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Exploring the impact of environmental uncertainty and strategic management accounting on competitive advantage and performance: Empirical insights from SMEs in Indonesia

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Abstract

Small and medium-sized businesses (SMEs) in Indonesia have suffered significantly because of the COVID-19 pandemic that led to unpredictability of operational performance. Hence, SMEs must formulate the right strategies and innovative techniques to be able to hurdle the challenges. In this study, the numerous factors influencing SMEs' performance are evaluated to determine their impact on internal business procedures. Performance, environmental uncertainty, the use of strategic management accounting, and competitive advantage with a focus on product differentiation are the variables examined. This study employs a quantitative methodology and questionnaire-based data collection approaches. Furthermore, structural equation modelling is used to process the gathered data. According to the data collected from 167 respondents across 67 firms, environmental uncertainty has a negative impact on business performance, but has no effect on the usage of strategic management accounting. While having a positive impact on the competitive advantage that focuses on product differentiation, the use of strategic management accounting has no impact on performance. Furthermore, performance is positively impacted by a competitive advantage that emphasizes product differentiation. The results of this research contribute to the development of accounting science, especially management accounting. Meanwhile, the practical contribution for SMEs is in terms of increasing their competitive advantages.

Keywords: *competitive advantage, environmental uncertainty, firm performance, use of strategic management accounting*

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1. Introduction

The Indonesian economy is heavily dependent on small and medium-sized businesses (SMEs). In fact, according to Pratama (2021), an economist for UNDP Indonesia, the SME sector is the foundation of the national economy. However, the COVID-19 pandemic has had a significant negative impact on SMEs and the Indonesian economy (Indrawan, 2020) on several factors including trouble paying debts, fixed expenditures such rent, and employee salaries (Artha, 2021). Mulyani (2020), Minister of Finance of the Republic of Indonesia, asserts that the COVID-19 pandemic-related uncertainty influenced Indonesia's economic circumstances in 2021. As Widodo (2021), President of the Republic of Indonesia, declared the pandemic circumstances to continue create severe uncertainty, which Frank (2016) refers to the inability to precisely identify upcoming environmental changes. While environmental uncertainty affects organizations (Yu et al., 2016), empirical studies showed improved organizational performance during environmental uncertainty (Mukherji & Mukherji, 2017; Abdallah & Persson, 2014; Bastian & Muchlish, 2012; Sung et al., 2010). However, several studies have also found negative effects on organizational performance (Aprisma & Sudaryati, 2020; Sajilan et al., 2019; Singh, 2019). Of the pressing uncertainties, market and customer demands still remains a problem for SMEs (Siow, 2021), caused by the COVID-19 pandemic's unexpected shifts in consumers' preferences and lifestyles (Davina, 2021).

The environmental factors brought by the COVID-19 pandemic on the performance of SMEs include strategic, technological, cultural, and environmental aspects (Tworek, 2019; Colquitt et al., 2019; Rao, 2016). The pandemic has negatively impacted SMEs' earnings as evidenced by performance degradation (Suhariyanto, 2020) resulting to reduction in reported revenues by 82.4% of small and medium-sized businesses and 92.29% of big and medium-sized businesses (Central Statistics Agency, 2020). According to Rumondang (2020), this drop is the result of fewer customers making demands, which was supported by Hartarto (2020), as per the Asian Development Bank survey, emphasizing the negative impact on demand for 30.5% of SMEs.

Despite the setbacks brought by the pandemic, SMEs are highly encouraged to keep up with the current lifestyle and preferences of the consumers. Masduki (2021) believes that SMEs can either provide a new product or develop a new market niche through innovative ideas. Dorson (2018) argues that competitive advantage and innovation are positively

correlated. The company's competitive advantage outperforms the competition through cost leadership or product differentiation (Li, 2018; Drury, 2018). On the other hand, product differentiation is a strategy used by businesses to acquire a competitive edge by raising the value of the good or service the client receives (Barney & Hesterly, 2019). The threats to the environment can be eliminated, and businesses can seize the possibilities that already exist, through product differentiation. Consequently, the performance of a company is impacted by competitive advantage through product differentiation (Yuliansyah et al., 2017; Teerantasirikool et al., 2013; Mwangi, 2013; Aykan & Aksoylu, 2013).

As a result of the COVID-19 pandemic, SMEs have begun to diversify their product lines. The words "diversify" and "differentiate" both refer to adding something new to a firm through diversification (Deepak & Jeyakumar, 2019). However, according to Masduki (2021) citing the survey conducted by the Central Statistics Agency, only 15 out of 100 enterprises diversified their operations during the COVID-19 pandemic. For this, Aviliani (2021) suggests that SMEs need to stand out from their competitors and have an advantage over their products to survive the aftermath of the pandemic. Similarly, Rahadi (2020) encourages strategy to raise product quality in the COVID-19 pandemic-affected industries.

An integrated collection of possibilities known as a strategy helps businesses build sustained competitive advantages (Lafley & Martin, 2013). According to Setyawan (2020), in order to ensure that strategies are successful in an uncertain crisis situation, it is crucial to understand the characteristics of sustainable businesses. To this, Lautour (2018a) suggests strategic management accounting, a strategy used to determine the best value chain for the business to make informed judgments. Strategic management accounting is anticipated to make it possible to enhance SMEs' performance because it has a positive effect on firm performance (Wajdi & Arsjah, 2019; Alamri, 2019; Phornlaphatrachakorn, 2019; Lay & Jusoh, 2017; Al-Mawali, 2015a; Zenita et al., 2015).

While it was evident that the pandemic has tremendously affected the performance of the SMEs, Zulaeha (2021) believes that SMEs are still challenged to thrive at the aftermath of the crisis. Hence, to understand how SMEs performed during the COVID-19 pandemic, this study examines environmental uncertainty, competitive advantage with emphasis on differentiation strategies, and the use of strategic management accounting. Within the framework of developing ways to enhance performance and business continuity amidst the

pandemic effect, it is hoped that this research will offer policy input for SMEs and the government.

