Achieving Success in the Retail Industry: Key Factors for Female Digital Entrepreneurs

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Abstract: This paper explores into the dynamic scope of female entrepreneurship in the digital retail market, aiming to uncover the key factors that contribute to their success. Through a comprehensive analysis of the Colombian retail market, we challenge conventional notions and shed light on the effective strategies employed by these female entrepreneurs. We identified Key Success Factors (KSFs) for the Digital Retailer Entrepreneurship (DRE) statistics framework of 5 factors and 17 variables related to business Model success to study the interactions between the variables. Contrary to expectations, our research reveals that education, motivation, and market knowledge surpass prior experience in terms of driving their achievements. Moreover, we explore the factors that keep these entrepreneurs competitive, highlighting their skilled utilization of digital tools, ingenious marketing strategies, and the value they place on adaptability and collaboration. By unearthing these hidden triumphs, this study not only provides valuable insights for aspiring female entrepreneurs but also contributes to a deeper understanding of the evolving landscape of digital retail in Colombia. This research opens the door to further exploration of this field, offering opportunities for future research and practical implications in supporting the success of female digital entrepreneurs.

Keywords: Key Success Factors, Female Entrepreneurship, Digital Entrepreneurship, Retailer Industry.

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1. Introduction

The retail industry is undergoing significant transformation due to the advancement of digital technologies. In this era of technological disruption, it is crucial for entrepreneurs, especially female entrepreneurs, to understand the key factors contributing to their success in the digital retail market. Recently, there has been increased focus on studying and supporting Latin American female entrepreneurship to understand their participation in entrepreneurial activities (Cervantes-Guzmán, 2021). However, reliable research is lacking regarding retail and the digital sector (López & Alvarez, 2018). Existing research suggests that factors such as social networks, access to digital platforms, and strategic networking play a significant role in the success of female entrepreneurs in digital retail. (Cullen, 2020; Kogut & Mejri, 2022), the access and adoption of advanced marketing activities (Luceri et al., 2017), digital platforms and marketplaces (Steel, 2021; Ughetto et al., 2020), digital technologies, and strategies for creating competitive advantage (Soluk et al., 2021) and facilitating networking (Kogut & Mejri, 2022; Steel, 2021).

Despite these advancements, there is a limited understanding of the key success factors influencing how female digital retailers implement various components to stay competitive and get successful business models. This research gap becomes especially prominent considering the market conditions these entrepreneurs face. This study addresses this gap by exploring various key success factors (KSFs) behind successful female digital entrepreneurs in the Colombian retail industry. Specifically, addressed the question: How do successful female digital entrepreneurs in the Colombian retail industry employ key success factors (KSFs) and strategies to overcome challenges and achieve competitiveness and success in their businesses? Specifically, we ask the three research questions: (1) what are the strategies and approaches employed by successful female digital entrepreneurs in the Colombian retail industry to overcome the challenges and achieve success? (2) what are the key success factors (KSFs) influencing female digital retailers to stay competitive in the Colombian retail industry? (3) what key success factors (KSFs) do female digital retail entrepreneurs apply to their business models to make them innovative and successful?

To address the research questions, we conducted an exploratory analysis by developing Key Success Factors (KSFs) for the Digital Retailer Entrepreneurship (DRE) statistics framework. It consists of 5 factors and 17 variables related to business model success to identify the factors that contribute to the success of female digital entrepreneurs in the Colombian retail industry. This exploratory analysis is essential as it helps us uncover patterns, relationships, and anomalies among various factors and variables, providing valuable insights and addressing our research questions. We collect data through surveys with successful female digital entrepreneurs.

Our findings indicate that the advancement of digital technologies has significantly transformed business operations, presenting female entrepreneurs with valuable opportunities within the digital retail industry.

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Empowered by education and motivation, women in entrepreneurship possess enhanced abilities to identify market potentials and navigate challenges effectively. By embracing the shift towards digitization, female entrepreneurs can overcome traditional obstacles and establish a formidable foothold in the marketplace. A notable advantage for these women lies in their access to technology and their ability to adapt it seamlessly into their strategies, complemented by robust marketing campaigns. Furthermore, the strategic alignment of technology capabilities with overall business strategy, as well as the strategic management of key performance indicators centered on customer profitability, emerged as impactful drivers of business model success.

2. Literature Review

2.1 Female Entrepreneurship in Latin America

The focus on female entrepreneurship has significantly increased globally in recent years, driven by a recognition of its economic and social impact (Elizundia, 2020; Santos et al., 2019). This global recognition of women's entrepreneurial potential also drives increased attention towards Latin America. The region has witnessed a surge in female-led businesses, where the involvement of women in the economies rose from 35% in 1980 to 53% in 2007, leading to enhanced economic growth, greater financial stability within families, increased purchasing power, and a decrease in poverty across the region (World Economic Forum, 2021).

Meanwhile, female entrepreneurship often faces unique difficulties, including limited access to funding, societal biases, and work-life balance challenges (Farroñán et al., 2023; Mulaudzi & Schachtebeck, 2022). While the challenges faced by female entrepreneurs like these are widespread across the globe, they can be exacerbated by factors such as limited infrastructure and support systems in emerging economies (Mulaudzi & Schachtebeck, 2022). According to the literature, women entrepreneurs in Latin America often encounter numerous challenges that hinder their success(Avolio, 2020; Elizundia, 2020). These challenges include limited experience, a lack of access to education and training, difficulties maintaining work-life balance, and societal expectations regarding gender roles(Alecchi, 2020; Avolio, 2020 observing a shortage of opportunities and incentives for female entrepreneurs. The 2015 Female Entrepreneurship Index conducted by the Global Entrepreneurship and Development Institute (GEDI) reinforces the presence of multiple barriers women entrepreneurs face in Latin America including limited access to financial resources, gender biases, and cultural norms. These challenges significantly impact the awareness, purchase, and use of information and communication technologies by women entrepreneurs in Latin America (Avolio, 2020). Despite possessing the necessary skills and knowledge, these challenges can lead many women to gravitate towards sectors such as retail or small enterprises (Amorós & Stiepović, 2007).

