

THE RELATIONSHIP BETWEEN ENTREPRENEURIAL ORIENTATION AND BUSINESS PERFORMANCE: THE MEDIATING ROLE OF DIGITAL BRAND EQUITY AND THE MODERATING EFFECT OF INDUSTRY CONTEXT

A RELAÇÃO ENTRE ORIENTAÇÃO EMPREENDEDORA E DESEMPENHO EMPRESARIAL: O PAPEL MEDIADOR DO EQUILÍBRIO DA MARCA DIGITAL E O EFEITO MODERADOR DO CONTEXTO DA INDÚSTRIA

Article received on: 6/13/2025

Article accepted on: 8/21/2025

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The authors declare that there is no conflict of interest

Abstract

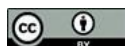
This study explores how entrepreneurial orientation (EO) translates into business performance (BP) within an emerging digital economy, investigating the mediating role of digital brand equity (DBE) and the moderating effect of industry context. Using a moderated mediation model on survey data from 485 Vietnamese business leaders, the study finds that DBE fully mediates the relationship between EO and BP. The direct impact of EO becomes insignificant once DBE is accounted for. Furthermore, this indirect relationship is significantly stronger in the retail/commerce sector. The findings suggest that converting entrepreneurial energy into tangible performance hinges on building a strong digital brand, which is a crucial strategy for firms navigating competitive digital markets. This research contributes by testing foundational theories in an emerging market, identifying DBE as a critical mechanism explaining how EO influences performance, and highlighting industry context as a key boundary condition.

Keywords: Entrepreneurial Orientation. Digital Brand Equity. Business Performance. E-commerce.

Resumo

Este estudo explora como a orientação empreendedora (OE) se traduz em desempenho empresarial (BP) em uma economia digital emergente, investigando o papel mediador do valor da marca digital (CDB) e o efeito moderador do contexto setorial. Utilizando um modelo de mediação moderado com base em dados de pesquisa com 485 líderes empresariais vietnamitas, o estudo conclui que o CDB media totalmente a relação entre OE e BP. O impacto direto da OE torna-se insignificante quando o CDB é contabilizado. Além disso, essa relação indireta é significativamente mais forte no setor de varejo/comércio. Os resultados sugerem que a conversão da energia empreendedora em desempenho tangível depende da construção de uma marca digital forte, uma estratégia crucial para empresas que navegam em mercados digitais competitivos. Esta pesquisa contribui ao testar teorias fundamentais em um mercado emergente, identificando o CDB como um mecanismo crítico que explica como a OE influencia o desempenho e destacando o contexto setorial como uma condição de contorno fundamental.

Palavras-chave: Orientação Empreendedora. Valor da Marca Digital. Desempenho Empresarial. E-commerce.



1 INTRODUCTION

1.1 Research background

The explosive growth of the global digital economy, propelled by the Fourth Industrial Revolution, has caused fundamental shifts in the structure and dynamics of the contemporary business environment (Plekhanov *et al.*, 2023; Rizana *et al.*, 2025). The concepts of the "digital economy" and "digital transformation" have moved from future projections to present realities, comprehensively restructuring economic activities from production and distribution to consumption (Bulto *et al.*, 2025; Alexandro, 2025; Willie, 2025). Authoritative research and reports from institutions such as the World Bank (2022) and McKinsey (2021) have underscored that nations and enterprises that adeptly embrace digital transformation will possess a sustainable competitive advantage in the coming decade (Rizana *et al.*, 2025; Bulto *et al.*, 2025; Alexandro, 2025; Willie, 2025). This reinforces the imperative of adaptation and innovation as a survival strategy in the context of global competition.

One of the most salient manifestations of this digital transformation is the rise of e-commerce. According to the Vietnam E-commerce Index Report (VECOM, 2024), the domestic retail e-commerce market is experiencing robust growth, with a rate exceeding 25% and an estimated scale of \$25 billion. The report also highlights prominent trends such as the rapid development of social commerce and livestream selling. This landscape demands that businesses continuously innovate their customer engagement methods, opening up immense growth opportunities alongside significant challenges. In this hyper-competitive environment, entrepreneurial orientation (EO)—encompassing dimensions such as innovativeness, risk-taking, and proactiveness—is widely recognized as a critical driver of business success (Covin & Slevin, 1989; Rauch *et al.*, 2009). However, the precise mechanisms through which EO translates into business performance (BP) in the context of digitalization warrant deeper exploration, with numerous calls for research into the role of digital capabilities and assets (Sungthong *et al.*, 2023; Wang & Zhang, 2024).