2. Literature Review

2.1. Environmental uncertainty and firm performance

Performance is structured to improve teamwork, information exchange, and employee oversight (Colquitt et al., 2019). It is also the result of the adjustment of two or more aspects, such as strategy, structure, technology, culture, and environment (Tworek, 2019). The company's resources and capacities are managed through performance planning (Barney & Hersterly, 2019). Uncertainty for businesses can be driven by elements relating to the economy, environment, and society (Daft et al., 2010). Because the company cannot reliably foresee potential changes in the future, environmental uncertainty exists (Frank, 2016). Uncertainty in the environment is the absence of knowledge about environmental factors that have an impact on a company's performance (Chen, 2013). Empirical findings showed that environmental uncertainty affects firm performance (Aprisma & Sudaryati, 2020; Sajilan et al., 2019; Singh, 2019; Mukherji & Mukherji, 2017; Abdallah & Persson, 2014; Bastian & Muchlish, 2012; Sung et al., 2010). According to Mukherji and Mukherji (2017), Abdallah and Persson (2014), Bastian and Muchlish (2012), and Sung et al. (2010), high levels of environmental uncertainty have a positive effect on company performance. Given the findings from previous studies, this study posits that:

H_1: Environmental uncertainty has a positive effect on firm performance.

2.2. Environmental uncertainty and the use of strategic management accounting

Businesses must develop adaptable ways to deal with uncertain situations (Barney & Hesterly, 2019). The design of strategies and management accounting are combined in strategic management accounting. A framework is created through strategic management accounting to maintain control and provide data for management planning and decision-making (Li, 2018). To ensure the company's survival, decision-makers must adapt to environmental uncertainties that arise (Kramer, 2013). Business makes strategic choices to adapt to shifting environmental conditions (Ganswein, 2011). According to Sumkaew and Intanon (2020), Al-Mawali (2015a), and Pavlatos (2015), high environmental uncertainty has

an effect on the high use of strategic management accounting, particularly in terms of planning, controlling, and decision-making. Hence, this study argues that:

H_2: Environmental uncertainty has a positive effect on the use of strategic management accounting.

2.3. The use of strategic management accounting and firm performance

The company and the information users determine the use of strategic management accounting and the management accountants must be able to comprehend the given data (Lautour, 2018b). Therefore, management accountants' focus extends beyond the operational to the strategic sphere (Li, 2018). The application of strategic management accounting significantly affects how well business functions (Al-Mawali, 2015b). According to Wajdi and Arsjah (2019), Alamri (2019), Phornlaphatrachakorn (2019), Lay and Jusoh (2017), Al-Mawali (2015b), and Zenita et al. (2015), organizations that employ strategic management accounting extensively perform better. Thus, this study hypothesizes that:

H_3: The use of strategic management accounting has a positive effect on firm performance.

2.4. The use of strategic management accounting and competitive advantage

The company's strategy, its position in the market, and the necessary production model are all determined using strategic management accounting (Lautour, 2018a). Corporate strategy is a company's method of matching its skills with market opportunities to achieve its objectives (Datar & Rajan, 2018). The company's objective in this instance is to get a competitive advantage. A corporation can use its competitive advantage to successfully dominate the market and outperform its rivals (Li, 2018). Cost leadership and product differentiation are two ways to gain a competitive advantage (Drury, 2018). The purpose is to exploit product differentiation to give the company a competitive advantage. Increasing the perceived worth of a company's goods or services among consumers is a strategy used by businesses to achieve a competitive advantage (Barney & Hesterly, 2019). It is predicted that the extensive usage of strategic management accounting will impact product differentiation (Lay & Jusoh, 2012). The findings of earlier research showed that the usage of strategic management accounting had a positive impact on competitive advantage, with an emphasis on

product differentiation (Wajdi & Arsjah, 2019; Oyewo & Ajibolade, 2019; Alamri, 2018; Jaf et al., 2015; Lay & Jusoh, 2012). Hence, this study postulates that:

H_4: The use of strategic management accounting has a positive effect on competitive advantage.

2.5. Competitive advantage and firm performance

The capacity of a business to provide more economic value than its competitors is known as a competitive advantage (Barney & Hesterly, 2019). Competitive advantages can be acquired through cost leadership or product differentiation. In this study, the theory of competitive advantage is used to describe product differentiation. Companies that can thrive in an unpredictable environment exhibit a high degree of differentiation and integration (Daft et al., 2010). Compared to cost leadership, product differentiation is seen to be able to improve business performance (Yuliansyah et al., 2017). Similar findings from earlier studies have been confirmed; product differentiation improves corporate performance (Teerantansirikool et al., 2013; Mwangi, 2013; Aykan & Aksoylu, 2013), hence:

H_5: Competitive advantage has a positive effect on firm performance.

3. Methodology

3.1. Participants and procedures

This study employs a descriptive survey research design and quantitative methodology. Utilizing both online and offline distribution of questionnaires, data gathering approaches were conducted. Small and medium-sized businesses in DKI Jakarta and Banten comprise the study's sample, and management accountants served as respondents. The two provinces were selected based on the findings of a survey conducted by the Central Statistics Agency in 2020, which revealed that DKI Jakarta and Banten were among the four provinces where business actors endure the greatest income decreases. The research sample contained up to 188 respondents drawn from the population. However, 21 responses did not fit the sample's requirements. Therefore, only 167 samples can be utilized and dispersed across 67 businesses. As a result, 88.83 percent retrieval rate. This amount of samples still complies with Hair et al. (2014) that 100 samples should be collected at a minimum when the model has five or fewer variables, each of which has at least three measurable variables.

