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Impacting corporate culture on business efficiency of small and medium enterprises: A case study in Vietnam

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Abstract

Small and medium enterprises (SMEs) are essential for job creation and economic growth, reducing poverty and improving workers' incomes. SMEs are also a source of innovation in business and serve as a bridge to bring scientific and technological research results into practical life. Therefore, the study's purpose is to measure the impact of critical factors on business efficiency using a structural equation modeling (SEM) approach. The authors proposed actionable policy recommendations to help managers enhance business efficiency. The methodology applied a structural equation model based on data collected from 500 managers of 500 SMEs in five provinces of Vietnam. The study's findings showed that five critical factors positively impact business efficiency, including the macro environment (ME), quality of human resources of the enterprise (HR), corporate culture (CC), digital transformation (DT), and creative innovation (CI). In addition, the conclusion of the explored corporate culture is a new factor with a strong impact. Finally, the practical implications proposed policy recommendations to help managers and policymakers improve business efficiency due to influences from external and internal factors contributing to business development.

Keywords: Business efficiency, Macro environment, Digital transformation, Corporate culture, SMEs.

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1. Introduction

SMEs are critical in each country's economy, especially in developing countries. Each economy and locality have different economic development characteristics. The role of SMEs is shown at various levels, but all are clearly shown in the core aspects: role in the economy and society. This is shown explicitly as follows:

Firstly, SMEs are present in most production and business sectors of the economy, contributing to the economy's dynamism in the market mechanism. Due to the advantage of small and medium scale, they are more flexible and creative in

production and business, can combine specialization and diversification, and meet the requirements of the market economy [1, 2]. SMEs have a fast capital turnover, do not need significant investment capital, do not need highly qualified labor, and can quickly enter and exit the market. Moreover, SMEs create many new jobs for workers, reducing the pressure on employment and unemployment. Solving employment for workers contributes to social stability and social security, a fundamental issue for the country. In fact, SMEs create jobs for many new entrants to the labor market every year. At the same time, local labor resources can be used to create jobs and increase income for people.

Second, SMEs create balanced development and shift economic structure by region and territory. In fact, large enterprises are often concentrated mainly in cities and large industrial zones, which has caused an imbalance in economic, cultural, and social development between urban and rural areas, between regions [3]. Therefore, developing SMEs plays an essential role in creating a balance in the level of development between regions and sustainable socio-economic development. The development of SMEs in rural areas will attract unemployed or underemployed workers. It can attract many seasonal workers during the off-season into production and business activities, gradually withdrawing agricultural workers to industrial or service work, implementing the motto "leaving agriculture but not leaving home. Moreover, the contribution of SMEs to the state budget is increasing. When businesses grow vigorously, their revenue increases, and therefore, their revenue tax payment to the State will also increase [4]. The SME sector increasingly accounts for a high proportion of the country's budget revenue, with a relatively high growth rate, reaching an annual average of over 20% of GDP.

Third, SMEs provide the market with a large volume of goods and services that are diverse in design and type, contributing to promoting economic growth and meeting the consumption needs of society. SMEs account for a high proportion of the total number of enterprises in the country, participating in activities in many industries and fields, producing goods and services that are diverse in design and type to meet the needs of society [5, 6]. In addition, SMEs create a competitive environment, promote production and business development, and increase export sources. The process of the economic integration of Vietnam is increasingly deep, the number of SMEs established in various fields and industries is growing, which is the driving force for SMEs to constantly innovate, improve technology, diversify products and designs to compete with domestic enterprises as well as goods of foreign enterprises. SMEs have accounted for the main proportion of key export products such as handicrafts, processed agricultural products, seafood, garments, and footwear. The number of SMEs participating in import and export business accounts for about 90% of the total number of enterprises participating in import and export business nationwide.

Finally, SMEs play an essential role in attracting investment capital from the population while exploiting and optimally using the resources of each locality. SMEs are a suitable investment model for entities with limited capital who want to participate in business. During the operation process, SMEs can mobilize capital from friends and relatives. Due to the low initial capital requirement, SMEs can attract idle capital from the population to invest in production and business. SMEs are the premise for creating large enterprises. With successful enterprises, the scale of enterprises will be expanded and can become large enterprises. SMEs can initially participate in the process of forming links with large enterprises. SMEs are also suppliers of materials, raw materials, and components for the production of large enterprises. SMEs can be the place to train and provide human resources for large enterprises because they have time to practice and challenge in a small-scale environment. Based on the above analysis, the study aims to measure the impact of critical factors on business efficiency by using a structural equation modeling (SEM) approach. The authors proposed actionable policy recommendations to help managers enhance business efficiency.

2. Literature Review and Hypotheses Development

2.1. Business Efficiency (BE)

Business efficiency refers to how well a company uses its financial and non-financial assets to accomplish its objectives in the most cost-effective and value-creating way possible. This idea stands for the harmony between resources, such as money, people, and tech, and outcomes, which the company achieves to mirror sustainability, market agility, and competitiveness [6, 7]. Customer happiness, innovation, and social impact are all parts of a comprehensive picture of a company's efficiency, which goes beyond traditional financial metrics like profit, revenue, or profitability ratios. For companies, this is a critical component in cost optimization, worker productivity enhancement, and long-term stability [8]. Efficiency, in a nutshell, is the lifeblood of every company and the bedrock upon which growth in a cutthroat market is built. In this study, business efficiency is the degree to which a business maximizes output and achieves its business goals by optimizing resources such as time, money, labor, and raw materials.

