF values remain below the recommended threshold of 5.00, multicollinearity is not considered a concern, indicating that the indicators contribute independently to the model.

The predictive performance of the structural model was assessed through the coefficient of determination (R^2). The value obtained for Women Entrepreneurship Development shows that business support, access to finance, saving behavior, and skill development jointly explain a considerable proportion of the variance in the endogenous construct. This finding indicates that the proposed model possesses satisfactory explanatory

capability.

Taken together, the measurement model fulfills the recommended reliability and validity requirements. Consequently, the measurement instruments are considered statistically sound and appropriate for subsequent structural model estimation.

Table 3. HTMT Assessment

	AtF	BS	S	SD	WED
Access to Finance (AtF)	–				
Business Support (BS)	0.670	–			
Saving (S)	0.669	0.615	–		
Skill Development (SD)	0.669	0.537	0.567	–	
Women Entrepreneurship Development (WED)	0.812	0.724	0.772	0.771	–

Table 3 presents the discriminant validity assessment using the Heterotrait–Monotrait Ratio (HTMT). The obtained HTMT values are all below the recommended cut-off value of 0.90, indicating that the latent constructs are empirically distinguishable from one another. This finding confirms that access to finance, business support, saving behavior, skill development, and women entrepreneurship development measure different theoretical concepts rather than overlapping dimensions. Therefore, the discriminant validity of the measurement model is considered satisfactory, allowing the analysis to proceed to the evaluation of the structural relationships.

Table 4. Hypothesis Testing

Hypothesis	Original Sample (O)	T Statistics (O/STDEV)	P Values
H ₁ : Business Support → Women Entrepreneurship Development	0.159	2.747	0.003
H ₂ : Access to Finance → Women Entrepreneurship Development	0.224	3.803	0.000
H ₃ : Skill Development → Women Entrepreneurship Development	0.261	5.411	0.000
H ₄ : Saving × Access to Finance → Women Entrepreneurship Development	-0.063	1.970	0.024

Table 4 reports the structural model estimates derived from the PLS-SEM bootstrapping procedure. The hypothesis testing demonstrates that each proposed relationship is statistically significant. Business Support contributes positively to Women Entrepreneurship Development ($\beta = 0.159$, $t = 2.747$, $p = 0.003$), while Access to Finance also shows a significant positive contribution ($\beta = 0.224$, $t = 3.803$, $p < 0.001$). Skill Development exhibits the largest direct coefficient among the exogenous variables ($\beta = 0.261$, $t = 5.411$, $p < 0.001$), highlighting its dominant role in explaining Women Entrepreneurship Development. Furthermore, the interaction between Saving Behavior and Access to Finance is statistically significant ($\beta = -0.063$, $t = 1.970$, $p = 0.024$), indicating that higher saving behavior reduces the strength of the positive relationship between financial access and entrepreneurial development. These findings provide empirical support for H1 through H4 and demonstrate that the proposed structural model adequately explains women entrepreneurship development.

To provide a more comprehensive visualization of the proposed research model, Figure 2 illustrates the PLS-SEM structural model together with the estimated relationships among the latent constructs. The figure presents the standardized path coefficients for each hypothesized relationship, the moderating effect of saving behavior on the relationship between access to finance and women entrepreneurship development, as well as the coefficient of determination (R^2), which reflects the explanatory power of the model in predicting the endogenous construct.