The explosive pace of Vietnam's digital economy development makes it a particularly compelling and relevant research context. According to the latest e-Conomy SEA 2024 report (Google, Temasek, & Bain & Company, 2024), Vietnam's digital economy continues to be a bright spot in the region, with its Gross Merchandise Value

(GMV) projected to reach \$32 billion in 2024 and potentially hitting \$82 billion by 2030, driven by strong growth in e-commerce and online travel. Within this context, e-commerce has become a fierce battleground where firms, especially small and medium-sized enterprises (SMEs) that constitute approximately 98% of all businesses in the country (GSO, 2024), must constantly innovate to survive and thrive. They compete not only on price or product but also on their ability to build a presence and brand reputation in the digital space. This positioning makes Vietnam a compelling "natural laboratory" for testing established Western theories. These theories, often developed in mature and stable economies, face a critical test of their external validity and boundary conditions when applied to a market characterized by high growth, institutional voids, and technological leapfrogging. Therefore, understanding how an entrepreneurial mindset (EO) can be effectively converted into digital brand assets to enhance business performance has become a pressing question for both researchers and practitioners.

Practice shows that not all firms participating in e-commerce achieve their expected success. Previous research has largely focused on affirming the positive relationship between e-commerce adoption and firm performance (Al-Adwan & Yaseen, 2023; Hendricks & Mwapwele, 2024). While valuable, this approach has yet to fully explain the precise mechanism through which digitalization efforts translate into business performance. Scholars have called for further research to clarify the role of mediating and moderating factors, such as digital capabilities and assets, within this relationship (Sungthong *et al.*, 2023; Wang & Zhang, 2024). This research gap is evident in the absence of integrated theoretical models capable of thoroughly explaining "how" and "when" various factors influence business performance. In this context, the need for a research direction that is both theoretically generalizable and practically meaningful becomes imperative, aiming to provide a basis for managers to optimize returns on their e-commerce investments.

This study was conceived to address that critical question. Moreover, the impact of EO may not be uniform across different industries. The industry context, with its unique characteristics regarding competition levels, the pace of technological change, and customer behavior, can either amplify or attenuate the relationships between EO, DBE, and BP. However, this moderating role of industry has not yet been systematically examined within mediation models. To address these gaps, this study proposes and tests a moderated mediation model, aiming to answer the following questions:

- **RQ1:** *Does digital brand equity (DBE) mediate the relationship between entrepreneurial orientation (EO) and business performance (BP)?*
- **RQ2:** *Does the industry context moderate the indirect relationship between EO and BP through DBE?*

1.2 Novelty and academic contributions

The novelty and academic contributions of this research are articulated through three main arguments, which affirm its value within the existing body of knowledge. First, the study serves as a crucial boundary condition test for foundational theories. Classic theories such as the Resource-Based View (RBV), Brand Equity Theory, and Entrepreneurial Orientation (EO) Theory were largely developed and tested in the context of Western economies characterized by stability and maturity. When applied to a high-growth emerging market like Vietnam—where institutional voids and technological leapfrogging exist—the applicability of their theoretical assumptions must be verified. Second, a standout contribution lies in the proposed theoretical model, which deciphers the causal pathway between entrepreneurial orientation and business performance. While individual links (e.g., EO to BP, or Brand Equity to BP) have been extensively studied, this work is among the first to formally model and test the mediating role of Digital Brand Equity (DBE). Positioning DBE as an essential mediating mechanism elucidates how the strategic mindset of EO is converted into tangible business performance. Consequently, the research shifts the discourse from "what factors yield performance" to "how this process unfolds," thereby addressing a critical gap and offering a clearer strategic roadmap. Third, the study incorporates industry context as a moderating factor, adding a sophisticated layer of analysis. The proposed model posits that the value of digital assets is not universal but is contingent upon the competitive characteristics of each industry.