2.2. Quality of Human Resources of the Enterprise (HR)

Human resource quality is the sum of employees' characteristics, properties, and capabilities, which directly contribute to the performance and development of the organization. Typically, a business's human resources quality is assessed through the following 3 criteria: intelligence, physical strength, and mental strength. In which: (1) Intelligence including educational level, professional knowledge, vocational skills, creative thinking, and problem-solving abilities [8, 9]. High intelligence demonstrates the ability to absorb, process information, and apply knowledge to work effectively. (2) Physical fitness is health, the ability to withstand work pressure, and physical flexibility. Good physical fitness ensures that workers can complete their work productively and persistently. (3) Mental strength is achieved through mental health, work attitude, motivation, and the ability to control emotions [10]. A muscular mental strength helps workers maintain stability, optimism, and dedication to work, even in challenging environments. Therefore, a high-quality human resource requires intellectual development and a balance and harmony between physical and mental strength. Only when all three factors are fully developed can workers maximize their potential, contributing positively to the organization's and society's success.

Digital transformation and increased company efficiency are both impacted by the caliber of human resources. Successful implementation of digital transformation solutions relies on a workforce with strong professional qualifications, good technology abilities, and the capacity to adapt swiftly to change. Workers whose proficiency in technology allows them to better use digital resources, streamline operational procedures and maximize output per worker [11]. Simultaneously, a high-quality workforce paves the way for companies to enhance financial efficiency by developing innovative data- and platform-based business strategies.

Furthermore, human resource development and training also contribute to the efficacy of digital transformation. Staff members' capacity to collaborate and achieve digitalization objectives is enhanced through systematic training programs that boost technical knowledge [12, 13]. This allows companies to make the most of technology, which helps with everything from cost management to enhancing the customer experience. To sum up, digital transformation's ability to generate a lasting competitive advantage, boost efficiency, and create value depends critically on the caliber of human resources. Therefore, the authors proposed hypotheses H1 & H2 in Figure 1.

2.3. Corporate Culture (CC)

Corporate culture refers to the shared assumptions, practices, and standards permeating an organization's management, employees, and customers. An organization's culture develops from its mission, values, procedures, and interactions with its stakeholders, including workers, clients, and the general public [14]. A company's culture is the shared assumptions, practices, and values that employees bring to their interactions with one another and clients, vendors, and other interested parties. Everything from work procedures, leadership styles, and decision-making are guided by this fundamental set of values, which helps to distinguish the company from competitors.

The business culture affects operational efficiency, employee recruitment and retention, and brand reputation. A healthy company culture fosters innovation, accountability, and a unified workplace. In contrast, a bad culture can stifle growth and cause conflict. To conclude, a company's culture underpins its long-term existence, competitive advantage, and success. Corporate culture is crucial to digital transformation and efficiency [15, 16]. A healthy company culture encouraging innovation and creativity helps organizations adapt to the digital transformation. Creating an open environment where employees can learn and apply digital technology can enhance processes and increase labor productivity [17]. The company's culture promotes interdepartmental collaboration for complex digital transformation projects. Company-wide cooperation is essential to avoid employee resistance or inconsistent results during digital technology installation.

Customer-centric and creative company culture will encourage using digital tools to enhance the customer experience, optimize services, and boost satisfaction, all of which contribute to better business success [18]. Businesses may increase consumer loyalty and get a competitive edge in the market. To sum up, a company's culture is crucial to its digital transformation efforts and can significantly impact the company's bottom line. Therefore, the authors proposed hypotheses H3 & H4 in Figure 1.

2.4. Macro Environment (ME)

Factors in the macro environment, which include the economy, politics, society, technology, law, and the environment, are outside the control of the enterprise but significantly impact its operations and growth potential [19]. Some variables come into play here, such as the expansion of the economy, changes in interest rates, political and legal climates, societal and technical tendencies, and environmental shifts. Macroenvironmental opportunities and threats affect business strategy, resource optimization, and competitiveness. Businesses must monitor and adjust to the macro environment to predict market swings, manage risk, and ensure sustainable development [20].

Businesses may improve their digital transformation, innovation, and efficiency by considering the macro environment. Economic policies, innovation-friendly laws, and technological advances help businesses deploy digital solutions and innovative ideas [21]. Companies may access cutting-edge technological resources, improve operational procedures, and boost productivity thanks to the rapid rise of information technology and government policies that foster digital transformation.

Enterprises and consumers are more amenable to change when they see political stability and social trends as encouraging innovation. Stable economies allow companies to invest more in R&D, product enhancement, and regulatory certainty [22]. Interest rates, exchange rates, market trends, and other macroeconomic variables affect corporate performance. When the economy is good, firms have more opportunities, which boosts earnings and lowers investment costs. The macro environment is crucial for digital transformation, innovation, and enhancing company performance. Therefore, the authors proposed hypotheses H5, H6 & H7 in Figure 1.

2.5. Digital Transformation (DT)

Digital technology is integrated into business operations to improve efficiency, customer experience, and value creation. This strategy uses cloud computing, AI, and big data to speed procedures and improve decision-making. Digital transformation requires new ideas, methods, and organizational cultures to help businesses adapt to market changes [23]. Digital transformation optimizes costs, increases labor efficiency, and gives companies a competitive advantage, satisfied customers, and opportunities from emerging technologies. This is essential for business growth. Digital transformation boosts a company's innovation and efficiency. Modern technologies like cloud computing, AI, and big data can expedite business processes and inspire new ideas. Companies can improve their competitive worth by generating new products and services that satisfy customer needs and using market data with digital transformation [24].