To overcome these hurdles and foster an environment conducive to women's entrepreneurship in Latin America, policy interventions and support systems are crucial (Alecchi et al., 2020; Pauca et al., 2022). These include improving access to funding, creating educational and training programs tailored to women, and addressing social norms and biases that perpetuate gender disparities (Avolio, 2020; Elizundia, 2020). Despite the challenges faced by female entrepreneurs in Latin America, they are driven by various factors that motivate their participation in entrepreneurial activities. One significant motivation for women entrepreneurs is the desire for economic empowerment and financial independence (Nuryanto et al., 2019). Research conducted by Jennings and Brush (2013) supports this notion, revealing that women are highly motivated to engage in entrepreneurship when their needs are encouraged and there is potential for financial success. Additionally, women entrepreneurs find motivation in the opportunity to be their boss and have control over their work (Singh & Belwal, 2008). This drive towards autonomy and independence serves as a common motivator among women entrepreneurs in both developed and developing countries.

Within this dynamic landscape, Colombia has emerged as a notable case, with a burgeoning ecosystem of female-led enterprises contributing significantly to the nation's economic transformation (Ruíz et al., 2022). Recognized as a promising emerging nation by Financial Times Stock Exchange (Alvarez et al., 2021), Colombia stands out for its proactive approach to supporting women entrepreneurs through initiatives like Mujeres Emprendedoras and USAID's Women's Leadership Program (Ellis et al., 2010) which provides mentorship, access to networks, and resources tailored to the unique needs of female entrepreneurs (Ellis et al., 2010; Elizundia, 2020; Kuschel et al., 2017; Sequeira et al., 2016). Beyond government support, Colombia boasts a thriving entrepreneurial ecosystem with incubators, accelerators, and venture capital funds increasingly investing in women-led startups (Ruíz et al., 2022). This ecosystem has been instrumental in providing access to critical resources, mentorship, and funding opportunities for women seeking to launch and scale their businesses (Farroñán et al., 2023; Neumeyer, 2022). Furthermore, while challenges related to gender inequality persist, Colombia is experiencing a cultural shift towards greater acceptance and empowerment of women in business (Petry et al., 2022). This shift is fostering a more conducive environment for female entrepreneurs, who can navigate traditional societal barriers and biases with greater ease. The combination of a robust entrepreneurial infrastructure and a more gender-inclusive business culture makes Colombia a notable case for understanding the factors driving the growth and success of female entrepreneurship in the region (Ruíz et al., 2022).

2.2 Key Success Factors of Female Digital Entrepreneurship.

Businesses owned by women demonstrate remarkable growth, making significant contributions to innovation and resilience in challenging circumstances such as the COVID-19 pandemic and the shifting landscape of business (Mejía-Trejo, 2022). The existing literature presents an extensive body of knowledge on the key determinants of success for female entrepreneurs in the digital realm. Ongoing research continuously explores both external and internal factors that influence women's achievements in digital entrepreneurship (Pauca et al., 2022). At a personal level, aspiring female entrepreneurs are often driven by the c oncept itself, finding motivation and purpose within their entrepreneurial endeavors (Mejía-Trejo, 2022). According to previous research, successful female entrepreneurs demonstrate specific skills and qualities

such as personal achievement, self-challenge, independence, vision, confidence (Abrar ul Haq et al., 2021; Pauca et al., 2022), leadership abilities, and the ability to identify and seize opportunities (Ughetto et al., 2020). Meanwhile, external factors that contribute to the success of women entrepreneurs include economic background within their families and social networks (Cullen, 2020; Kogut & Mejri, 2022), adoption of advanced marketing activities, and access to information communication technology which plays an important role in supporting female entrepreneurs' business models by maintaining cost-effective communication and promotion (Steel, 2021; Ughetto et al., 2020).

According to recent studies, women entrepreneurs face challenges related to skill gaps and limited access to technology infrastructure. However, research suggests that digital platforms and online marketplaces have the potential to empower female entrepreneurs by expanding their reach and enabling business growth (Steel, 2021; Ughetto et al., 2020). By adopting digital technologies and implementing effective strategies, entrepreneurs can enhance firm value and gain a competitive edge in developing countries (Soluk et al., 2021). Many women are now starting businesses simply by utilizing social media and digital devices (Steel, 2021). To ensure the success of female digital entrepreneurs, it is important to provide them with adequate resources, equal opportunities for development, as well as networking support (Steel, 2021; Kogut & Mejri, 2022). Additionally, a deep understanding of the market is essential. While access to technology and digital skills are important, female entrepreneurs who possess strong Market Knowledge can identify niche opportunities, anticipate evolving customer needs, and make informed decisions in a dynamic marketplace(Lambert & Orkaido, 2023). However, this knowledge needs a clear path to translate into tangible results. A well-developed Digital Marketing Plan can bridge this gap, serving as a strategic roadmap for reaching target audiences, building brand awareness, and ultimately driving sales(Fauziah et al., 2022; Olson et al., 2021).