2 LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

2.1 Literature review

2.1.1 *The Resource-Based View (RBV)*

The Resource-Based View (RBV), first articulated by Barney (1991), posits that a firm's sustainable competitive advantage stems not primarily from external market factors but from the possession and effective exploitation of its unique internal resources and capabilities. According to RBV, not all resources confer a competitive advantage; a resource is only strategically valuable when it meets the four criteria of the VRIO framework: it must be Valuable, Rare, Inimitable, and the firm must be Organized to capture its value (Barney, 1991). In the digital economy, digital resources and capabilities have emerged as pivotal elements for creating and sustaining a competitive advantage (Rizana *et al.*, 2025; Alexandro, 2025; Willie, 2025). These capabilities include the ability to leverage data strategically, develop and operate digital platforms, enhance technological capacity, manage digital human resources, and maintain organizational agility (Alexandro, 2025; Willie, 2025). Analyzing digital capabilities through the RBV reveals that they are not mere operational tools but are strategic "dynamic capabilities" that meet the VRIO criteria and can generate sustainable competitive advantage. This implies that while possessing digital technology is necessary, it is insufficient for success. The true advantage lies in a firm's unique ability to integrate, operate, and continuously develop its digital activities while harmoniously combining human and organizational elements to create a difficult-to-replicate differentiation. Thus, digital capability becomes a direct bridge between a firm's operational activities and its ability to achieve sustainable business performance.

2.1.2 *Brand equity theory*

Digital Brand Equity (DBE) is the set of added values that a brand brings to a product in the online environment. Inherited from the classic models of Aaker (1991) and Keller (1993), DBE comprises core components: Brand Awareness, Brand Association, Perceived Quality, and Brand Loyalty (Shobhit, 2020; Blaer *et al.*, 2020; Rojas-Lamorena

et al., 2022). In the digital era, these components are translated into the online environment. For example, digital brand awareness is a user seeing a logo on their social media feed; digital loyalty is demonstrated by a customer following a brand's page and making repeat purchases. Specifically, digital brand awareness is manifested through users frequently encountering a brand's logo or name on social media platforms and online interfaces. Digital brand associations are formed through posts, videos, and especially user-generated reviews. Perceived quality in the digital context is reinforced by the online shopping experience, the speed and convenience of the platform, and the professionalism of online customer service. Digital loyalty, another critical component, is reflected in customer behavior such as following a firm's official channels and frequently returning to make purchases (Shobhit, 2020; Blaer *et al.*, 2020; Rojas-Lamorenna *et al.*, 2022). Brand management, therefore, must be dynamic, continuous, and tightly integrated with online interactions and user-generated content. This implies that in the e-commerce environment, brand building is no longer a separate activity but a continuous process integrated throughout the entire customer journey across all digital touchpoints.

2.1.3 Entrepreneurial Orientation (EO) theory

Entrepreneurial Orientation (EO), as conceptualized by Lumpkin and Dess (1996), reflects the policies and practices that enable a firm to proactively discover and exploit new opportunities (Munir *et al.*, 2025; Martins & Perez, 2025; Adeniyi *et al.*, 2024). EO is not merely an individual-level trait but is considered a strategic mindset integrated into the organizational structure, encouraging the firm to actively engage with market opportunities and challenge the status quo (Lumpkin & Dess, 1996; Bulto *et al.*, 2025). In terms of measurement, EO is typically operationalized through three core dimensions: innovativeness, proactiveness, and risk-taking (Lumpkin & Dess, 1996; Bulto *et al.*, 2025; Ali *et al.*, 2020). Some later studies expanded this framework by adding two more components: competitive aggressiveness and autonomy, thereby providing a more multidimensional approach to EO (Lumpkin & Dess, 1996; Bulto *et al.*, 2025). EO is widely acknowledged as a key driver of firm performance across financial, non-financial, and sustainable development metrics (Pathinettampadiyan & Thavaraj, 2025; Martins & Perez, 2025; Adeniyi *et al.*, 2024). Firms with a high level of EO tend to exhibit

greater adaptability to rapid environmental changes and are better able to capitalize on new opportunities. Particularly in the digital era, where market dynamics are fast-paced and unpredictable, EO is no longer just a competitive advantage but has become a prerequisite for a firm's survival and growth.

2.1.4 Theoretical framework

The integration of Digital Brand Equity (DBE) with the Resource-Based View (RBV) and Entrepreneurial Orientation (EO) forms a comprehensive theoretical framework for explaining business performance in the digital age. This synthesis reveals a powerful causal narrative. The process begins with the firm's strategic posture. EO Theory provides the strategic impetus—the firm's willingness to innovate, act proactively, and take calculated risks in the digital space. However, this impetus requires a target; it must be channeled into building a specific, valuable asset. This is where Brand Equity Theory becomes critical, defining this asset as Digital Brand Equity (DBE)—the accumulation of awareness, positive associations, perceived quality, and loyalty in the minds of online consumers. Finally, the Resource-Based View (RBV) explains why this particular asset creates a sustainable competitive advantage. A strong DBE is a strategic digital capability that meets the VRIO criteria: it is Valuable (it drives sales and loyalty), Rare (a top-tier brand reputation is not common), Inimitable (it is built over time through consistent, creative efforts and cannot be easily copied), and requires the firm to be Organized to exploit it effectively. This creates a complete causal chain: a firm's Strategic Posture (EO) drives the creation of a VRIO Resource (DBE), which in turn leads to Sustainable Competitive Advantage (BP). This integrated framework allows for a more complete explanation of "how" and "when" EO translates into business performance in the e-commerce context