Furthermore, digital transformation enhances company efficiency by automating operations, cutting expenses, and raising labor productivity. Improved customer experience through faster, more accurate, and tailored service is another benefit of digital technologies for organizations. Businesses can also create a more flexible and collaborative work environment through digital transformation [25, 26]. To sum up, digital transformation is the engine that propels innovation and helps organizations improve their efficiency across the board, from internal optimization to increasing consumer value. This, in turn, allows them to grow sustainably in the digital economy. Therefore, the authors proposed hypotheses H8 & H9 in Figure 1.

2.6. Creative Innovation (CI)

Creative innovation involves creating and implementing new ideas, products, services, or procedures that improve things. The process involves developing new ideas and improving current processes to achieve better results [27]. CI ensures creative ideas work in practice by emphasizing innovation, realism, and value creation. CI fosters an open-minded culture of collaboration and risk-taking, helping companies maximize resources, improve customer satisfaction, and stay competitive. Continuous improvement helps organizations develop, meet customer expectations, and prosper in today's dynamic market [28].

Business effectiveness depends on creative innovation in enhancing processes, goods, and services. By adopting new or improved ideas, companies can better meet customers' shifting needs, boost efficiency, and decrease costs. This increases productivity and resource use, enhancing efficiency. Creative innovation promotes brand value, consumer enjoyment, and loyalty by offering unique experiences and solutions [29, 30]. It opens up new avenues for companies to increase their revenue, broaden their operational reach, and access new customers. An innovative workplace that can sustainably expand its business results from a culture of creativity that inspires employees to actively participate and work together. To sum up, creative innovation does double duty: it boosts short-term results for businesses and paves the way for long-term success. Therefore, the authors proposed hypothesis H10 in Figure 1.

To evaluate the effect on company performance (BE), the research model is based on five primary factors: HR quality, corporate culture (CC), macro environment (ME), digital transformation (DT), and creative innovation (CI). Human resources are fundamental because they have an impact on BE both directly and indirectly through DT. The promotion of HR and supporting the digital transformation process are two areas where CC excels. ME significantly impacts DT and CI and helps with BE improvement through policy and macro developments. In addition to improving BE directly, DT fosters CI, which aids firms in optimizing processes and promoting innovation. CI immediately affects BE because of its pivotal role in enhancing products and processes. Then, using the structural equation modeling (SEM) approach, the suggested model incorporates the aforementioned elements' relationships to ascertain the mediating, direct, and indirect effects.

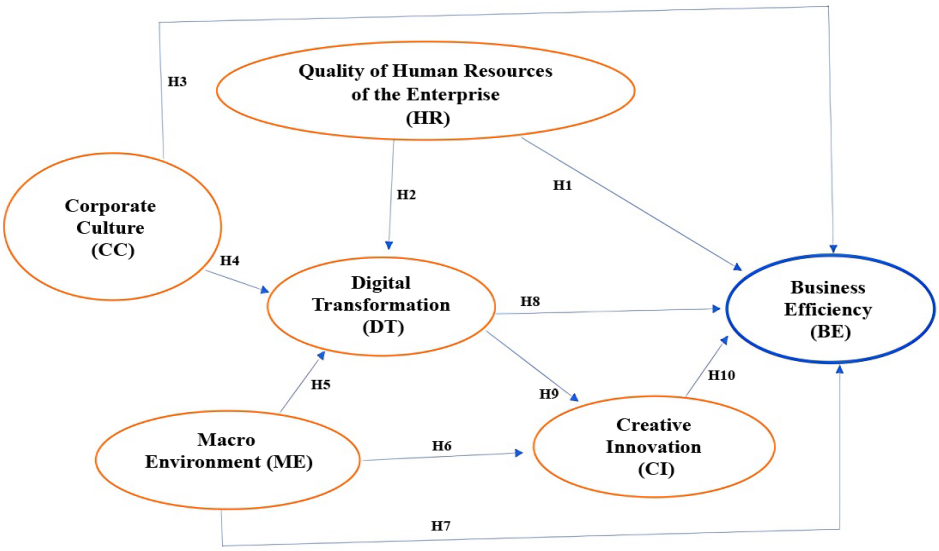

Figure 1.
A research model for critical factors influencing the business efficiency of small and medium enterprises in Vietnam

Figure 1 shows five key factors affecting the business efficiency of small and medium enterprises: macro environment (ME), quality of human resources of the enterprise (HR), corporate culture (CC), digital transformation (DT), and creative innovation (CI).

3. Research Methods

The authors created a process with these steps to conduct research: First, determine the research question and goals. Step 2: Create the research model and theoretical framework. Step 3: Create a qualitative-quantitative study. The questionnaires and interview rules for Step 4: Create research tools. Step 5: Interview 15 business management specialists qualitatively. Step

6: Quantitatively survey 500 managers in five Vietnamese provinces. Step 7: SPSS/Amos data cleaning. Step 8: AMOS SEM validation. Step 9: Interpret qualitative and quantitative study outcomes. Step 10: Summarize and suggest actions [31].

Step 1: Because of rapid technological improvements and economic integration, company efficiency is one of the biggest challenges facing financial systems today. The authors used this to outline their study's problem and goals. Effective management and mitigation require an understanding of company efficiency issues. The study's main objective is to evaluate how many factors, such as the macro environment (ME), enterprise HR quality, corporate culture (CC), digital transformation (DT), and creative innovation.