2.3 Key Success Factors of Female Digital Entrepreneurship.

The ability of retailers to innovate their business models is crucial for their success in the competitive entrepreneurial landscape. Retail businesses focus not only on what they offer but also on how they sell (Cervantes & Franco, 2020). Online retailing, in particular, provides numerous advantages. Firstly, it has low entry barriers as digital start-ups do not require expensive equipment or large physical spaces, allowing for flexibility in operations (Long et al., 2022). However, to truly thrive in the market, retailers must continually adapt their business models based on a deep understanding of the market environment and consumer trends (Miller et al., 2020). This enables them to identify new opportunities and tailor their business model accordingly (Shi & Yan, 2017). Additionally, a compelling value proposition is often the driving force behind successful retail digital businesses, influencing customers to choose one retailer over another. Researchers should take into consideration this crucial dimension (Jocevski, 2020). Moreover, the utilization of digital technology plays a significant role in fostering innovation and success in the retail industry (Liu et al., 2023). The adoption of digital tools can enhance consumer shopping experiences and bolster business profitability. In the realm of retail, an influential study by Sorescu et al. (2011), highlights the importance of modifying three key design components within the retail business model: activity arrangement, type of activities undertaken, and level of actor involvement. In addition to these factors, successful collaboration, and partnerships with external stakeholders such as suppliers, manufacturers, and technology providers can significantly enhance the success of business models in retail entrepreneurship (García-González & Ramírez, 2019)

Furthermore, contemporary retailers serve as multifaceted intermediaries, facilitating value creation in the marketplace for their business partners, customers, and themselves. They play an integral role by connecting products with consumers and serving as a vital conduit for information exchange and transactions (Cusumano et al., 2019). To effectively fulfill these responsibilities, retailers must continuously evolve and implement innovative business models. Moreover, the reliance of consumers on technology in their daily lives is increasing. Digital infrastructures and platforms are facilitating new modes of work and business, reshaping industries, and economic landscapes at both local and regional levels. This shift has also led to a faster growth rate for online commerce compared to traditional retail markets (Hokkanen et al., 2020), as consumers now turn to the Internet for research, evaluation, and purchasing decisions. Consequently, many brick-and-mortar retailers have entered the online market by developing web-based stores or mobile apps. They are also expanding their digital customer touchpoints in response to the rising prominence of e-commerce and digital retailers while embracing a more digitized business model (Jocevski, 2020). Finally, the rise in consumer interaction through social media platforms necessitates that retailers adjust to evolving demands and develop novel value propositions by innovating their business models to incorporate emotional and social values while establishing connections with their customers (Hokkanen et al., 2020).

3. Methodology

3.1 Sample and Procedures

The subjects of this study were female entrepreneurs in Colombia. Colombia emerges as an appropriate scenario for studying female digital entrepreneurship due to a unique convergence of factors. The country has experienced a surge in women entering the workforce reaching 54.9% in recent years (Ruíz et al., 2022), accompanied by a growing interest in entrepreneurship as a path to economic empowerment (Naranjo-Valencia et al., 2018, Heriot et al., 2005). This is bolstered by Colombia's commitment to fostering a vibrant entrepreneurial ecosystem through supportive policies and programs (Ruíz et al., 2022), like iNNpulsa Colombia promoted by the Ministry of Trade, Industry, and Tourism of Colombia, or "Ruta del Emprendimiento" program which streamlines the process for entrepreneurs to access government services and resources. These initiatives provide resources, training, and networking opportunities specifically designed to support startups and entrepreneurs, recognizing innovation as a key driver of sustainable economic growth (Aparicio, 2016). Furthermore, while Colombia's technology sector is burgeoning, challenges related to digital

infrastructure and access persist, offering valuable insights into how female entrepreneurs are innovating to overcome these barriers and leverage digital tools for growth. Examining these strategies within the Colombian context can offer valuable lessons for other developing economies navigating similar challenges and opportunities in the digital economy.

This study employed a convenience sampling method within the framework of non-probability sampling techniques. This approach was chosen due to the absence of a public database that would allow for probabilistic techniques to be applied in selecting female entrepreneurs as participants. The sample consisted of 103 female entrepreneurs with small digital retail companies, and data was collected through a questionnaire. Based on previous research in the field, the questionnaire was designed to gather detailed insights into the experiences and strategies of female entrepreneurs in the digital retail sector (see Appendix) administered in two rounds: the first round took place from September to November 2022, while the second round occurred from May to August 2023. Since no available databases were accessible within the country, hashtags on social media platforms were used during the search for potential participants. These hashtags proved effective as virtual markers in identifying and gathering relevant content about our target sample.

3.2 Model and Data Analysis

In this study, we aim to develop an exploratory analysis of the key factors for digital entrepreneurs that lead to business model success. Therefore, we develop Key Success Factors (KSFs) for Digital Retailer Entrepreneurship (DRE) statistics framework used in analyzing female entrepreneurs in Colombia. This exploratory analysis is crucial as it allows us to identify patterns, relationships, and anomalies within the various factors and variables that may provide valuable insights and address our research questions effectively. The KSF-DRE framework is based on a comprehensive literature review of relevant studies on digital and retailer entrepreneurship. It consists of 5 factors and 17 variables related to Business Model Success (BMS), which are presented in the form of a questionnaire (refer to Appendix). This research specifically focuses on digital entrepreneurship within the context of female entrepreneurs. Thus, it sheds light on the characteristics of female entrepreneurs, their market understanding and connectivity, as well as their strategies for business models, key performance indicators, and value propositions for achieving success. A path diagram illustrating our proposed model shows a two-step group analysis with intersections around BMS (see Figure 1).