3.2. Instrumentation

The performance of SMEs and the variables that affect it, such as environmental uncertainty, competitive advantage, and the use of strategic management accounting, are observed in this study. The study employed the indicators from Govindarajan (1984) with modifications of Gupta and Govindarajan (1984) to measure performance variables. These indicators were chosen because these were frequently used by researchers to assess the performance of businesses, such as Hoque (2005), Teeratansirikool et al. (2013), Lay and Jusoh (2012, 2017). They are converted into a questionnaire, which is evaluated on a Likert-like five-point scale, with 1 indicating "below average" and 5 indicating "above average." Furthermore, Hoque's (2005) research indicators are used to measure the environmental uncertainty variable. Additionally, this was employed in previous research, specifically Sung et al. (2010) and Bastian and Muchlish (2012). This indicator is converted into a questionnaire that is rated on a Likert-like five-point scale, with 1 denoting "highly predictable" and 5 denoting "extremely unpredictable". In this study, a competitive advantage with a focus on product differentiation is the third variable used. These factors are measured using the Porter indicator, which Allen and Helms (2006) developed. The indicator was selected since it has been employed by numerous prior researchers, including Aykan and Aksoylu (2013) and Teeratansirikool et al (2013). This indicator is converted into a questionnaire in a Likert-like scale with 1 being "never" and 5 being "always". Finally, indicators from Guilding et al. (2000) are used to measure the variable of strategic management accounting use. These indicators are frequently used to assess how well strategic management accounting variables are being employed, such as Al-Mawali (2015), Pavlatos (2015), Zenita et al. (2015), and Sumkaew and Intanon (2015). This is converted into a questionnaire that is rated in a Likert-like scale of 1 to 5, where 1 is "not applied at all" and 5 is " mostly applied."

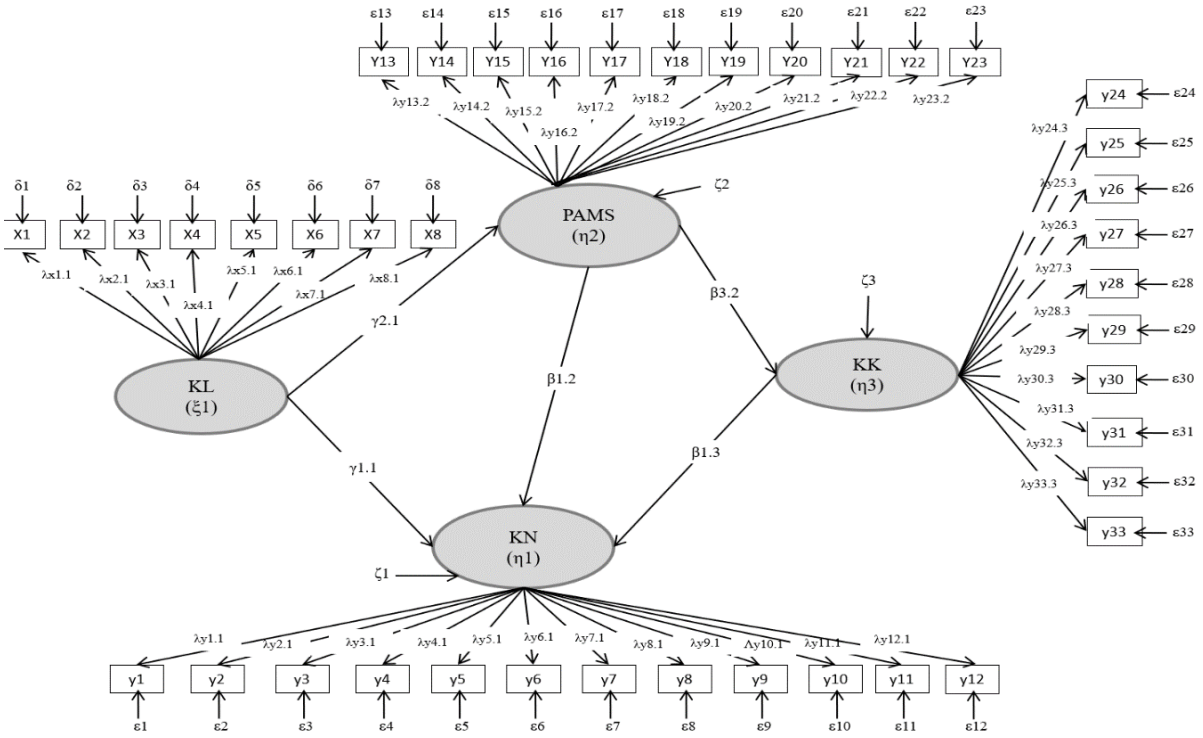
3.3. Data analysis

Following data collection, the data were examined using Lisrel structural equation modeling (SEM). To determine the latent variable score (LVS), Lisrel 8.8 software with a model simplification technique was employed. The stages in the analysis using Lisrel structural equations are model conceptualization, flow chart preparation, specification of measurement models and structural models, model identification, parameter estimation by performing multivariate normality tests (p-value of skewness and kurtosis 0,50), testing the fit on the

measurement model by testing the construct reliability (≥0,70), extracting variance (≥0,50), and fitting the overall model using the goodness of fit (GOF). Figure 1 shows the path of this research.

Figure 1

Structural equation model with Lisrel



Source: processed by researchers

4. Results

It was possible for researchers to get information from 167 respondents who worked for 67 SMEs. The observed organizations' business sectors are dispersed over the hospitality, food and beverage, manufacturing, construction, trade and automobile repair, transportation, and other services industries. Utilizing these data, Lisrel was used for data analysis. The normalcy test is the first test carried out. The researchers performed a bootstrapping process on the data by doubling the number of samples by two after the normality test of the 167 samples revealed that the distribution of the data did not match the assumption of multivariate normality. The number of samples climbed to 334 following the bootstrapping technique, and

the sample passed a second normality test. The results of the 334 sample normality test showed that the p-value for skewness and kurtosis was $0.062 \geq 0.05$. This result shows that the data distribution fulfills the multivariate normality condition. As a result, data analysis for each research variable can be continued.

On each variable in this study, validity, and reliability tests, as well as model fit, were conducted. The validity test is conducted using the standardized loading factor (SLF) ≥ 0.5. The construct reliability (≥ 0.70) and variance extracted (≥ 0.50) values are looked at while the reliability test is being conducted. The findings of the validity and reliability tests for each variable are shown in table 1.