Step 2: After in-depth interviews with fifteen directors' specialists, the authors created a study model and theoretical framework, analyzed criteria, and found factors affecting Vietnam's firms' efficiency [31]. 15 business management professionals. They sampled five provinces directly - Dong Nai, Binh Duong, Ho Chi Minh City, Ba Ria – Vung Tau, and Long An to assess business efficiency characteristics, which was crucial for representativeness and comprehensiveness. All respondents' comments were recorded to tailor the questionnaire to their scenario. The 5-point Likert scale was used because it was used in earlier surveys and is easy to analyze. The article uses a 5-point Likert scale from 1 to 5, with 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. This early survey informs the questionnaire and quantitative research [31].

Step 3: The study included qualitative and quantitative components, and the methodology explains how managers and experts were selected for interviews and qualitative research. In this study, experts and managers with exceptional qualifications and abilities in a specialty or field must help enterprises and state agencies study and develop guidelines and policies to build the enterprise or field area, apart from quality, ethics, and efficiency standards. Data is collected via emails and meetings/workshops.

Step 4: The authors design a scale and draft the questionnaire and preliminary survey process using research instruments like questionnaires and interview guidelines. This step created a scale to assess the efficiency of small and medium enterprises in Vietnam, including macro environment (ME), HR quality, corporate culture (CC), digital transformation (DT), and creative innovation. Preliminary research reduced unreliable variables before sample collection. The initial survey questionnaire had 23 primary topic items for research. Because all variables' Cronbach's alpha coefficients were more significant than 0.6, no observable variables were deleted during the preliminary study under the circumstances above and data analysis outcomes. Next, the observed variables' total variable correlation coefficient is more significant than 0.4, and no variable has a Cronbach's Alpha higher than its elimination coefficient. Thus, the qualitative study results met the requirements and evaluation criteria, and the authors moved to quantitative research.

Step 5: The authors tested qualitative research with 15 business management specialists. After revising the questionnaire, we conducted large-scale surveys in Dong Nai, Binh Duong, Ho Chi Minh City, Ba Ria-Vung Tau, and Long An. The authors also addressed 500 survey votes. Respondents received surveys by email and phone. The 500 managers of five provinces had access to the online survey form from May to August 2024.

Step 6: The authors used convenient and online sampling methods to conduct the quantitative study with 500 Vietnamese managers based on geographical distance between firms. Stratified sampling to represent Southeast managers from diverse companies. Expect a 93.00% response rate and 465 valid responses from 500 questionnaires distributed via email and direct methods. Data was processed using Table A1's questionnaire, cleaned, and loaded into the software. Descriptive statistical results combined qualitative and quantitative analysis to better understand efficiency factor impacts.

Step 7: Based on formal quantitative research, the authors used AMOS for SEM analysis and validation. The CFA confirmatory factor analysis study encompassed the entire scale. The authors used 465 valued samples from a quantitative survey of 500 managers. Most management of the above companies were surveyed via email using random, convenience sampling. The sample size was determined by the processing technique for Cronbach's Alpha more significant than 0.7, as specified by EFA, SEM, etc., and measured model fit with GFI $\geq$ 0.900, TLI $\geq$ 0.900, CFI $\geq$ 0.900, and RMSEA < 0.1 [31].

Step 8: The authors analyze qualitative and quantitative results using quantitative results explained in detail using professional insights. Assess each factor's professional importance. Finally, quantifiable findings evaluate each factor's impact on efficiency. Identify the most essential factor and suggest company efficiency methods. Finally, the authors concluded and made practical recommendations based on research on each model component's efficiency characteristics.

4. Research Results and Discussions

4.1. Testing Critical Factors Affecting Business Efficiency at Small and Medium Enterprises in Vietnam

Table 1.
Testing of Cronbach's Alpha for factors affecting business efficiency

Items	Minimum	Maximum	Cronbach's alpha	Mean	Std. deviation
Macro environment (ME)			0.932	3.068	1.002
ME1	1	5	0.896	3.112	0.976
ME2	1	5	0.930	3.004	1.055
ME3	1	5	0.924	3.116	0.969
ME4	1	5	0.892	3.039	1.010
Quality of human resources of the enterprise (HR)			0.959	3.388	0.931
HR1	1	5	0.814	3.381	0.888
HR2	1	5	0.810	3.486	0.952

Items	Minimum	Maximum	Cronbach's alpha	Mean	Std. deviation
HR3	1	5	0.844	3.346	0.977
HR4	1	5	0.814	3.340	0.908
Corporate culture (CC)			0.935	3.082	1.001
CC1	1	5	0.904	3.080	0.989
CC2	1	5	0.934	3.026	1.046
CC3	1	5	0.923	3.114	0.968
CC4	1	5	0.901	3.110	1.002
Digital transformation (DT)			0.906	3.353	0.970
DT1	1	5	0.897	3.456	0.932
DT2	1	5	0.806	3.342	0.972
DT3	1	5	0.888	3.262	1.004
Creative innovation (CI)			0.900	2.777	0.993
CI1	1	5	0.855	2.822	0.983
CI2	1	5	0.896	2.673	1.034
CI3	1	5	0.867	2.807	0.959
CI4	1	5	0.865	2.807	0.996
Business efficiency (BE)			0.875	2.419	0.675
BE1	1	5	0.849	2.370	0.644
BE2	1	5	0.820	2.471	0.725
BE3	1	5	0.866	2.391	0.638
BE4	1	5	0.820	2.443	0.693