2.2 Hypothesis development

2.2.1 Entrepreneurial orientation and digital brand equity

Firms with a high degree of Entrepreneurial Orientation (EO), particularly in the dimensions of innovativeness, proactiveness, and risk-taking, are better positioned to

creatively leverage digital capabilities to build Digital Brand Equity (DBE). EO encourages firms to experiment with new content formats, rapidly adopt emerging digital platforms, and deploy bold marketing campaigns to increase brand awareness, create positive associations, enhance perceived quality, and fortify brand loyalty in the digital space (Munir *et al.*, 2025; Pathinettampadiyan & Thavaraj, 2025; Martins & Perez, 2025; Adeniyi *et al.*, 2024). Specifically, innovative firms do not just produce digital content; they create unique and novel forms of content that capture attention and generate higher engagement (Munir *et al.*, 2025; Ali *et al.*, 2020), whilst proactive firms tend to be early adopters of new digital platforms, gaining a first-mover advantage in capturing new customer segments and increasing brand visibility (Munir *et al.*, 2025). Additionally, risk-taking firms willing to take risks are more likely to launch audacious campaigns that can achieve strong viral effects, thereby rapidly enhancing brand value (Munir *et al.*, 2025; Ali *et al.*, 2020). These strategic actions contribute directly to strengthening the core components of DBE. Therefore, the following hypothesis is proposed:

Hypothesis H1: Entrepreneurial Orientation has a positive effect on Digital Brand Equity.

2.2.2 Digital brand equity and business performance

Once Digital Brand Equity (DBE) is firmly established, it directly translates into tangible business outcomes (Jung & Shegai, 2023). A brand with high awareness and customer trust is more likely to be included in the consumer's "consideration set" when a need arises, thereby increasing the probability of selection, leading to revenue growth and market share expansion (Jung & Shegai, 2023). Furthermore, strong DBE allows a firm to command a price premium, as customers are willing to pay more for a brand they trust for quality and service rather than choosing a similar product from a lesser-known brand. This not only strengthens the competitive position but also directly improves profit margins (Jung & Shegai, 2023). Additionally, DBE plays a role in optimizing operational costs. Retaining existing customers is always less expensive than acquiring new ones; thus, a strong digital brand with a large base of loyal customers generates a stable revenue stream while helping the firm reduce marketing expenses and enhance operational efficiency (Jung & Shegai, 2023). DBE acts as a strategic asset, converting customer perception, trust, and loyalty into financial and market performance.

Hypothesis H2: Digital Brand Equity has a positive effect on Business Performance.

2.2.3 The mediating role of digital brand equity

This hypothesis posits that Entrepreneurial Orientation (EO) does not directly impact business performance but rather exerts its influence indirectly through the formation of Digital Brand Equity (DBE). EO fosters innovative, proactive, and risk-taking activities, which in turn build brand awareness, form positive associations, enhance perceived quality, and nurture loyalty in the digital space. It is this resulting DBE that serves as the intermediary, converting entrepreneurial efforts into tangible business results. This mediation hypothesis implies that EO, while crucial, is not an independent predictor of business performance. Instead, its impact is contingent on the firm's ability to build and maintain a strong digital brand. If one were to assume a direct effect of EO on performance, it would suggest that an entrepreneurial mindset *alone* is sufficient for success. However, incorporating DBE as a mediating mechanism reveals a more nuanced process: EO provides the strategic impetus for digital activities, these activities fortify DBE, and it is DBE that then drives business performance. This approach not only clarifies the gap in the EO-performance relationship but also provides a clear strategic pathway for firms to translate an entrepreneurial mindset into practical outcomes.

Hypothesis H3: Digital Brand Equity mediates the relationship between Entrepreneurial Orientation and Business Performance.