Table 1

Validity and reliability test results

Variable	SLF ≥ 0,5	Errors	Reliability		Description
			CR ≥ 0,7	VE ≥ 0,5	
KN			0,941229	0,644152	Good reliability
KN1	0,83	0,31			Good validity
KN2	0,87	0,24			Good validity
KN3	0,94	0,13			Good validity
KN4	0,91	0,18			Good validity
KN5	0,77	0,4			Good validity
KN6	0,85	0,27			Good validity
KN7	0,65	0,58			Good validity
KN8	0,72	0,49			Good validity
KN9	0,63	0,61			Good validity
KK			0,917022	0,526901	Good reliability
KK1	0,62	0,62			Good validity
KK2	0,72	0,48			Good validity
KK3	0,74	0,45			Good validity
KK4	0,67	0,55			Good validity
KK5	0,74	0,46			Good validity
KK6	0,64	0,59			Good validity
KK7	0,74	0,45			Good validity
KK8	0,73	0,46			Good validity
KK9	0,85	0,28			Good validity
KK10	0,78	0,39			Good validity
PAMS			0,944569	0,60845	Good reliability
PAMS1	0,73	0,47			Good validity
PAMS2	0,85	0,28			Good validity
PAMS3	0,8	0,37			Good validity
PAMS4	0,8	0,35			Good validity
PAMS5	0,73	0,47			Good validity

Variable	SLF ≥ 0,5	Errors	Reliability		Description
			CR ≥ 0,7	VE ≥ 0,5	
PAMS6	0,77	0,4			Good validity
PAMS7	0,82	0,33			Good validity
PAMS8	0,76	0,42			Good validity
PAMS9	0,82	0,32			Good validity
PAMS10	0,78	0,39			Good validity
PAMS11	0,7	0,5			Good validity
KL			0,845401	0,525164	Good reliability
KL2	0,8	0,36			Good validity
KL4	0,71	0,5			Good validity
KL5	0,61	0,63			Good validity
KL6	0,81	0,34			Good validity
KL7	0,67	0,54			Good validity

Source: processed by researchers

Several indicators were left out in order to achieve high reliability and validity for the variables performance (KN), competitive advantage (KK), usage of strategic management accounting (PAMS), and environmental uncertainty (KL). The six indicators KN10, KN11, KN12, KL1, KL3, and KL8 are not included.

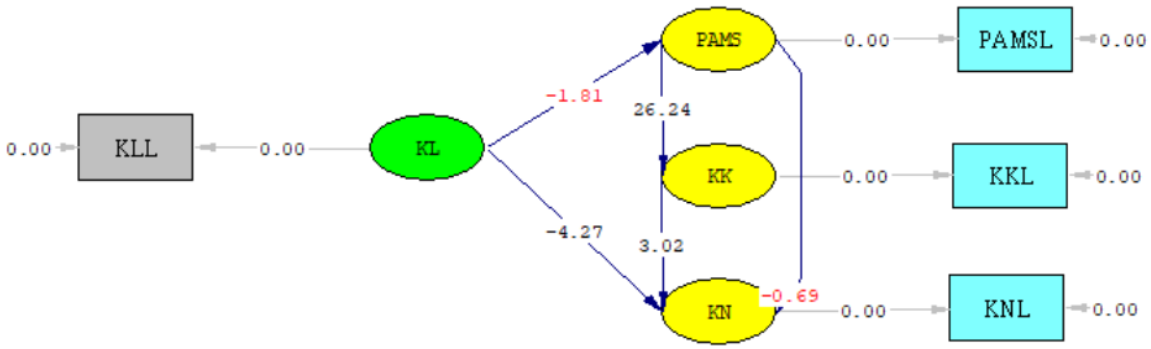
Furthermore, the model fit test was conducted using the goodness of fit (GOF) measurement after the validity and reliability tests for each variable were finished. There is 18 goodness of fit indicators used, namely absolute fit measures using the chi-square statistical value, p-value, non- centrality parameter (NCP), goodness-of-fit index (GFI), root mean square residual (RMR), root mean square error of approximation (RMSEA), expected cross-validation index (ECVI), incremental fit measures using non-normed fit index (NNFI), normed fit index (NFI), adjusted goodness of fit index (AGFI), relative fit index (RFI), incremental fit index (IFI), comparative fit index (CFI), parsimonious fit measures using parsimonious goodness of fit (PGFI), parsimonious normed fit index (PNFI), akaike information criterion (AIC), consistent akaike information criterion (CAIC), other fit measures using the critical value "N" (CN). Based on these 18 indicators, the performance variables (KN), competitive advantage (KK), the use of strategic management accounting (PAMS), and environmental uncertainty (KL) have good-fit results.

The latent variable values can be arranged in order to make the structural model simplified after the validity, reliability, and model fit tests have been conducted. The findings of this model simplification provide results that are well-fitted, and the latent variable values can be arranged in a way that makes the structural model simplified. Results with a good fit

are produced by this model simplification. With a critical value of 1.96, the structural model testing can therefore be continued to see the significance test. The findings of putting the structural model to the test are shown in figure 2.

Figure 2

Struktural Model Analysis (T-value) with Lisrel 8.8



Chi-Square=0.01, df=1, P-value=0.91246, RMSEA=0.000

Source: processed by researchers

According to the test results, the structural model equations can be written as follows:

```
PAMS =  - 0.10*KL, Errorvar.= 0.98  , R² = 0.010
          (0.056)              (0.077)
           -1.81                12.67

KK = 0.80*PAMS, Errorvar.= 0.36  , R² = 0.64
      (0.030)               (0.032)
       26.24                 11.31

KN =  - 0.063*PAMS + 0.29*KK - 0.20*KL, Errorvar.= 0.88  , R² = 0.11
        (0.091)      (0.096)   (0.047)             (0.072)
        -0.69         3.02     -4.27               12.20
```