Table 1 examines the dependability and descriptive statistics of factors influencing the business efficiency of small and medium firms (SMEs) in Vietnam. Cronbach's Alpha is used to assess reliability, and all components score between 0.875 and 0.959, indicating strong internal consistency. Among them, the "Quality of Human Resources" (HR) component has the highest Cronbach's Alpha (0.959), indicating its importance. In terms of mean values, the "Digital Transformation" (DT) component ranks high (3.353), notably in technological integration (3.456). Conversely, "Creative Innovation" (CI) and "Business Efficiency" (BE) had lower mean values (2.777 and 2.419, respectively), indicating places for improvement. Other categories, such as "Macro Environment" (ME) and "Corporate Culture" (CC), have average values ranging from 3.068 to 3.082, showing considerable agreement. The standard deviations for variables vary from 0.675 to 1.034, indicating substantial diversity in respondent ratings. These results emphasize the need for innovation and digital transformation to increase business efficiency.

Table 2.
Testing SEM model for factors affecting business efficiency

Relationships			Standardized estimate	Estimate	S.E	C.R	P	Hypothesis	Result
HR	→	DT	0.119	0.111	0.040	2.784	0.005	H1	Accepted
CC	→	DT	0.570	0.512	0.041	12.443	***	H4	Accepted
ME	→	DT	0.134	0.136	0.039	3.482	***	H5	Accepted
DT	→	CI	0.137	0.119	0.042	2.832	0.005	H9	Accepted
ME	→	CI	0.114	0.100	0.038	2.607	0.009	H6	Accepted
DT	→	BE	0.350	0.187	0.036	5.141	***	H8	Accepted
ME	→	BE	0.122	0.066	0.021	3.079	0.002	H7	Accepted
CC	→	BE	0.205	0.099	0.027	3.639	***	H3	Accepted
HR	→	BE	0.138	0.069	0.024	2.817	0.005	H2	Accepted
CI	→	BE	0.189	0.116	0.026	4.524	***	H10	Accepted

Table 2 displays the outcomes of the Structural Equation Modeling (SEM) study, which assessed the interrelationships among variables impacting the operational efficacy of SMEs in Vietnam. The most important function is played by digital transformation (DT), which has a direct and substantial effect on business efficiency (BE) (standardized estimate = 0.350, $p < 0.001$) and drives creative innovation (CI) (0.137, $p = 0.005$). The importance of a work environment that encourages collaboration and innovation is highlighted by the fact that corporate culture (CC) is the most critical element affecting digital transformation (0.570, $p < 0.001$) and has a favorable effect on business efficiency (0.205, $p < 0.001$).

Additionally, the macro environment (ME) is significant because it has direct effects on corporate efficiency (0.122, $p = 0.002$) and indirect impact through digital transformation and creative innovation (0.134 and 0.114, respectively, $p < 0.01$). This demonstrates the importance of steady policy and economic circumstances to encourage company growth. Additionally, HR quality affects digital transformation (0.119, $p = 0.005$) and directly improves company efficiency (0.138, $p = 0.005$), highlighting the significance of employees' abilities and flexibility.

Lastly, the relevance of innovation in increasing competitive advantage is confirmed by the fact that creative innovation (CI) has a considerable impact on business efficiency (0.189, $p < 0.001$). Digital transformation and innovation are critical drivers for enhancing business efficiency, and these findings emphasize the interdependence of internal and external elements. This is crucial for small and medium enterprises (SMEs) to thrive in today's economy.

