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The Relationship Between Socio-Economic Uncertainty and the Firm's Performance: Evidence from the Retail Industry

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Abstract

Purpose: Research on socioeconomic uncertainty plays an important role in helping companies cope with future uncertainties. This study aims to examine the relationship between socio-economic uncertainty through pandemics such as COVID-19, Ebola, Avian flu, and Swine flu and the firm performance of retail companies. The research will help examine the positive or negative impact of socioeconomic uncertainty on the retail industry. **Research design, data and methodology:** Data were collected from 158 retail enterprises listed on the Vietnamese stock exchange from 2004 to 2023. The study uses the system-generalized method of moments (SGMM) model to handle the endogeneity phenomenon. **Results:** The research results show that socio-economic uncertainty has a negative impact on the firm performance of retail companies. In addition, the study also shows the effect of control variables such as firm size, leverage, beta, and revenue growth on firm performance. **Conclusions:** From the research results, the authors also provide some theoretical and practical implications to help companies improve firm performance when facing socio-economic uncertainty. Additionally, the author gives recommendations to improve the firm's performance in retail companies: developing comprehensive risk management plans, (2) supply chain diversification, (3) strengthening their financial capacity and resource reserves, and (5) enhancing customer relations.

Keywords : Socio-Economic Uncertainty, Firm Performance, Retail Companies, SGMM

JEL Classification Code: C58, D53, G10

1. Introduction

The retail industry plays an important role in the economy by acting as a major driver of economic growth, employment, and consumer spending. Retail businesses serve as the final link in the supply chain, connecting producers with consumers and facilitating the distribution of goods and services. This industry contributes significantly to GDP and stimulates other sectors, such as manufacturing, logistics, and agriculture, by creating demand for goods (Miller & Jones, 2019). In the context of Vietnam, the retail

industry has become one of the fastest-growing sectors, reflecting the country's rapid economic development and rising middle class. According to the World Bank (2022), the retail sector in Vietnam has grown at an average annual rate of 10-12% over the past decade, making it a key contributor to the national economy. The expansion of modern retail formats, including supermarkets, convenience stores, and e-commerce platforms, has transformed consumer habits and increased accessibility to a wide range of products, driving overall economic activity (Ho et al., 2020). This growth is also supported by Vietnam's young

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and tech-savvy population, which has quickly adopted digital shopping habits (PwC, 2021). In Vietnam, the retail sector is vital in addressing employment challenges, particularly in urban areas. The industry provides jobs for many workers, including women and young people, who might struggle to find employment in more traditional sectors (Hoang & Tran, 2021). Additionally, the growth of e-commerce has opened up new opportunities for small and medium-sized enterprises (SMEs) to reach broader markets, enhancing their competitiveness and contributing to economic diversification (Kantar Worldpanel, 2022). The government's supportive policies, such as promoting digital transformation and improving infrastructure, have further bolstered the retail industry's growth in Vietnam (World Bank, 2022). As the country continues integrating more deeply into the global economy, the retail sector is expected to play an increasingly important role in sustaining Vietnam's economic momentum (Ho et al., 2020).

Socio-economic uncertainty, encompassing economic instability, political volatility, and social disruptions, profoundly impacts the retail industry. During periods of uncertainty, consumer confidence typically wanes, leading to reduced spending on non-essential goods and services. This decline in consumer demand directly affects retail sales, forcing businesses to adjust their strategies by cutting prices, offering discounts, or reducing inventory levels (Grewal et al., 2017). Additionally, socio-economic uncertainty can disrupt supply chains, increase costs, cause delays in product availability, and further complicate retailers' operations (Ivory, 2020). Retailers may face challenges securing financing for expansion or innovation as lenders and investors become more risk-averse in uncertain economic climates (Mollah & Zaman, 2021). In emerging markets like Vietnam, where the retail industry significantly contributes to economic growth, socio-economic uncertainty can hinder the sector's development by stifling investment and slowing the expansion of modern retail formats (Vo & Tran, 2021). Moreover, the rise of e-commerce, while offering some resilience against physical disruptions, also brings challenges under uncertain conditions, including fluctuating demand and logistical hurdles (McKinsey & Company, 2020). Therefore, understanding and mitigating the impacts of socio-economic uncertainty is crucial for sustaining the growth and stability of the retail industry.