Three structural model equations have been created. According to the **first structural model's equation**, the environmental uncertainty (KL) variable's coefficient of direct influence on the use of strategic management accounting (PAMS) is -0.10 with a 0.056 error value. The t-value obtained when the coefficient value is immediately divided by error is -1.81. The environmental uncertainty (KL) variable has no impact on the use of strategic management accounting (PAMS), as indicated by the fact that this 1.81 value is less than 1.96 (**H2 is**

rejected). The **second structural equation model** (SEM) also demonstrates the coefficient of direct influence of the variable using strategic management accounting (PAMS) on competitive advantage (KK) of 0.80 with an error value of 0.030. The direct coefficient is divided by the error value to produce the t-value, which comes out to be $26.24 \geq 1.96$. Using strategic management accounting (PAMS) has a beneficial impact on competitive advantage (KK), in other words (**H4 is accepted**). The coefficient of direct influence of the performance (KN)-affecting variables can be shown in **the last structural equation model (SEM)**. The use of strategic management accounting (PAMS), which has a direct coefficient of -0.063 and an error value of 0.091, is the first factor that influences performance (KN). The t-value of -0.69 is the combination of the direct coefficient value and the error value. Since 0.69 is less than 1.96, the use of strategic management accounting (PAMS) has no bearing on performance (KN) (**H3 is rejected**). Competitive advantage (KK), the second factor that influences performance (KN), has a direct coefficient of 0.29 and an error value of 0.096. The t-value obtained when the coefficient value is immediately divided by the error value is $3.02 \geq 1.96$. In other words, performance (KN) is positively impacted by the competitive advantage (KK) (**H5 is accepted**). Finally, the performance (KN) variable has a direct coefficient of -0.20 with an error of 0.047 on the environmental uncertainty (KL) variable. Divide the direct coefficient value by the error, and the result is -4.27. The performance (KN) variable is influenced by the environmental uncertainty (KL) variable, as indicated by the t-value of $4.27 \geq 1.96$. The performance (KN) variable is negatively impacted by the environmental uncertainty (KL) variable because the direct coefficient value's sign is negative (**H1 is rejected**).

Table 2

Hypothesis test results

Hypothesis	Direct Coefficient Value	Error	t-value	Result
KL → KN (+)	-0,20	0,047	-4,27	H1 rejected
KL → PAMS (+)	-0,10	0,056	-1,81	H2 rejected
PAMS → KN (+)	-0,063	0,091	-0,69	H3 rejected
PAMS → KK (+)	0,80	0,030	26,24	H4 accepted
KK → KN (+)	0,29	0,096	3,02	H5 accepted

Source: processed by researchers

5. Discussion

This study aims to examine the factors that influence small and medium-sized business performance (KN) during the COVID-19 pandemic. Environmental uncertainty (KL), competitive advantage (KK), with an emphasis on differentiation strategies, and the use of strategic management accounting (PAMS) are the factors that influence performance (KN). The impact of environmental uncertainty (KL) on the use of strategic management accounting (PAMS) and the impact of strategic management accounting (PAMS) on competitive advantage are also covered in this study (KK).

According to the findings of the **first hypothesis** test, performance (KN) is negatively impacted by environmental uncertainty (KL). These findings are consistent with those of Aprisma and Sudaryati (2020), Sajilan et al. (2019), and Singh (2019). This indicates that the high level of environmental uncertainty (KL) that occurred during the COVID-19 pandemic has triggered a decline in performance (KN). The analysis of the results shows that the factors that contribute most to this COVID-19 pandemic's high level of uncertainty are government regulations and policies, information and production technology, and market activity from competing companies. These three factors are reportedly difficult to foresee based on the experiences of the small and medium-sized businesses. Performance (KN) has decreased because of the failure to anticipate this, especially in terms of sales volume, market share, operational profit, profit margin, and ROI.

Furthermore, the results of testing the **second hypothesis** show that the use of strategic management accounting (PAMS) is unaffected by environmental uncertainty (KL). This contrasts with Sumkaew and Intanon (2020), Al-Mawali (2015a), and Pavlatos (2015) that environmental uncertainty (KL) has a positive impact on the usage of strategic management accounting (PAMS). This indicates that the COVID-19 pandemic's high degree of environmental uncertainty (KL) has not been able to persuade small and medium-sized businesses to use strategic management accounting (PAMS). In accordance with the findings, usage of strategic management accounting (PAMS) in small and medium-sized businesses is still comparatively low. The lowest usage is shown in the indicators of the application of attribute costs, budgeting and monitoring of brand value, competitor assessment, life cycle costing, and quality costs. The low use of strategic management accounting is due to the lack of training for SMEs to be able to apply the concept.

The results of the **third hypothesis** test indicate that the performance (KN) of small and medium-sized businesses is unaffected using strategic management accounting (PAMS). These findings contrast with those found in the studies of Wajdi and Arsjah (2019), Alamri (2019), Phornlaphatrachakorn (2019), Lay and Jusoh (2017), Al-Mawali (2015b), and Zenita et al. (2015), which state that the use of strategic management accounting (PAMS) improves corporate performance (KN). This discrepancy arises from the fact that the amount of strategic management accounting (PAMS) use during the COVID-19 pandemic is still low. The COVID-19 pandemic-affected enterprises' poor performance (KN) cannot possibly be influenced or improved by the low adoption of strategic management accounting (PAMS).

The **fourth hypothesis** was also tested, and the findings indicate that the use of strategic management accounting (PAMS) improves competitive advantage (KK). Competitive advantage (KA) in this situation is more heavily centered on product differentiation. The findings of this study were supported by earlier studies by Wajdi and Arsjah (2019), Oyewo and Ajibolade (2019), Alamri (2018), Jaf et al. (2015), and Lay and Jusoh (2012). This means that if the use of strategic management accounting (PAMS) is still minimal during the COVID-19 pandemic, the use of product differentiation to gain competitive advantage (KK) is also minimal. Based on the results, indicators of product differentiation implementation are still at a low level, particularly in external training for marketing staff, the creation of new products and services, the use of advertising to foster positive relationships in the industry in the context of technology leadership, forecasting the growth of the existing market, and increasing market share.

The results of testing the **fifth hypothesis** conclusively demonstrate that small and medium-sized businesses' performance (KN) during the Covid-19 pandemic is positively impacted by competitive advantage (KK) focusing on product differentiation. These findings are consistent with those of the studies conducted by Teerantansirikool et al. (2013), Mwangi (2013), and Aykan and Aksoylu (2013). Based on the analysis of the results, the company's performance (KN) is still poor because there has been limited use of product differentiation to achieve a competitive advantage (KK) during the COVID-19 pandemic. The company's poor performance (KN) is shown by a decrease in sales, market share, operating profit, profit margin, and ROI.