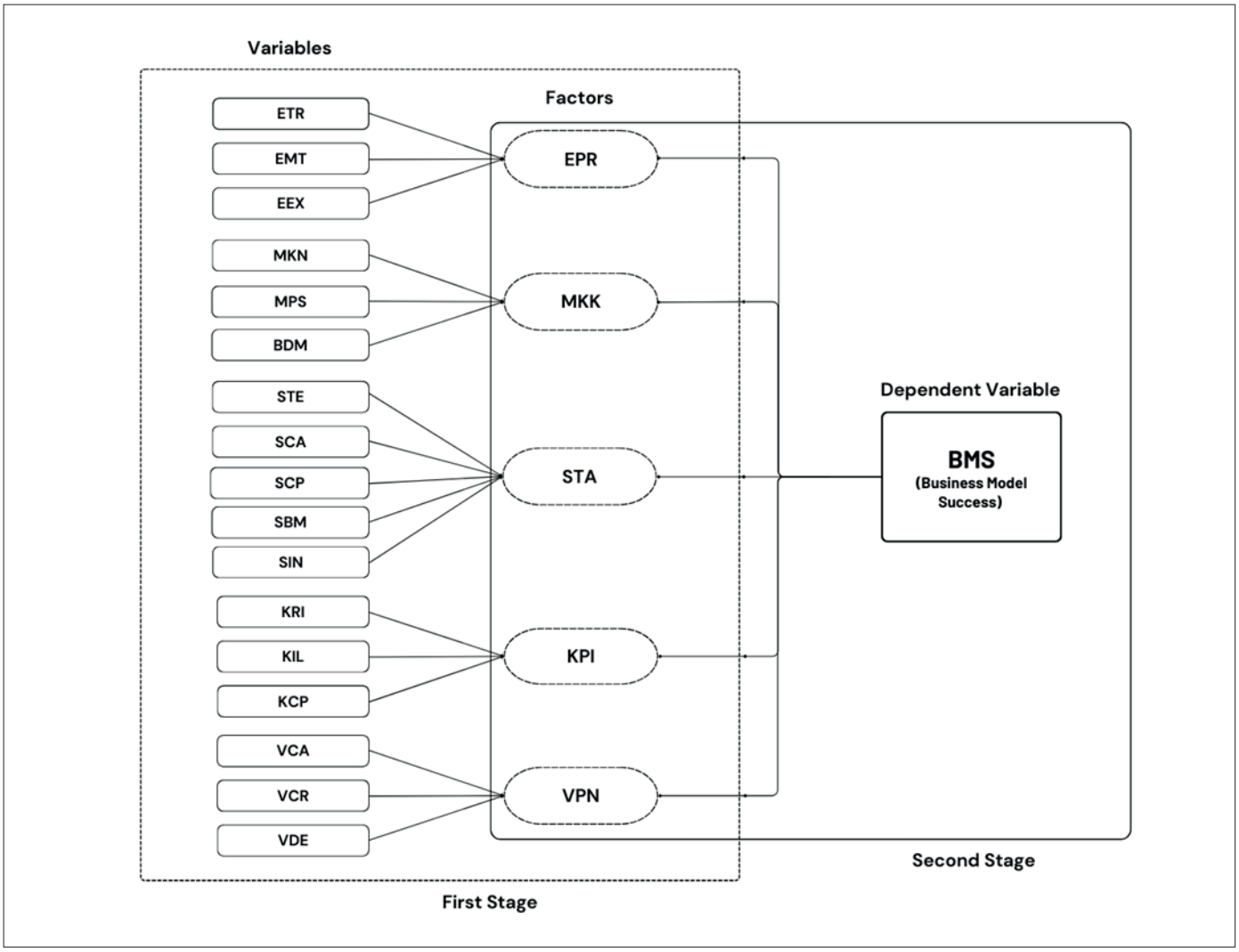
To examine this statistically, a multi-equation model was employed using the logistic (LOGIT) estimation method. This approach involved combining qualitative comparative analysis with econometrics-qualitative models. This study aims to explore the inherent interrelationships between variables in a more robust and population-appropriate manner. Additionally, inferential statistical models were utilized to provide accuracy and assess the individual and collective impacts of each variable on business model success within the analyzed companies. A questionnaire consisting of selection-based questions was used to assess whether or not certain requirements had been met, resulting in estimated variables as binary indicators. When the answers were positive, they took a value of one "1" indicating that the condition was met, otherwise the value assigned was zero "0". This approach measures the presence or absence of specific characteristics or behaviors.

$$X_i = \begin{matrix} 1 = In\ case\ the\ condition\ met \\ 0 = Any\ other\ case \end{matrix}$$

3.3 Business Model Innovation Framework for Female Digital Entrepreneurs

In this study, we employed the Business Model Innovation framework as Figure 1.

Figure 1. BMS Framework for Success Factors of Female Digital Entrepreneurs



Here, the dependent variable is **BMS**: Business Model Success Framework for Female Digital Entrepreneurs, consisting of 5 factors: (1) **EPR**: Entrepreneur Profile, (2) **MKK**: Market Knowledge, (3) **STA**: Strategic Analysis, (4) **KPI**: Key Performance Indicators, and (5) **VPN**: Value Proposition. 17 variables are 1. ETR: Entrepreneur Level of Training, 2. EMT: Entrepreneur Motivation, 3. EEX: Entrepreneur Experience, 4. MKN: Market Needs, 5. MPS: Product/Service Attributes, 6. BDM: Digital Marketing Plan, 7. STE: Technology Strategy, 8. SCA: Competitor Analysis, 9. SCP: Cost/Price, 10. SBM: Business Model, 11. SIN: Innovation Strategy, 12. KIL: Product/Service Innovativeness with Value added Level, 13. KRI: Satisfaction of Product/Service Level, 14. KCP: Customer Profitability, 15. VCA: Value Capture, 16. VCR: Value Creation, 17. VDE: Value Delivery.