While existing studies (Feng et al., 2021; García-Gómez et al., 2021; Iqbal et al., 2019) have explored the impact of Economic Policy Uncertainty (EPU) on firm performance, there is a notable lack of research focusing on Socio-economic Uncertainty and its direct influence on firm performance, particularly within the retail sector. The existing literature primarily emphasizes the negative effects of EPU on firm performance, but Socio-economic

Uncertainty—which encompasses broader factors such as political instability, societal changes, natural disasters, and economic shifts—has been largely overlooked. Furthermore, while the retail industry is recognized as highly sensitive to EPU and socio-economic factors, studies that specifically examine how Socio-economic Uncertainty affects the performance of retail enterprises, particularly in emerging markets such as Vietnam, are sparse. This gap highlights the need for research that delves into retail firms' unique challenges in volatile socio-economic environments and how these uncertainties shape their operational outcomes and long-term sustainability.

Thus, this study aims to fill this gap by analyzing the impact of Socio-economic Uncertainty on firm performance within the context of Vietnamese retail enterprises, offering new insights into how socio-economic factors influence business performance in a market undergoing rapid economic and social transformations.

2. Literature Review

2.1. Socio-economic Uncertainty

This study's socio-economic uncertainty is represented through discussions of pandemics such as COVID-19, Ebola, Avian flu, and Swine flu. It can be seen that pandemics bring uncertainty or uncertainty in the future. Therefore, companies will have responses in business operations to deal with these pandemics. Socio-economic uncertainty encompasses various factors such as economic instability, political volatility, and social unrest. Additionally, Socio-economic uncertainty is one of the EPU events or phenomena that occur seldom rather than consistently (Iqbal et al., 2019). EPU has emerged as an important element influencing economic activity, especially in recent years, as global economic conditions have gotten more complicated and chaotic. The notion of EPU is centered on the uncertainties in economic policies and their possible repercussions on firms, consumers, and financial markets. These uncertainties can stem from various factors, including government fiscal and monetary policies, regulatory changes, geopolitical events, and significant legislative developments. Baker et al. (2016) popularized the EPU index, which measures policy uncertainty by examining the frequency of specific phrases related to economic policy uncertainty in newspaper articles. Their findings imply that increased EPU has a considerable negative impact on economic growth, employment, and investment. For example, when businesses perceive policy uncertainty, they may delay or reduce investment decisions, resulting in reduced capital expenditures and slower economic growth. Similarly, consumers may restrict spending owing to worry

about their future income and job security, thus depressing economic activity. As a result, EPU has become an important issue for policymakers, economists, and business executives as they manage the intricate relationship between policy decisions and economic results (Baker et al., 2016).

The broader ramifications of EPU in various geographical and economic contexts have been investigated through additional research. Research has demonstrated that exponential power law can intensify economic downturns by amplifying the impact of adverse shocks, including financial crises or pandemics. For example, elevated EPU during the 2008 financial crisis slowed down the pace of economic recovery by raising market volatility and decreasing consumer and company confidence. Furthermore, the effects of EPU differ from nation to nation depending on the institutional framework, the structure of the economy, and the makeup of the political system. Unlike industrialized economies, emerging economies typically endure more noticeable repercussions from EPU because they have less solid institutional frameworks. Furthermore, cross-country studies have demonstrated the impact of global economic policy uncertainty on international trade and investment flows. As the global economy becomes increasingly integrated, EPU in one country might have an impact on others, affecting international economic connections and policy coordination. Understanding the dynamics of EPU and transmission channels is critical for developing effective economic policies to reduce negative effects and support long-term economic growth (Baker et al., 2016; Ahir et al., 2018).