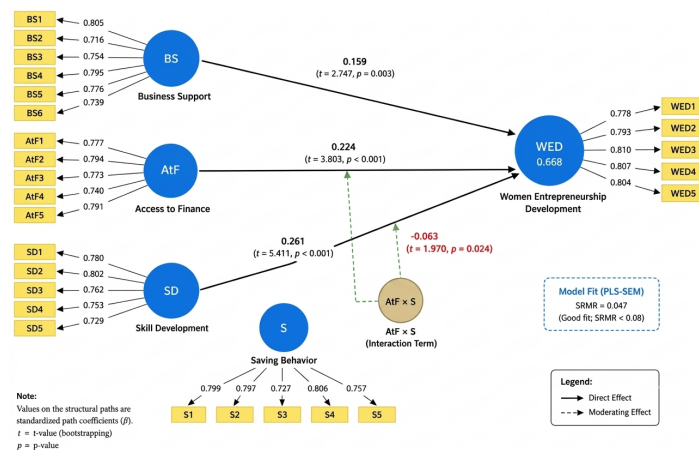


Figure 2. PLS-SEM Structural Model Results

Figure 2 illustrates the structural model generated using the PLS-SEM approach. The estimated path coefficients reveal that Business Support has a positive effect on Women Entrepreneurship Development ($\beta = 0.159$), whereas Access to Finance contributes more strongly to the endogenous construct ($\beta = 0.224$). Among the direct relationships, Skill Development produces the largest positive coefficient ($\beta = 0.261$), indicating its dominant role in enhancing women entrepreneurship development. In addition, the interaction between Saving Behavior and Access to Finance is statistically significant, with a negative coefficient ($\beta = -0.063$), suggesting that saving behavior negatively moderates the relationship between financial access and women entrepreneurship development. The structural model achieves an R^2 value of 0.668, indicating that 66.8% of the variance in Women Entrepreneurship Development is explained by the proposed predictors, reflecting satisfactory explanatory capability.

4. RESULTS AND DISCUSSION

The results of this study provide empirical support for the factors associated with women entrepreneurship development. The analysis demonstrates that business support, access to finance, skill development, and saving behavior all contribute significantly to the growth and sustainability of women-owned enterprises.

Business support was found to have a significant positive impact on women entrepreneurship development. This result highlights the importance of institutional assistance in creating an enabling entrepreneurial environment through initiatives such as mentoring, business training, networking opportunities, and government programs. These forms of support help women entrepreneurs improve managerial capabilities, expand market access, and address operational challenges. The finding is consistent with earlier studies that emphasize the role of institutional support in promoting women entrepreneurship, particularly in developing economies [7, 50]. Considering that most respondents are not successors of family-owned businesses, external support becomes an important resource for developing entrepreneurial knowledge and business networks.

Access to finance also demonstrates a significant positive relationship with women entrepreneurship development. Adequate financial resources allow entrepreneurs to establish, maintain, and expand their businesses by supporting investment and day-to-day operational activities. This finding aligns with previous research identifying limited financial access as one of the major obstacles faced by women entrepreneurs [13]. Since the majority of respondents operate businesses in the food and beverage sector, the availability of working capital is particularly important for maintaining business continuity and supporting future growth.

Third, skill development demonstrates the strongest positive effect on women entrepreneurship development. Entrepreneurial competencies, including managerial, financial, and problem-solving skills, enable entrepreneurs to respond effectively to market competition and business challenges. This finding supports previous research emphasizing the importance of entrepreneurial competencies for business success [19]. The relatively high educational background of the respondents further strengthens the role of skill development in improving entrepreneurial capability.

Finally, saving behavior significantly moderates the relationship between access to finance and women entrepreneurship development. This finding indicates that financial behavior influences how entrepreneurs uti-

lize financial resources for business development. Entrepreneurs with stronger saving habits are better prepared to manage financial risks and allocate resources for future investments, supporting the importance of financial literacy and financial management practices [17]. Overall, these findings suggest that women entrepreneurship development is influenced by both external resources and internal capabilities. Therefore, entrepreneurship development programs should integrate institutional support, financial accessibility, entrepreneurial skill development, and financial literacy to promote sustainable business growth among women entrepreneurs.