Implications for practice

The use of strategic management accounting, competitive advantage with an emphasis on product differentiation, and environmental uncertainty all had an impact on how well SMEs performed during the COVID-19 pandemic. It also clarifies how environmental uncertainty affects the application of strategic management accounting as well as how this affects competitive advantage that focuses on product differentiation. It is clear from the discussion that strategic management accounting has not been fully utilized in small and medium-sized businesses. This is evident from the data collected through the questionnaire, which indicates that there is still a lack of strategic management accounting usage. Maximizing the use of strategic management accounting is one of the actions small and medium-sized businesses may take to enhance performance even after the aftermath of the COVID-19 pandemic. The application of attribute costs, budgeting and monitoring brand value, competition analysis, life cycle costing, and quality costs can all be fully concentrated on possible when using strategic management accounting. It is hoped that by utilizing strategic management accounting to its fullest potential, small and medium-sized businesses will be able to mitigate the consequences of the COVID-19 pandemic's high environmental uncertainty.

Besides the use of strategic management accounting, product differentiation for the purpose of gaining competitive advantage also requires improvement. The following activities of the product differentiation strategy need to be improved by small and medium-sized businesses: external training for marketing staff members; creation of new products and services; use of advertising to foster positive relationships in the industry in the context of technology leadership; forecasting the growth of existing markets; and gaining a sizable market share. With this increase in inactivity, it is hoped that small and medium-sized businesses will be able to adjust with the after effects of the COVID-19 pandemic. This is in keeping with the advice of industry experts that small and medium-sized businesses should diversify their industries by creating new goods and services. Additionally, it is crucial for small and medium-sized firms to adapt through the use of technology.

The conditions of high environmental unpredictability can be addressed if small and medium-sized businesses are successful in expanding the use of strategic management accounting and the deployment of product differentiation strategies. The company's performance will benefit from this, allowing for an increase in sales volume, market share, operating profit, profit margin, and ROI. As a result, SMEs can adjust to any crisis situation

and protect the viability of their businesses. However, the government must assist small and medium-sized businesses. Government rules and policies are one of the markers of environmental uncertainty encountered by small and medium firms. Therefore, the government is anticipated to establish legislation and policies that can at the very least have a beneficial impact on the growth of small and medium-sized businesses. These laws and regulations may cover things like company training and financial aid. Business training can focus on how to differentiate products and apply strategic management accounting, enabling businesses to diversify while utilizing technology to its fullest.

Limitation and future research

This study is subject to several limitations. The first limitation is that the observation area is exclusively comprised of the two provinces of Banten and DKI Jakarta. For the findings to reflect the conditions more accurately in Indonesia, it is suggested that future studies broaden the observation area. Second, only 167 samples were gathered because there was not enough time for sampling. A bootstrapping process must be performed twice as often to achieve the assumption of multivariate normality since the number of samples tend to be small. To gather many more samples than necessary, it is anticipated that a longer sampling period will be allocated in future studies. Third, a large proportion of sample data is gathered online. The majority of data collecting, and communication is done online as a result of widespread social constraints and limitations on community activities. This can be better managed in upcoming studies, allowing for offline data gatherings. Fourth, the factors of environmental uncertainty (KL), the use of strategic management accounting (PAMS), and competitive advantage (KK), with an emphasis on product differentiation, are the only ones that can be observed to have an impact on the performance (KN) of small and medium-sized businesses. Only 11% of the effect on the performance (KN) variable is explained by these variables; the remainder is explained by other variables. Therefore, additional factors, such as organizational culture or organizational management's, leadership capabilities, that may impact the performance (KN) of small and medium-sized businesses can be introduced in future research.

References

Abdallah, L., & Persson, M. (2014). *The effects of environmental uncertainty conditions on organisational innovativeness and performance of SMEs.* Blekinge Institute of Technology School of Management. http://www.diva-portal.org/smash/record.jsf?pid=diva2%3A830898&dswid=-4540

Alamri, A. M. (2018). Strategic management accounting and the dimensions of competitive advantage: Testing the associations in Saudi industrial sector. *International Journal of Academic Research in Accounting, Finance and Management Sciences, 8*(2), 48–64. https://doi.org/10.6007/IJARAFMS/v8-i2/4137

Alamri, A. M. (2019). Association between strategic management accounting facets and organizational performance. *Baltic Journal of Management, 14*(2), 212-234. https://doi.org/10.1108/BJM-12-2017-0411

Allen, & Helms. (2006). Linking strategic practices and organizational performance to Porter's generic strategies. *Business Process Management Journal, 12*(4), 433-454. https://doi.org/10.1108/14637150610678069

Al-Mawali, H. (2015a). Contingent factors of strategic management accounting. *Research Journal of Finance and Accounting, 6*(11), 130-137. https://www.iiste.org/Journals/index.php/RJFA/article/view/23660

Al-Mawali, H. (2015b). Strategic management accounting usage, environmental uncertainty and organizational performance. *European Journal of Business and Management, 7*(18), 219-226.

Aprisma, R., & Sudaryati, E. (2020, December). Environmental uncertainty and firm performance: The moderating role of corporate governance. *Jurnal Akuntansi, XXIV*(2), 187-203. http://dx.doi.org/10.24912/ja.v24i2.690

Artha, R. P. (2021, January 21). *Krisis keuangan saat pandemi, UMKM sulit bayar sewa tempat dan gaji karyawan*. Liputan6.com. https://www.liputan6.com/bisnis/read/4463262/krisis-keuangan-saat-pandemi-umkm-sulit-bayar-sewa-tempat-dan-gaji-karyawan

Aviliani. (2021, August 13). *Bisnis UMKM dengan platform digital mampu bertahan di tengah pandemi*. Kontan.co.id. https://nasional.kontan.co.id/news/bisnis-umkm-dengan-platform-digital-mampu-bertahan-di-tengah-pandemi?page=2

Aykan, E., & Aksoylu, S. (2013). Effects of competitive strategies and strategic management accounting techniques on perceived performance of businesses. *Australian Journal of Business and Management Research, 3*(7), 30-39.