2.2. Scio-economic Uncertainty and Firm Performance

This study uses theory of investment irreversibility of Bernanke (1983) to explain the relationship between Scio-economic uncertainty and firm performance. In times of heightened socio-economic uncertainty, retail businesses may delay or scale back these investments due to concerns about future market conditions, consumer behavior, and financial stability. Therefore, the author believes that applying the "investment irreversibility" theory to retail is relevant, as the uncertainty surrounding these decisions shares similarities with industries that make large capital commitments, where the fear of irreversible loss can lead to cautious behavior. When managers face uncertainty, they often limit the investment activities and firm size. Socioeconomic uncertainty, including economic instability, political volatility, and social unrest, significantly impacts corporate performance. Uncertainty in socioeconomic situations can influence organizations' decision-making processes, resulting in delays or decreases in investment, employment, and expansion activities. According to Nguyen and Kim (2020) and Iqbal et al. (2019), enterprises

operating in contexts with high socioeconomic uncertainty tend to use more conservative risk-mitigation techniques, such as hoarding cash and lowering capital expenditures. While offering short-term safety, this cautious strategy might significantly impact long-term growth and profitability. Uncertainty also affects consumer behaviour, as individuals may reduce spending in anticipation of poor economic conditions, lowering demand for enterprises' products and services (Nguyen & Kim, 2020). Enterprises may face decreasing revenues and profit margins, particularly in areas highly susceptible to consumer spending (Akey & Lewellen, 2017; Barker et al., 2016).

Furthermore, socioeconomic instability might make it more difficult for businesses to maintain effective operations and supply networks. As Lee, Mauer, and Xu (2018) point out, enterprises operating in uncertain contexts frequently experience supply chain interruptions due to unforeseen legislative changes, trade restrictions, or labour strikes. These disruptions can increase expenses, cause manufacturing delays, and make it impossible to meet consumer requests, further hurting firm performance. Additionally, enterprises may struggle to obtain funding in uncertain socioeconomic climates as lenders and investors become more risk-averse, resulting in higher borrowing costs or restricted access to capital (Feng et al., 2021; Lee et al., 2018). As a result, organizations may be obliged to cut back expansion ambitions or operational investments, limiting their capacity to compete effectively in the market (Chong & Gradstein, 2009; García-Gómez et al., 2021). Therefore, the hypothesis is shown:

H1: Scio-economic uncertainty has a negative impact on firm performance.

3. Method

3.1. Research Model

This study applies the theory of investment irreversibility (Bernanke, 1983). In this context, business managers facing Socio-economic Uncertainty tend to limit investments in business expansion. Consequently, Socio-economic Uncertainty negatively impacts firm performance. It can be seen that the instability caused by the pandemic may not cover all the socio-economic instability. However, this study only focuses on the concerns about instability related to epidemics/pandemics such as SAR, Ebola, COVID19 because these instabilities are also the cause of fluctuations in the global economy as well as social disruption. However, focusing only on the instability related to the pandemic is also a limitation of this study. The research model is shown:

$$\begin{aligned} \text{Firm performance}_{it} &= \beta_i + \beta_1 * VPUI_{it} \\ &+ \sum_{k=1}^n \beta_k * \text{Control variables}_{it} + \vartheta_{it} \end{aligned}$$

The variables are defined in Table 1.

Table 1: The Variables Definition

Variables	Content	Expected
Dependent variables		
ROE	=return on equity	
ROA	=return on assets	
Independent variable		
VPUI	Vietnam Pandemic Uncertainty Index (Discussion about COVID-19, Ebola, Avian flu, Swine flu,....)	-
Control variables		
SIZE	=Ln(total assets)	+
BETA	Risk	-
GREV	=(Revenue _{it} - Revenue _{it-1})/Revenue _{it-1}	-
LEV	=liability on total assets	-

3.2. Data Collection

The data is collected in two ways. Firstly, data on Vietnam's socio-economic fluctuations are collected on WPUI with data on discussions on pandemics such as COVID-19, Ebola, Avian flu, Swine flu, via <https://worlduncertaintyindex.com/data/> from 2004 to 2023. Secondly, data on retail industry business indicators are collected on the Refinitiv database of Thomson Reuters from 2004 to 2023.