5. MANAGERIAL IMPLICATIONS

The findings of this study provide several practical implications for policymakers, financial institutions, and organizations supporting entrepreneurship development. First, government institutions and entrepreneurship development agencies should strengthen business support programs for women entrepreneurs. Such programs may include entrepreneurship training, mentorship initiatives, and networking platforms that facilitate knowledge sharing and market access. Second, financial institutions should improve financial accessibility for women entrepreneurs by designing financial products that are more inclusive and tailored to the needs of small businesses. This may include microfinance programs, flexible loan schemes, and financial support initiatives that reduce barriers to obtaining capital. Third, entrepreneurship development programs should emphasize digital skill development, financial literacy, and technology adoption. Training initiatives should include digital business management, e-commerce utilization, fintech-based financial services, and digital marketing strategies to enhance business competitiveness. Furthermore, fintech platforms may support financial inclusion while reducing financing barriers faced by women entrepreneurs. The integration of technology-enabled financial services and entrepreneurial capability development can contribute to sustainable business growth and long-term resilience among women-owned enterprises, finally, promoting saving behavior among entrepreneurs may enhance financial resilience and improve long-term business sustainability. Programs aimed at improving financial planning and financial literacy could help entrepreneurs manage financial resources more effectively and prepare for future business opportunities and challenges.

Although this study contributes to a better understanding of women entrepreneurship development, several limitations should be considered when interpreting the findings. The research was conducted exclusively among women entrepreneurs in Batam City, which may reduce the applicability of the results to other regions with different institutional, cultural, and economic environments. Expanding the study to a wider geographical context or comparing multiple countries could improve the external validity of future research.

Another limitation relates to the cross-sectional nature of the study, where data were collected at a single point in time. Consequently, the research is unable to capture changes in entrepreneurial development or examine how the proposed relationships evolve as businesses mature. Future studies may adopt a longitudinal design to provide a more comprehensive understanding of these dynamics.

In addition, the proposed model includes only a limited number of explanatory variables. Although business support, access to finance, and skill development significantly explain women entrepreneurship development, other factors, including entrepreneurial motivation, innovation capability, digital adoption, social capital, and market orientation, may also contribute to entrepreneurial success. Future research is therefore encouraged to integrate these variables while also investigating the growing role of digital technologies and digital entrepreneurship in strengthening women-owned enterprises within an increasingly digital business environment.

6. CONCLUSION

This study investigates the determinants of women entrepreneurship development by examining the effects of business support, access to finance, skill development, and saving behavior using a quantitative approach with PLS-SEM. The findings demonstrate that business support, financial access, and entrepreneurial skills positively and significantly influence women entrepreneurship development, emphasizing the importance of institutional support, financial resources, and entrepreneurial competencies in fostering the growth of women-owned businesses.

The results also reveal that saving behavior significantly moderates the relationship between access to finance and women entrepreneurship development, indicating that individual financial practices influence the extent to which financial resources contribute to entrepreneurial success. These findings offer practical implications for policymakers, financial institutions, entrepreneurship support agencies, and training providers in de-

signing programs that strengthen women-led enterprises. Enhancing financial inclusion, entrepreneurial competencies, and supportive business ecosystems can improve the sustainability and competitiveness of women-owned businesses while contributing to broader economic development.

Furthermore, the findings suggest that initiatives to promote women entrepreneurship should extend beyond improving access to finance by incorporating entrepreneurial capacity building and financial literacy programs. Such efforts also contribute to the achievement of the SDGs, particularly SDG 5 (Gender Equality) through increased women's economic participation, SDG 8 (Decent Work and Economic Growth) by encouraging business expansion and job creation, and SDG 9 (Industry, Innovation and Infrastructure) through strengthened entrepreneurial capabilities, financial inclusion, and innovation-driven business development.

7. DECLARATIONS

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7.2. Author Contributions

Conceptualization: ZH and NR; Methodology: NR; Software: ZH and NR; Validation: ZH and NR; Formal Analysis: ZH and NR; Investigation: NR; Resources: ZH; Data Curation: ZH; Writing Original Draft Preparation: ZH and NR; Writing Review and Editing: ZH and NR; Visualization: ZH; All authors, ZH, and NR, have read and agreed to the published version of the manuscript.

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