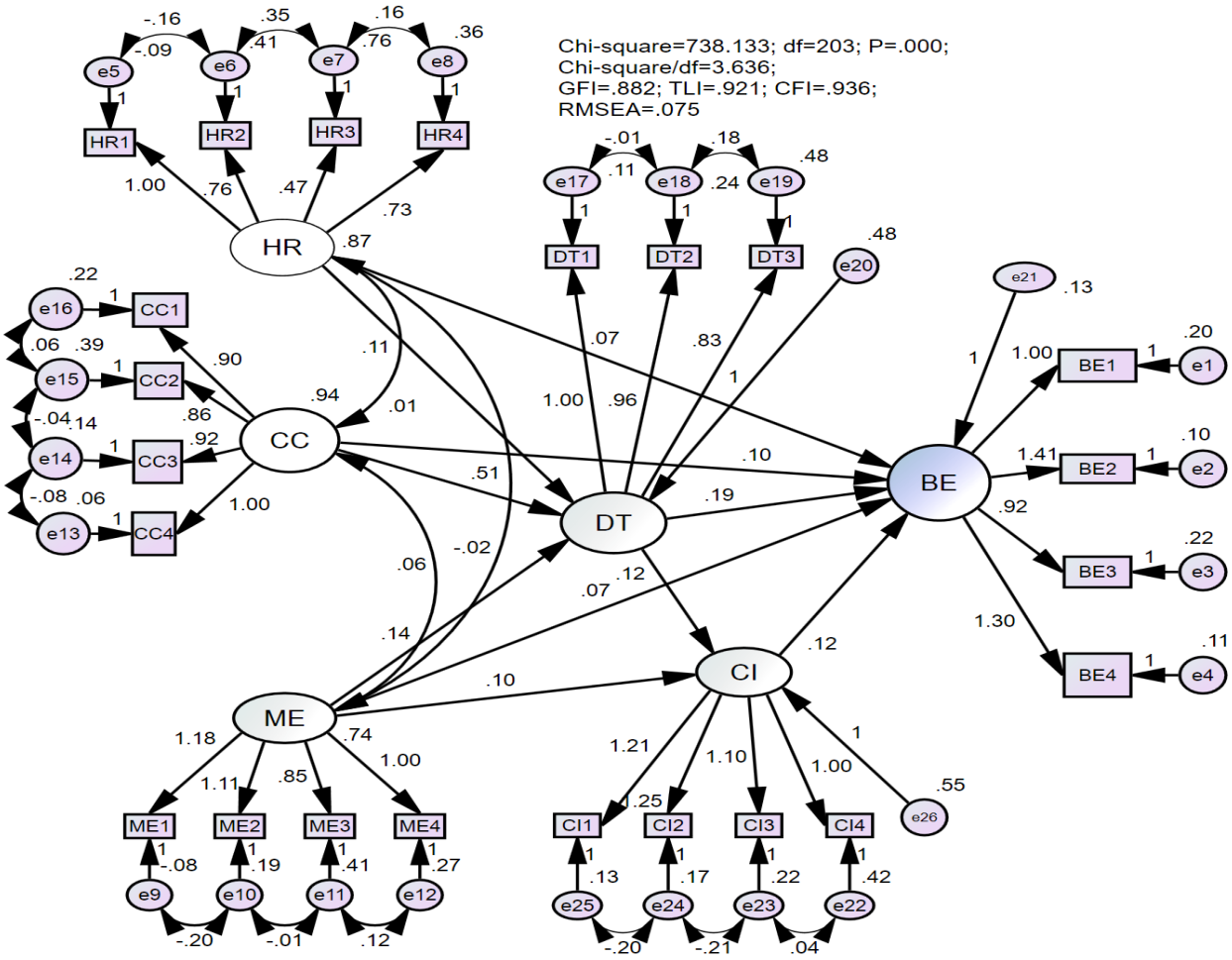

Figure 2.
Testing SEM for factors affecting business efficiency.

Figure 2 depicts the significance threshold of 0.05 for assessing five essential components of business efficiency at small and medium enterprises in Vietnam. The following statistical metrics measured the model's fit: GFI = 0.882 (>0.850), TLI = 0.921 (>0.900), CFI = 0.936 (> 0.900), and RMSEA = 0.075 (< 0.1). To understand the interrelationships of the most important variables impacting the efficiency of small and medium enterprises (SMEs), the researchers used Structural Equation Modeling (SEM) with SPSS 20.0 and AMOS, as shown in the image. One important takeaway is the role that digital transformation (DT) plays in fostering both creative innovation (CI) and business efficiency (BE). The significance of cultivating a supportive and innovation-driven organizational climate is underscored by corporate culture (CC) being acknowledged as the most impactful element of DT. Although the macro environment (ME) affects BE indirectly via DT and CI, it also affects business outcomes directly.

Even more so, the model proves that high-quality human resources (HR) significantly improve BE in two ways: directly and indirectly, through encouraging digital adoption. There is strong evidence that creative innovation (CI) is a critical factor that connects creative approaches to better company success. The figure confirms the associations' robustness and statistical significance by providing standardized estimates and critical ratios (C.R.). This research shows that for small and medium enterprises (SMEs) to expand sustainably, they must use digital technologies, encourage innovation, and use internal and external variables.

Table 3.
Testing average variance extracted for factors affecting business efficiency.

Code	CR	AVE	MSV	Results
HR	0.899	0.691	0.030	Good
CC	0.943	0.804	0.360	Good
ME	0.944	0.808	0.051	Good
CI	0.927	0.762	0.075	Good

Code	CR	AVE	MSV	Results
BE	0.892	0.676	0.277	Good
DT	0.875	0.703	0.360	Good

This study evaluates the validity and reliability of factors affecting Vietnamese SMEs' efficiency using composite reliability (CR), average variance extracted (AVE), and maximum shared variance (MSV). Table 3 exhibits good internal consistency; all constructs have CR values above 0.875, above the threshold value of 0.7. This validates the measurement model.

Convergent validity is confirmed by all factors' AVE values over 0.5, ranging from 0.676 to 0.808. These findings show that concepts adequately explain observed variable variance. All constructs match discriminant validity standards since their MSV values are less than AVE values. Digital transformation (DT) and corporate culture (CC) have the greatest MSV (0.360), showing a strong but independent link, which matches their SEM model influence on company efficiency. The validity of business efficiency (BE) and creative innovation (CI) shows their importance in increasing SMEs' performance.

Table 4.
Testing Bootstrap 70.000 samples for factors affecting business efficiency.

Parameter			SE	SE-SE	Mean	Bias	SE-Bias	C.R	Results
HR	→	DT	0.044	0.001	0.112	0.001	0.001	1.00	Accepted H1
CC	→	DT	0.052	0.001	0.512	0.000	0.002	0.00	Accepted H4
ME	→	DT	0.050	0.001	0.134	0.002	0.002	1.00	Accepted H5
DT	→	CI	0.048	0.001	0.115	0.004	0.003	1.33	Accepted H9
ME	→	CI	0.041	0.001	0.091	0.002	0.001	2.00	Accepted H6
DT	→	BE	0.043	0.001	0.184	0.003	0.002	1.50	Accepted H8
ME	→	BE	0.023	0.001	0.064	0.002	0.002	1.00	Accepted H7
CC	→	BE	0.031	0.001	0.100	0.002	0.003	0.67	Accepted H3
HR	→	BE	0.024	0.001	0.070	0.002	0.003	0.67	Accepted H2
CI	→	BE	0.029	0.001	0.114	0.002	0.002	1.00	Accepted H10