Barney, J. B., & Hesterly, W. S. (2019). *Strategic management and competitive advantage - concepts and cases.* US: Pearson Education, Inc.

Bastian, E., & Muchlish, M. (2012). Perceived environment uncertainty, business strategy, performance measurement systems and organizational performance. *Procedia - Social and Behavioral Sciences*, 787 – 792. https://doi.org/10.1016/j.sbspro.2012.11.200

Chen, J. (2013). Environmental uncertainty. In E. H. Kessler, *Encyclopedia of Management Theory- volume one* (pp. 245-249). USA: Sage Publications, inc.

Colquitt, J. A., Lepine, J. A., & Wesson, M. J. (2019). *Organizational behavior - improving performance and commitment in the workplace* (7th ed.). New York: McGraw-Hill Education.

Daft, R. L., Murphy, J., & Willmott, H. (2010). *Organization theory and design.* Singapore: Cengage Learning.

Datar, S. M., & Rajan, M. V. (2018). *Horngren's cost accounting - a managerial emphasis* (7th, Global ed.). Harlow: Pearson Education Limited.

Davina, R. (2021, July 18). *Ekspansi di tengah pandemi, ini strategi jitu kopi kenangan*. Gatracom. https://www.gatra.com/detail/news/517447/ekonomi/ekspansi-di-tengah-pandemi-ini-strategi-jitu-kopi-kenangan

Deepak, K. A., & Jeyakumar, S. (2019). *Marketing Management.* Delhi: Orangebooks Publication.

Dorson, T. A. (2018). Innovation and competitive advantage creation: The role of organisational leadership in service firms from emerging markets. *International Marketing Review, 35*(4), 580-600. https://doi.org/10.1108/IMR-11-2015-0262

Drury, C. (2018). *Management and cost accounting* (10th ed.). United Kingdom: Cengage Learning.

Frank. (2016). The multiple facets of crisis and its impact on IPO underpricing. In G. Cui, & T. S. Chan, *Asian Businesses in a Turbulent Environment – uncertainty and Coping Strategies* (pp. 3-20). London: Palgrave Macmillan.

Gänswein, W. (2011). *Effectiveness of information use for strategic decision making* (1st ed.). Wiesbaden: Gabler Verlag.

Govindarajan, V. (1984). Appropriateness of accounting data in performance evaluation: an empirical examination of environmental uncer.rainty as an intervening variable. *Accounting, Organizations andsociety, 9*(2), 125-135. https://doi.org/10.1016/0361-3682(84)90002-3

Guilding, C., Cravens, K. S., & Tayles, M. (2000). An international comparison of strategic management accounting practices. *Management Accounting Research, 11*, 113 – 135. https://doi.org/10.1006/mare.1999.0120

Gupta, A. K., & Govindarajan, V. (1984). Business unit strategy, managerial characteristics, and business unit effectiveness at strategy implementation. *The Academy of Management Journal, 27*(1), 25-41. https://doi.org/10.2307/255955

Hair, J. F. (2014). *Multivariate data analysis* (7th ed.). Harlow: Pearson Education Limited.

Hartarto, A. (2020, November 10). *Airlangga Sebut 50 Persen UMKM Setop Produksi karena Corona*. CNN Indonesia. https://www.cnnindonesia.com/ekonomi/20201109170613-532-567736/airlangga-sebut-50-persen-umkm-setop-produksi-karena-corona

Hoque, J. (2005). Linking environmental uncertainty to non-financial performance measures and performance: a research note. *The British Accounting Review, 37*, 471 – 481. https://doi.org/10.1016/j.bar.2005.08.003

Indrawan, R. (2020, November 6). *Pandemi Covid-19 momentum koperasi tingkatkan kontribusi*. BeritaSatu. https://www.beritasatu.com/ekonomi/695377/pandemi-covid19-momentum-koperasi-tingkatkan-kontribusi

Kramer, M. W. (2013). *Managing uncertainty in organizational communication.* New York: Routledge.

Lafley, A., & Martin, R. L. (2013). *Playing to win: How strategy really works.* Boston: Harvard Business School Publishing.

Lautour, V. J. (2018a). *Strategic management accounting Volume I – Aligning strategy, operations and finance.* Switzerland: Palgrave Macmillan.

Lautour, V. J. (2018b). *Strategic management accounting Volume II - Beyond the numbers.* Switzerland: Palgrave Macmillan.

Lay, T. A., & Jusoh, R. (2012). Business strategy, strategic role of accountant, strategic management accounting and their links to firm performance: An exploratory study of manufacturing companies in Malaysia. *Asia-Pacific Management Accounting Journal (APMAJ), 7*(1), 59-94.

Lay, T. A., & Jusoh, R. (2017). Organizational capabilities, strategic management accounting and firm performance. *Jurnal Akuntansi dan Keuangan Indonesia, 14*(2), 222 – 246. https://doi.org/10.21002/jaki.2017.12

Li, W. S. (2018). *Strategic management accounting - A practical guidebook with case studies.* Singapore: Springer Nature Singapore Pte Ltd.

Masduki, T. (2021, August 12). *tantangan dan strategi transformasi umkm masa depan*. Kemenkopukm. https://kemenkopukm.go.id/read/tantangan-dan-strategi-transformasi-umkm-masa-depan

Masduki, T. (2021, April 19). *UMKM di perkotaan lebih merasa dampak pandemi covid-19*. Liputan6. https://www.liputan6.com/bisnis/read/4536320/umkm-di-perkotaan-lebih-merasa-dampak-pandemi-covid-19

Mukherji, A., & Mukherji, J. (2017). Environmental uncertainty and positive performance of small firms: The roles of key mediators. *Journal of Organizational Psychology, 17*(3), 24-39. https://doi.org/10.5465/ambpp.2016.10437abstract

Mulyani, S. (2020, September 30). *Sri mulyani: Kondisi ekonomi akibat covid-19 diliputi ketidakpastian hingga tahun depan*. Lingkar Kediri. https://lingkarkediri.pikiran-rakyat.com/nasional/pr-67785550/sri-mulyani-kondisi-ekonomi-akibat-covid-19-diliputi-ketidakpastian-hingga-tahun-depan

Mwangi, E. W., & Ombui, K. (2013). Effect of competitive strategies on the performance of mission hospitals in Kenya (A Case of Kijabe Mission Hospital). *International Journal of Science and Reseach, 2*(11), 14-19.