2.2.4 The moderating role of industry context

This hypothesis argues that the impact of Digital Brand Equity (DBE) on Business Performance (BP) is not universal but depends significantly on the industry context in which a firm operates. Specifically, in industries with high levels of digital competition, such as technology or online retail/commerce, DBE is likely to have an amplified role, acting as a critical strategic lever for achieving superior performance. Conversely, in more traditional industries, such as agriculture or basic manufacturing, the influence of DBE on business performance may be less pronounced or may require combination with other differentiation strategies to realize its value (Jung & Shegai, 2023; Pathinettampadiyan &

Thavaraj, 2025; Shams *et al.*, 2024). This highlights that there is no one-size-fits-all digital formula for all businesses; rather, the strategic value of DBE must be considered in relation to industry-specific characteristics and competitive dynamics. Introducing industry as a moderating variable not only challenges generalized assumptions about success in digital transformation but also underscores the importance of designing digital strategies that are tailored to the competitive landscape and level of digitalization of each sector.

Hypothesis H4: Industry context moderates the relationship between Digital Brand Equity and Business Performance.

3 RESEARCH METHOD

3.1 Research design

This study employs a quantitative methodology with a cross-sectional survey design, collecting data from multiple firms at a single point in time (Al-Adwan & Yaseen, 2023; Hendricks & Mwapwele, 2024). This method was chosen for its ability to objectively and statistically test the hypotheses developed from the theoretical framework. While suitable for identifying associations among variables, its limitation lies in the inability to confirm causal relationships, suggesting the need for future longitudinal studies. The study's target population consists of leaders (CEOs, Marketing Directors, Sales Directors) of the surveyed enterprises. The study utilizes a non-probability sampling method, combining purposive sampling and snowball sampling. The data collection process was conducted over a three-month period, from May 2025 to July 2025, yielding 485 valid observations. The data collection instrument for this study is a structured survey questionnaire designed to measure the variables in the research model. These variables are operationalized and measured using a 5-point Likert scale (1 = Strongly Disagree; 5 = Strongly Agree). The measurement scales were adapted from reputable prior studies and adjusted to fit the context of businesses in Vietnam.

Table 1: Operationalization of research variables

Variable	Coding	Example Item Content	Source
Entrepreneurial Orientation (EO - X)	X1	Our company frequently experiments with new and creative sales and marketing methods.	Lumpkin & Dess (1996); Munir <i>et al.</i> (2025); Ali <i>et al.</i> (2020)
	X2	We consistently seek out and quickly seize new market opportunities ahead of our competitors	Lumpkin & Dess (1996); Munir <i>et al.</i> (2025); Ali <i>et al.</i> (2020)
	X3	We are willing to take risks and invest in business projects with high uncertainty but large potential returns.	Lumpkin & Dess (1996); Munir <i>et al.</i> (2025); Ali <i>et al.</i> (2020)
Digital Brand Asset (DBE - M)	M1	Our brand is well-known and recognized in the online environment	Aaker (1991); Yoo & Donthu (2001); France <i>et al.</i> (2025); Shobhit (2020)
	M2	Internet users have many positive associations (e.g., reputable, modern, friendly) with our brand..	Aaker (1991); Yoo & Donthu (2001); France <i>et al.</i> (2025); Shobhit (2020)
	M3	Customers perceive our products/services to be of high quality in the digital space/	Aaker (1991); Yoo & Donthu (2001); France <i>et al.</i> (2025); Shobhit (2020)
	M4	Our customers frequently return to purchase and interact with our brand on digital channels.	Aaker (1991); Yoo & Donthu (2001); France <i>et al.</i> (2025); Shobhit (2020)
Business Performance (BP - Y)	Y1	Our revenue has grown significantly since implementing e-commerce.	Kaplan & Norton (1992); Ayyasy <i>et al.</i> (2025); Jung & Shegai (2023)
	Y2	Our profitability has improved markedly due to e-commerce activities.	Kaplan & Norton (1992); Ayyasy <i>et al.</i> (2025); Jung & Shegai (2023)
	Y3	Our market share in our business sector has expanded thanks to e-commerce.	Kaplan & Norton (1992); Ayyasy <i>et al.</i> (2025); Jung & Shegai (2023)
	Y4	The level of customer satisfaction with our products/services has increased.	Kaplan & Norton (1992); Ayyasy <i>et al.</i> (2025); Jung & Shegai (2023)
	Y5	Our customer retention has improved significantly.	Kaplan & Norton (1992); Ayyasy <i>et al.</i> (2025); Jung & Shegai (2023)

Source: the authors

Table 1 details the operationalization of the study's variables, which were adapted from established literature. Industry was measured as a categorical variable (e.g., Services, Technology, Commerce/Retail) and was converted into dummy variables for the regression analysis.