Table 4 presents 70.000-sample Bootstrap testing that confirmed meaningful connections between variables affecting Vietnamese SME business efficiency (BE). Testing indicates strong bias, critical ratios (C.R.), and standard errors (SE), confirming the claimed correlations' relevance and reliability. The data confirm H1 and H4, showing that HR (SE = 0.044, C.R. = 1.00) and CC (SE = 0.052, C.R. = 0.00) considerably impact digital transformation (DT). This highlights the importance of a skilled workforce and an organizational culture that promotes new technology. DT is affected by the macro environment (ME) (SE = 0.050, C.R. = 1.00), demonstrating the impact of stable policies and market circumstances. Thus, DT lends credence to hypotheses 9 and 8 by favorably impacting creative innovation (CI) (SE = 0.048, C.R. = 1.33) and directly improving BE (SE = 0.043, C.R. = 1.5). H10 is confirmed, and the importance of innovation in boosting performance and competitiveness is emphasized because CI also substantially contributes to BE (SE = 0.029, C.R. = 1.00). ME supports H6 and H7 by having an additional effect on CI (SE = 0.041, C.R. = 2.00) and BE (SE = 0.023, C.R. = 1.00). The findings highlight the interdependence between innovation, corporate performance, and external conditions.

Minor variations between the Bootstrap means, and the original estimates indicate statistical robustness, as seen by crucial ratios close to or above 1.00 and low bias values (< 0.004). This enhances the reliability of the SEM model. The findings highlight the importance of policies prioritizing workforce development, encouraging creative company cultures, and taking advantage of stable macroeconomic conditions. Sustainable growth for SMEs in Vietnam can be achieved through digital transformation, innovation, and improved company efficiency, all of which will be driven by these initiatives.

4.2. Discussion of Findings

Based on reliability, validity, and structural equation modeling (SEM), this study identifies key determinants impacting business efficiency (BE) in SMEs in Vietnam. Policymakers and managers can benefit from the findings, which show strong connections between HR, CC, ME, DT, and CI, as well as digital transformation and creative innovation.

(1) The results demonstrate that the constructs are reliable and valid. Cronbach's Alpha values in Table 1 are more significant than 0.875, which indicates excellent internal consistency [1, 7, 12, 28]. In Table 3, convergent and discriminant validity are validated by composite reliability (CR > 0.875) and average variance extracted (AVE > 0.676). These measures prove that the measurement model is stable. Besides, digital transformation's importance: DT is a key component, boosting CI (0.137) and BE (standardized estimate = 0.350). This is evidence of how digital adoption may revolutionize innovation and business results. The significance of fostering an innovation-friendly company culture is highlighted by CC (0.570), which has a significant impact on DT.

(2) The significance of stable policies and external conditions is reflected in the interconnected influences of the macro environment, which affects BE directly (0.122) and indirectly through DT and CI [5, 18, 20, 23, 27]. Emphasizing the significance of worker adaptation and skill development, HR also directly contributes to BE (0.138) and indirectly by allowing digital transformation (0.119). Relationship robustness based on the model's dependability is confirmed by

Bootstrap testing with 70,000 samples in Table 4 which also shows low bias values (< 0.004) and critical ratios (C.R.) that are greater than or equal to 1.00. We can have more faith in the proposed connections because of the strength of the statistics.

(3) The results have real-world implications because they highlight ways to improve BE. Prioritize investments in workforce development and digital transformation. A company's competitiveness and CI can be further enhanced by supporting research and development and cultivating a culture of collaboration. Policymakers are responsible for maintaining a hospitable macro environment with consistent rules and financial incentives. Finally, integrated tactics are necessary because of the interdependent functions of DT, CI, HR, CC, and ME in propelling BE. Managers and policymakers should utilize these characteristics to guarantee long-term growth and enhanced performance for SMEs. Future research and practical applications can rely on the validated model.

5. Conclusions and Policy Recommendations

5.1. Conclusions

This structural equation modeling (SEM) study examines how SMEs in Vietnam can maintain smooth operations. There were substantial links across six critical criteria, according to data from 500 SME managers across five provinces: HR, corporate culture, macro environment, digital transformation, creative innovation, and business efficiency. The findings emphasized digital transformation as a critical component, promoting innovative thinking and directly improving company efficiency (standardized estimate = 0.350). Encouraging innovation-driven work cultures was highlighted when corporate culture was identified as the most critical factor driving digital transformation (0.570). As a reflection of the significance of consistent policy and market circumstances, the macro environment influences corporate efficiency both directly and indirectly. Human resources play a crucial role in facilitating digital integration and flexibility. The significance of investing in research and development is underscored by the tremendous influence of creative innovation on corporate efficiency. The results of the reliability and validity tests show that all constructs have good composite reliability (CR > 0.7), convergent validity (AVE > 0.5), and discriminant validity (MSV < AVE). Policymakers and managers can use these results to inform decisions about, among other things, how to cultivate a positive company culture, train employees more effectively, and utilize digital tools for long-term success. The study highlights how internal and external factors are interdependent in determining the performance of SMEs.

5.2. Policy Recommendations

This outcome analyzes policy proposals to improve business efficiency (BE) in Vietnam's SMEs. The proposals are ranked by standardized estimations of each essential BE component through corporate culture (CC), Digital transformation (DT), Macro environment (ME), Human resources (HR), and Creative innovation (CI).