By the methodology outlined in Figure 1, a two-stage approach is employed to develop the estimation procedure. The first step involves collecting data from the target population, followed by calculating and analyzing the variables of interest. These variables are then classified based on their respective factors, leading to the formulation of an initial estimation level. The dependent variables in this first analysis include KPI, MKK, EPR, STA, and VPN. In the second stage, a comprehensive model was constructed based on the identified relationships from the first stage. The estimation process was then performed to investigate how these five variables, previously considered as dependent variables, impact management success when treated as independent variables.

This two-step process allowed for a comprehensive analysis and identification of parameters that contribute to solving systems with multiple equations. Additionally, an econometric estimation technique was employed using a simplified form of parameter estimation and maximum likelihood approach to create a statistically consistent model that accurately captures the evolution of estimates. Inferential statistical models were then used to evaluate the individual and collective impacts of each variable, providing precise insights into their effects. The combined use of qualitative comparative analysis and econometrics-qualitative models in this study facilitates a comprehensive and nuanced exploration of the

interactions between the variables. This approach is essential for informing evidence-based decisions and driving further research within the industry, catering to the specific needs of the population under consideration. The intricate combination of qualitative comparative analysis and econometrics-qualitative models yielded compelling results that shed light on the dynamics of business model success for female digital entrepreneurs.

4. Results

This study presents a three-pronged analysis of the key drivers of Business Model Success, partial effect, component effect, and joint coefficient. First, we examine the partial effects of individual variables on their respective latent factors, providing a granular understanding of how specific characteristics influence broader constructs. Next, we investigate the component effects, assessing how these latent factors, in turn, relate to BMS. This second-stage analysis reveals the relative importance of each factor in achieving business model success. Finally, we determine the joint coefficients to capture the overall effect of all variables on BMS directly. This holistic perspective provides a comprehensive picture of BMS's key determinants, integrating individual variable contributions and their combined influence through the latent factor structure. To further assess the robustness of our analysis, we re-estimated the models using both logistic and probit regression techniques. The consistency of the results across these different estimation approaches suggests that our findings are not unduly influenced by the choice of a particular statistical measure.

Table 1. Estimation Results

Factor	Variable	Partial effect	Component effect	Joint coefficient	P value
EPR	ETR	0.30	0.30	0.10	0.002***
	EMT	0.66		0.23	0.001***
	EEX	0.25		0.08	0.082
MKK	MKN	0.62	0.24	0.17	0.001***
	MPS	0.08		0.02	0.559
	BDM	0.28		0.08	0.035**
STA	STE	0.41	0.35	0.17	0.001***
	SCA	0.53		0.22	0.001***
	SCP	0.24		0.10	0.010**
	SBM	0.47		0.20	0.001***
	SIN	-0.17		-0.07	0.128
KPI	KRI	-0.01	0.45	-0.00	0.829
	KIL	0.05		0.03	0.093
	KCP	0.88		0.50	0.001***
VPN	VCA	0.19	0.04	0.01	0.317
	VCR	0.60		0.34	0.290
	VDE	0.49		0.28	0.183

Note: The coefficients of the category and time variables are not reported for brevity. * p<.05, ** p<.01, *** p<.001

The descriptive statistics at the first stage (see Partial Effect in Table 1) indicated that, for the factor EPR(Entrepreneur Profile) on average, variables ETR(Entrepreneur level of Training) and EMT(Entrepreneur Motivation) are statistically significant while EEX(Entrepreneur Experience) is not. That is, in emerging markets like Colombia, formal education and strong intrinsic motivation, rather than prior entrepreneurial experience, are the most significant factors for the success of female digital entrepreneurs. Next for the MKK(Market Knowledge) factor, MKN(Market Needs) and BDM(Digital Marketing Plan) variables are the ones that have significance while MPS(Product/Service Attributes) does not cause any statistical significance. That is, female entrepreneurs don't just possess keen market knowledge; they actively leverage it to drive product features and boost consumer engagement and satisfaction. A well-structured digital marketing plan emerges as a crucial bridge, translating their market knowledge into tangible results. For the STA(Strategic Analysis) factor, the variables STE(Technology Strategy), SCP(Cost/Price), SCA(Competitor Analysis), and SBM(Business Model) are relevant, while SIN(Innovation Strategy) does not constitute any relevance. That is, effective technology strategy empowers these entrepreneurs to leverage digital tools and platforms to stay informed, identify opportunities, and adapt business models. However, achieving success requires a more comprehensive strategic analysis, beyond just technology strategy. Competitor analysis is also crucial for understanding market dynamics. Meanwhile, KPI(Key Performance Indicators) has two factors KRI(Satisfaction of Product/Service Level) and KIL(Product/Service Innovativeness with Value-added

Level) without statistical significance, and KCP(Customer Profitability) is the only factor that shows relevance in this component. This suggests that rather than solely focusing on product innovation or customer satisfaction, a keen eye on managing customer profitability is a key driver of business model success in this context. Lastly, the VPN(Value Proposition) factor has no variables with significance. However, this does not necessarily imply that the VPN factor is irrelevant for the success of female digital entrepreneurs. It may simply indicate that the specific variables measured within the VPN factor did not adequately capture its importance in this particular context.

As for the estimation in the second stage (see Component Effect in Table 1), it was found that every component except VPN(Value Proposition) had a statistically significant impact on the likelihood of success for digital entrepreneurs. Among them, KPI(Key Performance Indicators) and STA(Strategic Analysis) management had the greatest relevance. Proper KPI(Key Performance Indicators) management resulted in a 56.8% increase (e^0.45) in the chances of success, while effective STA(Strategic Analysis) management increased success probability by 41.9%. The strategic alignment of performance measurement with customer-centric goals, coupled with the strategic adoption and deployment of technology, emerged as the two most critical drivers of business model success for the female digital entrepreneurs in this study. This underscores the importance of data-driven decision-making and the strategic use of technology as essential competencies for thriving in the digital retail landscape.