Oyewo, B., & Ajibolade, S. (2019). Does the use of strategic management accounting techniques creates and sustains competitive advantage? some empirical evidence. *Annals of Spiru Haret University, Economic Series, 2*, 61-91. https://doi.org/10.26458/1923

Pavlatos, O. (2015). An empirical investigation of strategic management accounting in hotels. *International Journal of Contemporary Hospitality Management*, 756-767. https://doi.org/10.1108/IJCHM-12-2013-0582

Phornlaphatrachakorn, K. (2019). Effects of transformational leadership, organisational learning and technological innovation on strategic management accounting in Thailand's financial institutions. *Asian Journal of Business and Accounting, 12*(1), 165 – 188. https://doi.org/10.22452/ajba.vol12no1.6

Pratama, R. A. (2021, January 1). *Usaha mikro kecil dan menengah menanggung beban pandemi Covid-19 di Indonesia*. UNDP Indonesia. https://www.id.undp.org/content/indonesia/id/home1/presscenter/pressreleases/2021/Usaha-Mikro-Kecil-dan-Menengah.html

Rahadi, D. (2020, September 24). *Dorong pengembangan IKM, begini strategi Kemenperin*. Kontan.co.id. https://industri.kontan.co.id/news/dorong-pengembangan-ikm-begini-strategi-kemenperin

Rao, T. (2016). *Performance management - toward organizational excellence* (2nd ed.). New Delhi: Sage Publications India Pvt Ltd.

Rumondang, H. (2020, October 19). *Kemnaker tegaskan tetap dengarkan kebijakan pengupahan saat pandemi*. Detikfinance. https://finance.detik.com/berita-ekonomi-bisnis/d-5220180/kemnaker-tegaskan-tetap-dengarkan-kebijakan-pengupahan-saat-pandemi

Sajilan, S., Ghani, E. K., Maimunah, S., & Lestari, R. M. (2019). The relationship of environmental uncertainty, accounting information system efficiency and energy efficiency with environmental and operational performance in Indonesia. *International Journal of Energy Economics and Policy, 9*(5), 371-378. https://doi.org/10.32479/ijeep.8282

Setyawan, I. R. (2020, December 12). *Menjadi organisasi bisnis yang tahan banting di tengah pandemi Covid-19*. Kompas.com. https://money.kompas.com/read/2020/12/28/160000426/menjadi-organisasi-bisnis-yang-tahan-banting-di-tengah-pandemi-covid-19?page=all

Singh, N. P. (2019). Managing environmental uncertainty for improved firm financial performance: the moderating role of supply chain risk management practices on managerial decision making. *International Journal of Logistics: Research and Applications*, 1-21. https://doi.org/10.1080/13675567.2019.1684462

Siow, V. (2021, April 13). *Lakukan digitalisasi, ini tiga tantangan yang dihadapi UMKM*. IDX channel.com. https://www.idxchannel.com/economics/lakukan-digitalisasi-ini-tiga-tantangan-yang-dihadapi-umkm

Suhariyanto. (2020, September 20). *BPS: Terdampak pandemi, mayoritas pelaku usaha lakukan adaptasi*. BeritaSatu. https://www.beritasatu.com/ekonomi/678477/bps-terdampak-pandemi-mayoritas-pelaku-usaha-lakukan-adaptasi

Sumkaew, N., & Intanon, R. (2020). The relationship between strategic management accounting information usage, environmental uncertainty and nationality of director of manufacturing enterprises in Thailand. *Open Journal of Social Sciences, 8*, 39-52. https://doi.org/10.4236/jss.2020.89003

Sung, T. J., Lu, Y. T., & Ho, S. S. (2010). Time-based strategy and business performance under environmental uncertainty: an empirical study of design firms in Taiwan. *International Journal of Design, 4*(3), 29 – 42.

Teeratansirikool, L., Siengthai, S., Badir, Y., & Charoenngam, C. (2013). Competitive strategies and firm performance: the mediating role of performance measurement. *International Journal of Productivity and Performance Management, 62*(2), 168-184. https://doi.org/10.1108/17410401311295722

Tworek, K. (2019). *Aligning IT and business - fostering organizational performance, employees' commitment and quality of management methods*. Switzerland: Springer Nature Switzerland AG.

Wajdi, F., & Arsjah, R. J. (2019). The influence of organizational capabilities, strategic management accounting on organizational performance mediated by competitive advantage in companies in Indonesia. *Research Journal of Finance and Accounting, 10*(22), 141-151. https://doi.org/10.7176/RJFA/10-22-17

Widodo, J. (2021, August 16). *Jokowi pastikan di tahun 2022, Indonesia masih menghadapi kondisi ketidakpastian*. NKRIKU. https://nkriku.com/jokowi-pastikan-di-tahun-2022-indonesia-masih-menghadapi-kondisi-ketidakpastian/

Yu, C. L., Wang, F., & Brouthers, K. D. (2016). Competitor identification, perceived environmental uncertainty, and firm performance. *Canadian Journal of Administrative Sciences, 33*, 21–35. https://doi.org/10.1002/cjas.1332

Yuliansyah, Y., Gurd, B., & Mohamed, N. (2017). The significant of business strategy in improving organizational performance. *Humanomics, 33*(1), 56-74. https://doi.org/10.1108/H-06-2016-0049

Zenita, R., Saria, R. N., Anugeraha, R., & Said, J. (2015). The effect of information literacy on managerial performance: the mediating role of strategic management accounting and the moderating role of self efficacy. *Procedia Economics and Finance, 31*, 199 – 205. https://doi.org/10.1016/S2212-5671(15)01221-6

Zulaeha, L. (2021, August 15). *Kampus bisnis umar usman & sarihusada komitmen dampingi UMKM*. Siedoo. https://siedoo.com/berita-36589-kampus-bisnis-umar-usman-sarihusada-komitmen-dampingi-umkm/