(1) Improve corporate culture (CC): With normalized estimates of 0.570 for DT and 0.205 for BE, corporate culture is a significant element in digital transformation. Companies prioritizing innovation, teamwork, and flexibility are better at using digital tools and encouraging creativity. Several policy recommendations can boost this effect. Problem-solving and creative training for SMEs is crucial. Team-building exercises can help SMEs collaborate better. Second, leadership training should emphasize collaborative leadership methods that empower people to share ideas and take responsibility. Third, recognition and prizes can inspire creativity and participation in change activities. Fourth, SMEs could learn from larger organizations with strong corporate cultures and successful business models through knowledge sharing. Finally, SMEs should align their corporate culture with their long-term goals for long-term success. This encompasses operational resilience and sustainability. These activities provide an atmosphere for digital transformation and workplace productivity.

(2) Improved digital transformation (DT): The standardized estimate for digital transformation (DT) is 0.350, and creative innovation is 0.137, impacting firm efficiency. Infrastructure and technology investments help SMEs operate and compete. This transition can be supported by several policy initiatives. The government should provide subsidies, tax credits, and low-interest loans to SMEs to assist them in financing digital technologies. Managers and workers should be educated on cybersecurity, data analytics, and digital tool use through courses and online resources. Third, IT provider partnerships enable SMEs to afford advanced digital solutions. The fourth tip is for SMEs to evaluate their operational needs and develop customized digital transformation strategies. Finally, national awareness programs should promote digital transformation and its benefits, particularly its ability to boost efficiency and innovation. These initiatives can speed SMEs' digital transformation, boosting growth and competitiveness.

(3) Improve macro environment (ME): The macro environment (ME) strongly affects digital transformation (DT), business efficiency (BE), and creative innovation (CI), with standard estimates of 0.134, 0.122, and 0.114, respectively. Stable legislation, good markets, and economic incentives indirectly propel SMEs to digital transformation and innovation. Various policy recommendations aim to optimize these consequences. For economic stability, inflation, interest, and currency exchange rates must be managed carefully. Second, the government should implement consistent investment and tax policies to support SMEs. Third, constructing roads, ports, and broadband and enhancing operational efficiency should be priorities. Trade agreements, export promotion programs, and better logistics should help SMEs penetrate global markets. Finally, encouraging public-private collaborations to solve common problems can promote new SME-specific solutions. Collectively, these initiatives strengthen the macro environment, helping SMEs grow.

(4) Improved human resources (HR): HR is crucial to digital adoption and business efficiency (BE), with standardized values of 0.119 and 0.138 for DT and BE, respectively. A skilled and flexible workforce is needed in today's technology-driven economy. Several policies are suggested to maximize this possibility. Skill development programs should prioritize technical skills, digital literacy, and "soft" skills like communication and flexibility. To further the first argument, flexible work arrangements promote work-life balance and productivity. Third, by working with colleges and vocational schools, we

can better adapt student curricula to corporate needs and ensure job readiness. Finally, competitive salary, career growth, and full benefits are essential for talent retention. Finally, diverse and inclusive work policies are necessary to attract more talent and boost innovation and resilience. These measures strengthen the HR base, helping SMEs prosper in the digital economy.

(5) Improved creative innovation (CI): Creative innovation (CI) helps SMEs increase efficiency and generate competitive goods, services, and processes with a standardized estimate of 0.189. Several policies can foster innovation. Grants and tax advantages for SMEs to invest in R&D are the first step. Second, innovation hubs and incubators can assist SMEs, startups, researchers, and other companies in collaborating. Third, SMEs, academic institutions, research institutes, and international organizations should collaborate to build strong collaboration networks. Fourth, IP legislation has to be strengthened to enable SMEs to patent and commercialize their innovations. Finally, supporting blockchain, AI, and the integration of the Internet of Things is crucial to developing new practices. These methods empower SMEs to innovate and be more creative, which boosts productivity and market competitiveness.

6. Limitations and Future Research

6.1. Limitations

The study brings several constraints to light, which could impact the findings and their applicability. Due to economic and infrastructural variations, the results may not apply to other locations or nations outside of Vietnam's five provinces where SMEs are the primary focus. Second, based on the data collected from 500 SME managers, we don't have a complete result because we didn't include input from employees, customers, and other stakeholders. Third, the study can't show how factors impacting company efficiency vary over time or prove causation because it's cross-sectional. Concerning the fourth point, the analysis becomes more limited when other variables, such as government policy, financial access, and global market trends, are not included. Finally, biases are introduced by relying on self-reported data, such as respondents exaggerating the importance of particular elements. To fill gaps in our knowledge of the efficiency of small and medium enterprises (SMEs), future research should consider expanding their geographical and stakeholder emphasis, using longitudinal designs, and including more variables.

6.2. Future Research

Further research should focus on key areas to build on current findings. First, including SMEs from different nations or regions would assist in identifying regional differences in firm efficiency variables. Results would be more generalizable. Tracking changes and identifying causes and effects is the second benefit of longitudinal designs. Finally, merging SME management, worker, customer, and legislative data will provide a more complete picture. Additional elements are needed to understand firm efficiency. These include supply chain dynamics, technology disruptions, global economic conditions, and finance access. Fifth, studying how digital change and organizational culture interact could reveal more. Sixth, supplementing self-reported data with objective metrics like financial performance or technology adoption rates reduces bias and increases validity. The seventh argument is that sector-specific studies can help numerous sectors make more targeted suggestions. Finally, advanced methods like dynamic SEM or machine learning can improve analytical depth and forecasting accuracy, leading to more robust findings.

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