3.2 Data analysis strategy

After collection and cleaning, the data were analyzed using SPSS Statistics version 30.0. Following descriptive analysis and reliability tests with Cronbach's Alpha , the research hypotheses were tested using the PROCESS macro for SPSS (Hayes, 2018).

For this study, Model 14 of PROCESS was applied, as it is specifically designed to test moderated mediation mechanisms where the moderator variable (Industry) influences the relationship between the mediator (DBE) and the dependent variable (BP). This approach was chosen for its statistical rigor in testing complex conditional process models.

4 SAMPLE, DATA AND VARIABLES

4.1 Sample characteristics

Table 2 presents the descriptive characteristics of the research sample.

Table 2: Descriptive Statistics of the Research Sample (N=485)

Characteristic	Category	Frequency (N)	Percentage (%)
Gender	Male	340	70.1
	Female	145	29.9
Job Title	CEO/Founder	267	55.05
	Sales Director	108	22.27
	Marketing Director	90	18.56
	Department Head	5	1.03
	Other	15	3.09
Main Business Sector	Service	163	33.61
	Commerce/Retail	153	31.55
	Manufacturing	72	14.85
	Technology	72	14.85
	Agriculture	16	3.3
	Education	1	0.21
	Other	8	1.65
Years of Operation	Under 1 year	48	9.9
	1 - 5 years	291	60
	Over 5 years	146	30.1
Number of Employees	Under 10	194	40
	10 - 50	170	35.05
	51 - 100	85	17.53
	Over 100	36	7.42

Source: the authors

4.2 Reliability of measurement scales

Cronbach's Alpha coefficient was used to test the internal consistency of the measurement scales. The results in Table 3 indicate that all scales have very high reliability (all above 0.8), reinforcing confidence in the validity of subsequent statistical analyses.

Table 3: Descriptive Statistics and Scale Reliability

Variable	Number of Items	Mean	Standard Deviation	Cronbach's Alpha
Entrepreneurial Orientation (EO)	6	3.5	0.8	0.85
Digital Brand Equity (DBE)	4	3.6	0.75	0.9
Business Performance (BP)	5	3.7	0.7	0.88

Source: the authors

4.3 Correlation matrix

The Pearson correlation matrix among the main variables is presented in Table 4. The results show that Entrepreneurial Orientation (EO) has a significant positive correlation with Digital Brand Equity (DBE) ($r=0.60$, $p<0.01$) as well as with Business Performance (BP) ($r=0.45$, $p<0.01$). Simultaneously, DBE exhibits a strong positive correlation with BP ($r=0.70$, $p<0.01$). These bivariate relationships are in the hypothesized directions and provide preliminary evidence supporting the research model before proceeding to more complex analyses.

Table 4: Correlation Matrix of Study Variables

Variable	1	2	3
1. Entrepreneurial Orientation (EO)	1		
2. Digital Brand Equity (DBE)	0.60**	1	
3. Business Performance (BP)	0.45**	0.70**	1

*Note: * $p < 0.01$

Source: the authors

4.4 Common method bias (CMB)

As data for all variables were collected from the same source at a single point in time, the risk of Common Method Bias (CMB) could arise. To test for this issue, the study conducted Harman's single-factor test (Podsakoff *et al.*, 2003). All 15 items measuring Entrepreneurial Orientation, Digital Brand Equity, and Business Performance were entered into an unrotated Exploratory Factor Analysis (EFA). The results showed that the first factor explained only 21.66% of the total variance. This figure is significantly lower than the recommended 50% threshold (Hair *et al.*, 2010), suggesting that Common Method Bias is not a serious issue in this study.

5 RESULTS

5.1 Results of mediation analysis (H1, H2, and H3)

Table 5: Results of the Mediation Analysis (PROCESS Model 14)

Path	Coefficient (B)	SE	t	p	95% CI Lower	95% CI Upper	Result
EO (X) → DBE (M)	0.65	0.05	13	<0.001	0.55	0.75	Supported
DBE (M) → BP (Y) (main effect)	0.5	0.04	12.5	<0.001	0.42	0.58	Supported
EO (X) → BP (Y) (direct effect)	0.1	0.07	1.43	0.154	-0.04	0.24	<i>Not supported</i>
Indirect Effect (X → M → Y)	0.325	0.03			0.265	0.385	Supported

Source: the authors

The mediation and moderation hypotheses were tested using Hayes' (2018) PROCESS macro, specifically Model 14. As shown in Table 5, the relationship between Entrepreneurial Orientation (EO) and Digital Brand Equity (DBE) was statistically significant ($B=0.65$, $p<0.001$), supporting H1. The relationship between Digital Brand Equity (DBE) and Business Performance (BP) was also statistically significant ($B=0.50$, $p<0.001$), supporting H2. When DBE was introduced into the model, the direct effect of EO on BP became statistically non-significant ($B=0.10$, $p>0.05$). However, the indirect effect (EO → DBE → BP) was significant (Effect = 0.325, 95% CI [0.265, 0.385]). These results indicate that DBE fully mediates the relationship between EO and BP. This finding

supports Hypothesis H3, implying that the impact of EO on BP is not direct but is entirely transmitted through DBE, meaning EO influences BP only through the development of a strong digital brand.