3.3. Data Analysis

In research utilizing panel data, the Fixed Effects Model (FEM) and Random Effects Model (REM) are widely used. The FEM focuses on eliminating unobserved factors that are constant over time. FEM achieves this by employing a demeaning transformation or subtracting the time-averaged value of the variable, thereby removing time-invariant factors. However, FEM might overlook differences between individuals in the sample, potentially leading to information loss. On the other hand, REM assumes that unobserved variables are random and uncorrelated with the explanatory variables. REM leverages information from both dimensions, time and space, increasing estimation efficiency. However, REM may not be appropriate if there is a correlation between unobserved factors and the explanatory variables. The System Generalized Method of Moments (SGMM) is applied to address endogeneity in the data. SGMM allows instrumental variables to handle endogeneity issues and provides more efficient estimates.

SGMM is often employed when multiple endogenous variables are present, and it enables model estimation with high efficiency even under unspecified distributional assumptions.

4. Results

4.1. Descriptive

The table presents a statistical summary of various financial variables across different observations. Because some companies have missing data in one/many years, this leads to missing data but is not a problem. Therefore, the data analysis results are not affected when the number of observations is large (n=3940). ROE has a mean of 0.126, a median of 0.120, and a standard deviation of 0.127, ranging from a minimum of -0.153 to a maximum of 0.374. ROA shows a mean of 6.383 and a median of 5.335, with a higher standard deviation of 7.362 and values ranging from -8.423 to 21.105. VPUI has the most significant number of observations at 3,940, with a mean of 190.062, a median of 31.809, and a high standard deviation of 304.381, indicating significant variability, ranging from 0.000 to 1,101.036. BETA has a mean of 0.541, a median of 0.544, and a standard deviation of 0.475, ranging between -0.303 and 1.374. The variable SIZE reports a mean of 17.220, a median of 16.990, and a standard deviation of 1.562, with values ranging from 14.634 to 20.396. GREV with a mean of 0.130, a median of 0.028, and a standard deviation of 0.709, spanning a range from -0.899 to 13.377. Finally, LEV has a mean of 0.630, a median of 0.515, and a standard deviation of 1.556, with values ranging from 0.025 to 36.653, suggesting high variability in leverage across the sample—the details in Table 2.

Table 2: Summary Statistics

Var	Mean	Median	SD	Min	Max
ROE	0.126	0.120	0.127	-0.153	0.374
ROA	6.383	5.335	7.362	-8.423	21.105
VPUI	190.062	31.809	304.381	0.000	1101.036
BETA	0.541	0.544	0.475	-0.303	1.374
SIZE	17.220	16.990	1.562	14.634	20.396
GREV	0.130	0.028	0.709	-0.899	13.377
LEV	0.630	0.515	1.556	0.025	36.653
N=3940					

4.2. Regression

Regression results through FEM and REM models were performed, respectively. The Hausman test was performed to find the appropriate model. However, with panel data models, endogeneity often occurs in FEM, so the study used

the results from the SGMM model to analyse the final results. The author uses a dependent variable at lag 1, given into instrument variables. The SGMM model results with the p-value of AR(1) is less than 0.05, and the p-value of AR(2) showed the autocorrelation is corrected. Hansen's test is greater than 0.05, so the SGMM model using the lagged variable of ROA is appropriate. The regression analysis results show that BETA, VPUI, SIZE, and LEV negatively affect ROA (beta coefficients <0 and all are statistically significant at 1%).