On the last stage of analysis (see Joint coefficient in Table 1), the joint coefficient indicates that on the overall effect for BMS(Business Model Success), the chances of having successful ventures increase by 50% and 34% with the factors KCP(Customer Profitability) and VCR(Value creation) respectively, these are the two key factors with the highest statistical significance for the success on the business model, also important are EMT(Entrepreneur Motivation), SCA(Competitor Analysis), and VDE(Value Delivery) all of which have a probability of increasing venture success by more than 20%. This holistic perspective underscores the multifaceted nature of driving business model success for female digital entrepreneurs in the Colombian retail industry. While customer profitability and value capture/retention emerge as the most critical determinants, fostering entrepreneurial motivation, strategic capabilities, and effective value delivery also play vital roles in enabling these entrepreneurs to thrive in the competitive digital landscape.

This study's findings are similar to the research by Mejía-Trejo (2022), which focuses on the Mexican context for female social impact startups. Both studies highlight the significance of factors EPR, MKK, STA, and KPI as Key success factors significant for Business Model Success. However, there are some differences. The factor VPN shows significance in female social startups (Mejía-Trejo, 2022) but not in our context of female digital retailers. The alignment between this study and Mejía-Trejo's work suggests that these factors may have broader relevance and applicability beyond the specific contexts examined, potentially offering insights that can inform and guide female entrepreneurship research and practice more broadly. Furthermore, the significance of ETR underscores the findings of Avolio (2020) and Alecchi (2020) about the crucial role of accessible education and training opportunities in empowering digital entrepreneurs. As digital entrepreneurs the variable BDM significance supports the statements of Mulaudzi & Schachtebeck (2022) and Steel (2021) on the need for efficient marketing strategies focused on digital realm. The variable STE was identified as powerful tool for women entrepreneurs to expand their reach and foster business growth(Mahesh et al., 2020). In addition, regarding Van Tonder et al's (2020) assertion that the synergy between STE and SBM is pivotal for success in the digital landscape, our findings demonstrate that it's not just the presence of STE, but its strategic alignment with the overall SBM that proves critical.

5. Discussion and Implications

This study evaluated the key factors (KSFs) that drive business model success for female digital entrepreneurs in the Colombian retail industry. The findings highlight the importance of entrepreneur profile (EPR), market knowledge (MKK), strategic analysis (STA), and business key performance indicators (KPI) as factors that significantly contribute to their success. Specifically, the study found that educated and motivated female entrepreneurs demonstrate enhanced capabilities in identifying market opportunities and navigating challenges effectively. Female entrepreneurs who embrace digital transformation can overcome historical barriers and gain a strong presence in the market. A key advantage for these women is their access to technology and their capacity to integrate it seamlessly into their strategies, further supported by comprehensive marketing efforts. Furthermore, proper KPI management, which aligns performance measurement with customer-focused goals, and the strategic deployment of technology, can increase the likelihood of success. This underscores the significance of the use of digital tools and platforms as essential competencies for thriving in the evolving retail landscape in developing markets like Colombia.

The first question in this study aimed to determine the strategies and approaches employed by successful female digital entrepreneurs in the Colombian retail industry. Here the factor of entrepreneur profile (EPR), and the entrepreneur level of training (ETR) played a significant role in their success. These findings emphasize the importance the access to education and training for female entrepreneurs to thrive in digital retail (Avolio, 2020; Alecchi et al., 2020; Pauca et al., 2022). Contrary to Alecchi's findings, the female entrepreneurs in our study exhibited strong academic profiles with substantial formal education. This higher education level, combined with a drive for continuous learning (as evidenced by the significant role of ETR), equips them with the knowledge and skills to navigate the complexities of the digital marketplace, adapt to technological advancements, and make informed business decisions. Meanwhile, this study reveals that Entrepreneurial motivation is also a catalyst to overcome barriers and achieve success. The group of educated female entrepreneurs in our study are primarily motivated by opportunities in the markets and the self-confidence to overcome the fear of failure. They exhibit a strong capacity for autonomy and control, emphasizing the desire for independence and decision-making power as key motivators for female entrepreneurs (Singh & Belwal, 2008; Mejía-Trejo, 2022). This good combination of education, training, and

a proactive, opportunity-driven mindset empowers these women to identify and leverage market gaps, anticipate challenges, and persevere through obstacles on their path to success.

The second research question explored the key success factors influencing how female digital retailers stay competitive in the Colombian retail industry. These entrepreneurs must have market knowledge by understanding market needs. However, it is not enough for these entrepreneurs to simply possess keen market knowledge; they must actively leverage it to drive business decisions to keep competitive. This is evident in the significant influence of understanding Market Needs (MKN) and implementing a robust Digital Marketing Plan(BDM). By aligning their digital marketing efforts with a sophisticated understanding of their market, these female entrepreneurs can effectively reach and engage their customers, ultimately driving them to a sustainable competitive advantage in the digital retail landscape. Interestingly, Product/Service Attributes alone did not show statistical significance. This suggests that while quality offerings are essential, female digital retailers in Colombia are achieving success and competitiveness by prioritizing a deep understanding of their target market and then translating those insights into targeted digital marketing strategies. This aligns with earlier observations (Kogut & Mejri,2022; Steel, 2021; Ughetto et al., 2020) which highlight the empowering of technology and the importance of integrating digital channels to create engaging experiences that deliver value to their business for stay competitive in the digital era.