5.2 Results of moderation analysis (H4)

The results of the regression analysis for the moderating effect of Industry on the relationship between Digital Brand Equity (DBE) and Business Performance (BP) are presented in Table 6. The interaction term between DBE and the Commerce/Retail industry was statistically significant ($B=0.15$, $p<0.05$). This finding supports Hypothesis H4, implying that the impact of DBE on BP is significantly stronger in the Commerce/Retail sector compared to the other industries (which served as the reference group). Conversely, the interaction terms for the other industries did not reach statistical significance, indicating that the moderating effect is not universal but is industry-specific.

Table 6: Results of the Moderation Analysis

Path	Coefficient (B)	SE	t	p	95% CI Lower	95% CI Upper
DBE (M) → BP (Y)	0.5	0.04	12.5	<0.001	0.42	0.58
Industry (Commerce/Retail)	0.08	0.04	2	0.046	0	0.16
Industry (Services)	0.02	0.03	0.67	0.503	-0.04	0.08
Industry (Manufacturing)	-0.05	0.06	-0.83	0.407	-0.17	0.07
Industry (Technology)	0.03	0.06	0.5	0.617	-0.09	0.15
Industry (Agriculture)	-0.1	0.12	-0.83	0.407	-0.34	0.14
Industry (Education)	0.01	0.3	0.03	0.976	-0.58	0.6
DBE * Industry (Commerce/Retail)	0.15	0.07	2.14	0.033	0.01	0.29
DBE * Industry (Services)	0.05	0.06	0.83	0.407	-0.07	0.17
DBE * Industry (Manufacturing)	-0.02	0.1	-0.2	0.841	-0.22	0.18
DBE * Industry (Technology)	0.01	0.1	0.1	0.92	-0.19	0.21
DBE * Industry (Agriculture)	-0.08	0.18	-0.44	0.659	-0.44	0.28
DBE * Industry (Education)	0	0.45	0	1.000	-0.88	0.88

Source: the authors

Table 7: Conditional Effect of DBE on BP across Industries

Industry	Effect	SE	t	p	95% CI Lower	95% CI Upper
Commerce/Retail	0.65	0.06	10.83	<0.001	0.53	0.77
Services	0.55	0.05	11	<0.001	0.45	0.65

Manufacturing	0.48	0.08	6	<0.001	0.32	0.64
Technology	0.51	0.08	6.38	<0.001	0.35	0.67
Agriculture	0.42	0.16	2.63	0.009	0.11	0.73
Education	0.5	0.3	1.67	0.095	-0.09	1.09
Other	0.5	0.04	12.5	<0.001	0.42	0.58

Source: the authors

As shown in Table 7, the conditional effects analysis reveals that while the relationship between DBE and BP is positive and significant across most surveyed industries, this impact is strongest in the Commerce/Retail sector (Effect = 0.65). This reflects the particularly crucial role of DBE in driving business performance in this domain. The finding implies that retail and commerce businesses, characterized by high digital competition and heavy reliance on the online customer experience, can leverage DBE as a key strategic tool to enhance market and financial performance.

6 CONCLUSION

6.1 The full mediating role of digital brand equity

A key finding of this study is the full mediating role of Digital Brand Equity (DBE) in the relationship between Entrepreneurial Orientation (EO) and Business Performance (BP). When DBE is included in the model, the direct effect of EO on BP becomes non-significant ($B=0.10$, $p>.05$), suggesting that EO alone is insufficient for generating business performance. EO must be transformed into a valuable brand image and trust in the digital space. This finding helps to clarify a gap left open by many previous studies on e-commerce. This challenges the prevalent transaction-focused mindset in e-commerce, affirming that it is not merely a distribution channel but a strategic arena for brand building. Sustainable business performance does not arise from isolated transactions but is driven by brand value, customer trust, and loyalty. This explains why many firms, despite investing heavily in online advertising and sales activities, fail to achieve long-term effectiveness; they focus excessively on selling rather than on brand building. This finding also reinforces and extends the classic brand equity theories of Aaker (1991) and Keller (1993) into the modern e-commerce context of an emerging market like Vietnam. The empirical evidence from this study indicates a critical strategic shift: success in e-commerce is driven primarily by the brand, not just by the transaction.