The VPUI has a negative impact on ROA. The pandemics (COVID-19, SAR,...) have had a strong negative impact on ROA in retail enterprises, primarily due to disruptions in consumer behaviour, supply chains, and overall economic activity. During the pandemic, many retail businesses faced mandatory closures, reduced foot traffic, and shifts in consumer spending toward essential goods, significantly curtailing revenue streams (Feng et al., 2021; Iqbal et al., 2019). The sudden decline in sales and ongoing fixed costs such as rent, utilities, and employee salaries strained profitability and reduced asset efficiency. Additionally, supply chain disruptions caused delays and shortages, further impeding the ability of retailers to maintain inventory levels and meet consumer demand. This inefficiency in asset utilization is directly reflected in the lower ROA observed during the pandemic period. Moreover, the pandemic-induced uncertainty prompted a more cautious consumer approach, reducing discretionary spending, which is critical for many retail sectors. The shift to online shopping also created challenges for traditional brick-and-mortar stores, many of which were not fully equipped to transition quickly to e-commerce, resulting in a loss of market share. Furthermore, increased health and safety measures, such as sanitation, social distancing, and personal protective equipment, added additional costs without a corresponding increase in revenue. The cumulative effect of these factors significantly diminished the ability of retail enterprises to generate returns on their assets, highlighting the sector's vulnerability to global crises and the critical need for agility and resilience in their business models. This result is similar to previous study which demonstrated the negative impact of socio-economy uncertainty on firm performance (Feng et al., 2021; García-Gómez et al., 2021; Iqbal et al., 2019).

BETA has a negative impact on ROA. The result is similar to previous studies that show a negative relationship between BETA and ROA (Nguyen et al., 2022). The regression analysis in retail enterprises suggests that firms with higher market risk, indicated by a higher Beta, tend to have lower profitability. This relationship can be attributed to the increased volatility and uncertainty these firms face in response to market fluctuations, which may strain operational resources and reduce asset utilization efficiency

(Fama & French, 1992). Retail businesses are particularly vulnerable to external factors such as changes in consumer demand, supply chain issues, and competitive pressures, which can negatively impact profitability. Additionally, higher Beta values may signal greater perceived risk among investors, leading to a higher cost of capital (Modigliani & Miller, 1958). This could limit the funds available for reinvestment, further diminishing asset returns. The retail sector's sensitivity to economic cycles exacerbates this effect, as firms with higher Beta may experience sharper declines in ROA during economic downturns. Consequently, retail enterprises must prioritize risk management strategies to mitigate the adverse effects of high beta on their profitability. Approaches such as diversification, hedging, and enhancing operational efficiencies could help stabilize returns on assets. Overall, the negative impact of Beta on ROA underscores the importance of managing market risks to maintain financial stability and profitability in the retail sector.

The negative impact of firm size on ROA can be attributed to several factors. Larger firms often experience diminishing returns due to increased complexity in their operations, management inefficiencies, and bureaucratic processes that can slow decision-making and reduce overall agility (Yadav et al., 2022). As retail companies expand, they may face challenges in maintaining the same operational efficiency that smaller firms can often achieve, leading to a dilution in asset utilization effectiveness. Additionally, larger firms typically have higher fixed costs, such as overhead expenses, which can erode profitability if not matched by proportional revenue growth. The sheer scale of operations in large retail enterprises may also result in underutilized assets, such as excess inventory or real estate, which further reduces ROA. Furthermore, large firms may struggle with innovation and adapting quickly to market changes, as their size can make it more challenging to implement new strategies or pivot in response to consumer demands. This inertia can lead to missed opportunities and a lower return on assets (Shepherd, 1972; Yadav et al., 2022). While growth and expansion are often seen as positive, they can negatively impact ROA if not managed carefully, highlighting the importance of maintaining operational efficiency and strategic focus.

Leverage, often used to enhance returns, can have a negative impact on ROA, particularly when the level of debt becomes excessive (Yadav et al., 2022). High leverage increases a company's financial risk, as it must meet regular interest and principal payments regardless of its profitability. In periods of economic downturn or declining sales, this debt burden can severely strain a company's cash flow, limiting its ability to invest in operations, innovate, or respond to market changes. This financial pressure can reduce asset utilization efficiency, as funds are diverted to

servicing debt rather than being used productively. Moreover, high leverage can increase borrowing costs, as lenders demand higher interest rates to compensate for the added risk, further eroding profitability. Additionally, overly leveraged firms may face higher scrutiny from investors and credit rating agencies, potentially leading to downgrades and a higher cost of capital. High debt levels can result in financial distress or even bankruptcy, drastically reducing ROA. Thus, while leverage can amplify returns in good times, it can also exacerbate losses, highlighting the importance of maintaining a balanced capital structure to protect ROA.