The third research question aimed to assess the key factors contributing to the success of female entrepreneurs' business models in the digital retail industry. Here, Strategic Analysis (STA) and key performance indicators (KPI) emerged as crucial factors. Our findings show that on Strategic Analysis (STA) factor, the variables technology strategy (STE), cost/pricing (SCP), competitor analysis (SCA), and the overall business model (SBM) were all relevant to success, while innovation strategy, surprisingly, was not a statistically significant factor. This suggests that while innovation can be beneficial, these entrepreneurs prioritize a strong understanding of their cost structure, competitive landscape, and a sound business model as the cornerstones of their technology strategy. Furthermore, the results highlight the critical role of Key Performance Indicators, specifically customer profitability, as a significant predictor of success. This underscores that for these female entrepreneurs, it's not just about attracting customers; it's about attracting the right customers and managing their profitability to ensure a sustainable and thriving business. Further, as Cervantes and Franco (2020) emphasize, a successful retail business focuses not only on what they offer but also on how they sell, highlighting the importance of a well-defined business model (SBM). Digital retailers continually adapt their business models based on a deep understanding of the market environment and evolving consumer trends (Miller et al., 2020; Shi & Yan, 2017). By adopting digital technologies and implementing effective business strategies, entrepreneurs enhance firm value and gain a competitive edge.

Lastly, an unexpected finding was that female entrepreneurs in the digital retail industry tend to deprioritize certain key performance indicators. Specifically, they are less inclined to prioritize product or service innovation with an added value level and customer satisfaction metrics. This may be attributed to a lack of expertise among female entrepreneurs in measuring these performance indicators related to product/service innovations and customer satisfaction (Koller et al., 2021). To address this limitation and ensure the sustainability and growth of female-led digital retail businesses, organizations can provide training and resources to help these entrepreneurs develop their skills in measuring and evaluating key performance indicators. By enhancing their understanding of these metrics and their relevance to business success, female entrepreneurs can make more informed decisions and effectively assess the impact of their products and services on customer satisfaction and market demand.

5.1 Implications and Future Recommendations

This study reviewed the KSFs for digital retailers' entrepreneurs to construct a framework indicating how female entrepreneurs can achieve success in their business models. This study has the potential to impact future research in the field of female, digital, and retailer entrepreneurship, as well as business success. By identifying commonalities among these concepts, key success factors can be integrated into the process of achieving business success. The findings can be used as action-based recommendations to businesses and practitioners operating in an environment of digital entrepreneurship. The findings will assist businesses in evaluating their business model, with the conceptual framework acting as a point of reference for female entrepreneurs in the digital retail industry. These findings hold particular relevance for Colombia, where female entrepreneurship is rising but faces persistent challenges. To empower these women in the digital retail sector, Colombian policymakers should prioritize initiatives that bridge the digital divide and foster a more supportive ecosystem. This includes investing in digital literacy programs tailored to women's needs, facilitating access to affordable technology and reliable internet infrastructure, and expanding financing opportunities through micro-loans and targeted venture capital funds(Quigley-Jones, 2012). Additionally, fostering networking opportunities and mentorship programs can provide invaluable support and guidance for women navigating the digital marketplace. By enacting policies that address these key areas, Colombia can unlock the significant economic potential of female entrepreneurs in the digital age.

The study is limited to the digital retail industry in Colombia. While the findings provide valuable insights, further research is needed to understand the experiences and strategies of female entrepreneurs in other sectors or geographic regions. Expanding the scope of the study could yield additional insights and inform more comprehensive policy recommendations to support women's entrepreneurship across diverse industries and contexts.

Future research should consider exploring how organizations can innovate their business models, exploring more value capture and value creation strategies, to not only to become successful but also to differentiate themselves in the market. Also, the external financial support can be further explored, either by organizations focused on women entre-

preneurs or private financial entities, since this situation was identified as a problem the lack of financial support in the literature but was not explored in our statistical framework, due to our vision was focus mainly on to the enterprises not on external actors. The evolution of business model could also be investigated in how female entrepreneurs modify their business activities to be more efficient and improve the response to partners and collaborators. Further, Exploring the role of mentorship to investigate the impact of mentorship programs and networks on the success of female entrepreneurs in the digital retail industry. Analyze how mentorship can provide guidance, support, and opportunities for growth, ultimately shaping their entrepreneurial journeys. Lastly, our developed framework is not static and additional business model elements can be added by future researchers.

6. Conclusion

Digital technologies have revolutionized how businesses operate, and female entrepreneurs have the opportunity to capitalize on these advancements in the digital retail industry. Educated and motivated female entrepreneurs are more capable of identifying business opportunities and overcoming market challenges. By embracing digital transformation, they can overcome traditional challenges and establish a strong presence in the market. A key advantage for female entrepreneurs in the digital retail industry is the access and adaptation of technology combined with the use of strong marketing campaigns, female entrepreneurs in the digital retail industry recognize the value of collaboration, engagement, and building strong value propositions. By leveraging external partnerships and optimizing their value chain configuration, to position themselves for success in an increasingly competitive market.

This study contributes to understanding how female entrepreneurs in the digital retail industry leverage technology and strategic factors to achieve success. It provides insights into the key drivers and challenges faced by these women-led businesses, underscoring the importance of a comprehensive strategic approach beyond just digital technology. The findings emphasize the role of competitor analysis, sustainable practices, and well-defined business models in enabling female entrepreneurs to thrive in the competitive digital retail landscape.