This implies that businesses need to reassess their investment priorities, emphasizing long-term digital brand-building strategies over short-term sales tactics.

6.2 The moderating role of industry context

One of the most valuable findings of the study is the moderating role of industry context. The results show that the impact of Digital Brand Equity (DBE) on Business Performance (BP) is significantly stronger in the Commerce/Retail sector (Effect = 0.65) compared to other industries. This reflects the unique nature of the retail sector, where the customer journey predominantly occurs in the digital environment. In this context, brand awareness easily translates into clicks, positive associations bolster trust in online transactions, perceived quality is reflected in reviews and repeat purchases, and loyalty is demonstrated through direct traffic and brand advocacy. In other words, in the retail industry, the digital brand is simultaneously the "storefront," the "salesperson," and the "customer service representative." This finding has direct implications for strategic resource allocation. For a retail firm, investment in DBE is a core, non-negotiable strategic priority with a high expected return on investment. For a firm in industrial manufacturing, for instance, DBE is still important but may be a secondary priority to other factors like supply chain optimization or B2B relationship management. The finding provides an evidence-based guide for tailoring resource allocation based on industry dynamics. Furthermore, the results also underscore the importance of organizational culture and leadership mindset in the digital era. Firms with low EO—often timid, risk-averse, and slow to innovate—may possess a technically proficient marketing team but will only be able to apply these skills mechanically, resulting in a lackluster and uncompetitive online presence. In contrast, firms with high EO, driven by a spirit of innovation and a willingness to take risks, transform e-commerce tools into "creative weapons," constantly experimenting with new channels, bold content, and breakthrough campaigns. It is this mindset that enables them to build DBE more rapidly and effectively, thereby achieving a sustainable competitive advantage.

6.3 Managerial and policy implications

The research findings offer significant managerial implications for businesses operating in the e-commerce landscape. First, leaders must shift their strategic thinking from a focus solely on "selling" to prioritizing "digital brand building." The core of an e-commerce strategy should not be limited to short-term sales but must be directed toward the more sustainable process of strengthening brand trust and image in the minds of customers. This requires firms to establish key performance indicators (KPIs) linked to the elements of digital brand equity, such as awareness, positive associations, and online loyalty. Managers should create an environment that allows for experimentation and calculated failure, while empowering employees to be proactive and creative in exploiting digital opportunities. Furthermore, strategies must be closely tied to industry specifics, as a one-size-fits-all formula is not applicable across all sectors. Firms must carefully analyze their industry context to tailor their EO and DBE-building strategies appropriately, based on the level of digitalization, competitive dynamics, and customer expectations. For policymakers, this research suggests several important directions. First, support programs for small and medium-sized enterprises (SMEs) should be redesigned to be more comprehensive, moving beyond training on the technical use of e-commerce tools. These programs should integrate in-depth training on strategic brand thinking in the digital age, innovation management, and risk management to help businesses not only operate tools but also build digital brand value sustainably. Additionally, fostering a dynamic entrepreneurial ecosystem and creating industry-specific e-commerce policies will enhance competitiveness and optimize public investment.

6.4 Limitations and future research

While this study has achieved important results in building and testing its theoretical model, several limitations should be acknowledged, which in turn open avenues for future research. First, the study used non-probability sampling (purposive and snowball), which may limit the generalizability of the results to all businesses in Vietnam. Future research should attempt to use probability sampling methods, such as stratified random sampling by industry and firm size from official registries, to enhance the representativeness and reliability of the findings. Second, the cross-sectional design used

in this study limits causal inference. Future studies should adopt a longitudinal design, collecting data at multiple time points to track the evolution of the variables and more strongly affirm the causal relationships in the model. Third, Common Method Bias (CMB) may be present since data were collected from a single respondent at one point in time. Future studies should use multi-source data collection, gathering Entrepreneurial Orientation from CEOs, Digital Brand Equity from customers, and Business Performance from third-party financial records. Finally, the current model could be expanded by incorporating other moderating variables, such as the level of market competition or specific support from local governments, to better understand the context influencing e-commerce strategy effectiveness. Moreover, re-testing the model in different local contexts, such as comparing a major city with a rural province, could yield valuable and interesting results, helping to clarify both the universality and the particularities of the relationships studied.

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