Revenue growth positively impacts ROA by enhancing the efficiency with which a company uses its assets to generate profits. As revenue increases, the company can spread its fixed costs, such as rent, salaries, and utilities, over a larger sales base, thereby improving profit margins. This scaling effect leads to higher profitability per unit of asset, which directly boosts ROA. Moreover, revenue growth often signals strong demand for the company's products or services, leading to better inventory turnover, more efficient use of assets, and the potential for reinvestment into further expansion or innovation. As companies grow their top line, they may also benefit from economies of scale, reducing the per-unit cost of goods sold and enhancing overall operational efficiency. Additionally, consistent revenue growth can improve a company's bargaining power with suppliers, leading to better pricing and terms, further contributing to profitability. Strong revenue growth can also attract investment, providing additional capital to enhance asset utilization. Overall, sustained revenue growth is a key driver of improved ROA, as it enables a company to maximize the productivity and profitability of its existing asset base.

Table 3: The Result of Regression with ROA

VARIABLES	(1) FEM	(2) REM	(3) SGMM
ROA _{t-1}			0.318*** (0.00166)
VPUI	-0.000317 (0.000313)	-0.000327 (0.000314)	-0.000427*** (1.01e-05)
BETA	0.0938 (0.411)	-0.274 (0.396)	-1.861*** (0.0534)
SIZE	-1.051** (0.496)	0.217 (0.254)	-0.524*** (0.0209)
GREV	2.414*** (0.344)	2.425*** (0.343)	3.222*** (0.0215)
LEV	-0.460*** (0.116)	-0.387*** (0.0998)	-0.884*** (0.0636)
Constant	23.98*** (8.662)	1.976 (4.444)	14.25*** (0.369)
Observations	1,116	1,116	1,102

VARIABLES	(1) FEM	(2) REM	(3) SGMM
R-squared	0.064		
Number of i	158	158	157
AR(1)			0.001
AR(2)			0.247
Hansen test			0.267

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The authors also conducted a regression analysis with ROE as the dependent variable. The regression analysis showed that BETA, VPUI, and LEV have an inverse impact on ROE (the beta coefficient is negative and statistically significant at 1%). SIZE and LEV positively impact ROE (the beta coefficient is positive and statistically significant at 1%). The impact of VPUI on ROE and ROA is the same. Socio-economic instability reduces the profit margins of ROE and ROA—the details in Table 4 show socio-economic instability.

Table 4: The Result of Regression with ROE

VARIABLES	(1) FEM	(2) REM	(3) SGMM
ROE _{t-1}			0.354*** (0.00236)
VPUI	-1.53e-05** (5.94e-06)	-1.52e-05*** (5.91e-06)	-8.73e-06*** (3.85e-07)
BETA	-0.0221*** (0.00792)	-0.0272*** (0.00748)	-0.0744*** (0.000997)
SIZE	0.00869 (0.0102)	0.0231*** (0.00457)	0.0170*** (0.00125)
GREV	0.0549*** (0.00702)	0.0554*** (0.00694)	0.0894*** (0.00133)
LEV	-0.178*** (0.0294)	-0.155*** (0.0230)	-0.277*** (0.00221)
Constant	0.0548 (0.175)	-0.209*** (0.0775)	-0.0641*** (0.0225)
Observations	1,072	1,072	1,056
R-squared	0.107		
Number of i	155	155	153
AR(1)			0.000
AR(2)			0.176
Hansen test			0.550