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APPENDIX 1. Questionnaire

BMI framework as for Female Digital Entrepreneurs success factors				
Factor	**Variables**	**Item**	**Indicators. [Respond according to applied (1), not applied (0)**	**Authors**
1. Entrepreneur Profile (EPR)	1. Entrepreneur level of Training **(ETR)**	1	Entrepreneurs have been able to have access to : •Formal Training/Education • Availability of professional advice	Sarker, S., & Palit, M. (2014).
	2. Entrepreneur motivation **(EMT)**	2	Entrepreneur motivation is more willingness to: • Opportunity (achievement sentiment) • Necessity (survival sentiment) • The results are more important than processes • Self-confidence to overcome the fear of failure	Aldás-Manzano (2012); Olugbola (2017); Fernández Guerrero, (et al., 2018)
	3.Entrepreneur experience **(EEX)**	3	It is essential: • The previous experience to start any entrepreneurship faster than others • The innovative behavior • Increasing the size of the startup along the lifetime	Fernández Guerrero, (et al., 2018)
2.Market knowledge (MKK)	4.Market needs **(MKN)**	4	Entrepreneur permanently surveillance the market needs where we are serving through the identification of: • Mass market • Segmented market • Diversified market • multi-sided markets	Balanko-Dickson, (2007); Osterwalder & Pigneur (2010); Ibarra et al. (2020)
	5.Product/Service attributes (**MPS)**	5	We permanently surveillance of the correct attributes where we are serving through to incorporate, into the product/service to satisfy consumers' needs exceeding their expectations, earing the "voice of the customer": • Right attributes • We systematically observe and evaluate the needs of our customers. • We analyze the actual use of our products/services	Mejía-Trejo (2017a; 2017b); Piñeiro-Otero & Marínez-Roldán (2017)
	6. Digital marketing plan **(BDM)**	6	For us, a digital marketing plan is essential to design a web campaign, driving product features and service mix, boosting for: • Awareness • Desire • Experience • Engagement • Loyalty • Satisfaction • Effectiveness on call to action For us, a digital marketing plan is essential to design a network to: • Increase relationships for the entrepreneurship • Conducting market research and performing better in strategic planning, leading change	Balanko-Dickson (2007); Mocker (et al., 2015); Parmenter (2010)

	7.Technology strategy **(STE)**	7	We: • Keep up to date with promising new products/services and technologies. • Use different sources of information to identify opportunities related to new products/services and technologies. • Follow which technologies our competitors use.	Ibarra et al (2020)
	8. Competitors analysis **(SCA)**	8	We permanently analyze the competitors through the development of : • Abilities to determine our market positioning faster than the competitors • Abilities to identify faster the customer needs • Abilities to innovate faster new products/services • Attract better employees than the competition • Abilities to identify faster the SWOT of competitors products/services • Abilities to observe and evaluate the needs of our customers	Balanko-Dickson, (2007); Mejía Trejo (2019a); Ibarra et al. (2020)
3.	9. Cost/Price **(SCP)**	9	We care about customer perceived value as a relationship of costs/prices of our products/services supported by other value-added as the result of: • Studies to fix prices for: -Survival -Maximum current profit -Maximum market share -Maximum market skimming -Product-quality leadership • Studies to determine costs computing total: -Customer cost/benefit -Product-Monetary cost/benefit -Service-Time cost/benefit -Personnel-Energy cost/benefit -Image-Psychological cost/benefit -Customer retention rate -Cost of operation -Cost of branding -Variable & Fixed costs in design, engineering, manufacturing, sales, delivery, etc. • A permanent analysis of competitors' costs/prices to keep them balanced and competitive • A permanent review to keep enough earnings by incomes	Kotler& Armstrong (2017)
	10. Business model **(SBM)**	10	We believe that the main proposal of the business model is aimed to make more and better products and services based on: • More incomes and earnings to the stakeholders • Produce more benefits increasing the live quality to the individuals and the society based on sustainable tenets. • Development of the team-works around the empowerment, achievement and perseverance of the personnel • Ideas and concepts into detailed products, services, value propositions or business models • The combination of technology, market and business model knowledge in the idea generation and/or experimentation processes	Balanko-Dickson, (2007); Osterwalder & Pigneur (2010); Ibarra et al. (2020)
	11. Innovation strategy **(SIN)**	11	We promote: • Creativity and innovation • People`s knowledge and initiatives • Open communication and interdepartmental exchange of information. • New concepts to test through prototypes and pilot tests before their final development • New ways of both creating value for our customers and capturing value from our innovations. • The involvement of customers in the innovation processes • The involvement of external partners • The collaboration with external partners	Ibarra et al. (2020)

4. Business key performance indicators (KPI)	12. Product/Service innovativeness with value added level **(KIL)**	12	We design, implement, and frequently measure as key performance indicator the relationship of our products/services innovativeness with value-added level.	Balanko-Dickson (2007); Mocker (et al., 2015); Parmenter (2010)
	13. Satisfaction of product/service level **(KRI)**	13	We design, implement, and frequently measure as key performance indicator the customer's satisfaction of our products and services according to our business plan	
	14. Customer profitability **(KCP)**	14	We design, implement, and frequently measure as key performance indicator : • Customers live-cycle value • Customer retention • Customer profitability	
5. Value proposition (VPN)	15. Value capture **(VCA)**	15	In the last 2 years in our company, we have introduced new: • Ways to reduce costs. • Pricing mechanisms. • Ways to be profitable. • Revenue streams.	Ibarra et al. (2020)
	16. Value delivery **(VDE)**	16	In the last 2 years in our company, we have: • Met new customer needs previously unmet by the market • Solved customer problems not solved by our competitors • Introduced new forms of value for customers • Introduced new forms of value for other partners (suppliers or distributors) • Diversified into new markets, targeting completely new customer types or new geographical environments • Expanded our activity to new customer segments	
	17. Value creation **(VCR)**	17	In the last 2 years in our company we have: • Significantly modified the set of key activities of our business through the acquisition or elimination of certain activities or their internal and/or external reorganization, allowing us to be more efficient and improve our response • Established new collaborations with third parties that have allowed us to optimize and improve our value proposition and/or business model • Integrated clients, suppliers, distributors and other agents in innovative ways in relation to the delivery of products and services • Re-configured our value chain, allowing us to be more efficient and to respond better to all interested parties	