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

5. Conclusion and Implications

The study illustrates the literature review about socio-economic uncertainty and firm performance. Socio-economic uncertainty is one of the EPU's which are defined

as disruptive events. In this study, the Socio-economic uncertainty is a proxy via the Vietnam Pandemic uncertainty index such as COVID-19, SAR, and EBOLA.... The authors based their research model on the theory of investment irreversibility and gave the hypothesis that shows the relationship between socio-economic uncertainty and firm performance. The study tested the hypothesis via data from retail enterprises, and the result shows the negative impact of socioeconomic on firm performance. Additionally, the study aims to assess the impact of control variables such as firm size, beta, growth of revenue, and leverage. The results demonstrate that beta, size, and leverage have a negative impact on ROA, and growth revenue has a positive impact on ROA. Besides, the study shows that beta and leverage negatively impact ROE, and firm size and revenue growth positively impact ROE.

Theoretical implication

This study makes a significant theoretical contribution by examining the relationship between socio-economic uncertainty and firm performance in retail enterprises based on the theory of investment irreversibility. It can be observed that when facing socio-economic risks, retail enterprise managers tend to reduce business investments when information about the stability of these events is uncertain. Companies limit business expansion and maintain operations at a minimal level to avoid risks in case the socio-economic uncertainty persists longer than expected. This could financially drain the company if such a situation occurs. Overall, facing uncertainties such as the COVID-19 pandemic or Ebola will reduce the firm performance of retail enterprises. In addition, an interesting result from the negative effect of size on firm performance provides theoretical contributions on the large risk in investment during periods of crisis or instability.

Practical implication

The study gives recommendations to retail companies based on the results. First, companies must develop comprehensive risk management plans to ensure business continuity, including preparation for significant disruptions. This may involve investing in digital infrastructure, allowing companies to sustain e-commerce operations even when physical stores are forced to close. Retail companies must create strategies that anticipate potential disruptions and outline clear action steps for various crisis scenarios. This includes investing in digital infrastructure that supports seamless e-commerce operations, especially when physical stores are forced to close. In an increasingly digital world, retailers must integrate online platforms into their core business models to ensure they can continue serving customers regardless of external disruptions. Such investments might include building robust websites and mobile apps and implementing effective online payment

systems, which allow companies to maintain operations and meet customer needs even during difficult times.

Second, diversifying the supply chain and establishing alternative supply channels are crucial factors in mitigating risks from supply disruptions caused by pandemics. Companies should closely collaborate with suppliers to ensure a continuous supply, even under challenging circumstances. Retail companies should build flexible and resilient supply chains by establishing alternative sources for key materials and products. This may involve developing relationships with multiple suppliers in different geographic regions to reduce reliance on a single source and to ensure that the company can continue to meet demand during unforeseen disruptions. Collaboration with suppliers to create contingency plans for supply chain disruptions, including adjusting delivery schedules or diversifying product sources, can be an essential part of this strategy.

Third, strengthening financial capacity and resource reserves to cope with unexpected situations is also necessary. Companies should build contingency funds and maintain high liquidity to navigate crises without facing financial shortfalls. Building contingency funds and maintaining high liquidity are crucial for weathering unexpected economic shocks. Retailers should regularly assess their financial health, ensuring they have the flexibility to cope with crises without facing financial shortfalls. This includes managing cash flow effectively, reducing unnecessary costs, and maintaining lines of credit or emergency funds that can be quickly accessed in times of need.

Finally, enhancing customer relations and building loyalty through customer care programs and digital marketing can help companies retain their customer base even during tough times. These implications not only help retail businesses improve their crisis response capabilities but also enhance their sustainability and competitiveness in the long term.

6. Limitation and Future Research

Although the study has tested the negative relationship of socio-economic uncertainty on firm performance in retail enterprises, there are limitations. Firstly, the study only focuses on retail companies without considering other industries. Different industries may be affected by socio-economic uncertainty differently. Secondly, the study only uses pandemics as proxies for socio-economic uncertainty, while other proxies for political instability or disaster may affect firm performance. From these limitations, the study also gives implications for future research: Future studies can expand the sample size to consider different industries. Secondly, socio-economic uncertainty extends the proxy variables.

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