Entrepreneurial Orientation and Firm Performance in Horticultural MSMEs in East Java: The Mediating Role of Value Innovation and Knowledge Management

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ARTICLE INFO	ABSTRACT
Published Online: **28 December 2024** **Corresponding Author:** **Roby Wibisono**	Entrepreneurial orientation is an important intangible asset for a firm to develop. On the other hand, intense competition has implications for the utilization of this asset, especially for MSMEs in the agricultural sector. Both variables, such as value innovation and knowledge management, can bridge the utilization of entrepreneurial orientation to enhance firm performance. On the other hand, several previous studies have produced different findings in various contexts. This study aims to examine the influence of entrepreneurial orientation on the performance of horticultural MSMEs in East Java. Covariance-Based Structural Equation Modeling (CB-SEM) was used in this study, covering 126 horticultural MSMEs. The results showed that entrepreneurial orientation significantly affected toward firm performance, but only knowledge management was found to mediate the effect between entrepreneurial orientation and firm performance. Conversely, value innovation was unable to mediate the effect between the two. Therefore, knowledge management is one of the aspect that horticultural MSMEs in East Java should rely on to improve firm performance.

I. INTRODUCTION

The firm performance has already become a universal concept in strategic management research and is frequently used as a endogenous variable (Taouab & Issor, 2019). Firm performance in Small and Medium Enterprises (MSMEs) is an interesting topic for researchers (Saunila, 2014, 2016; Nemlioglu & Mallick, 2017; Ferreira et al., 2021). Companies that can improve their performance positively are more likely to win the competition in the industry. Therefore, there is a need to explore the possible antecedents of firm performance (Sumiati, 2020). The researchers examine various firm resources to enhance firm performance, one of which is entrepreneurial orientation. A research shows that entrepreneurial orientation affects firm performance (Mohammed & Zakari, 2021; Pulka et al., 2021; Ribeiro et al., 2021; Milovanović, 2022). The entrepreneurial orientation emphasizes the importance of identifying and exploiting opportunities, innovating, taking risks, being proactive, and competing aggressively in the business world. Business performance and success can be influenced by entrepreneurial orientation (Rauch et al., 2009). The entrepreneurial orientation could became the one of the important intangible resource that has a strategic role in improving firm performance. The Resource-Based View assumes that firms can be considered as a collection of productive resources and that different firms have different sets of resources. These resources are valuable, rare, and not easily imitated. The entrepreneurial orientation is identified as an important resource in small growth-oriented firms (Ferreira et al., 2011). The valuable and unique firm resources that affect firm performance can be developed through the development of entrepreneurial competencies. Entrepreneurship in the study of Resource Based Theory (RBT) is a unique resource that is likely to be difficult to imitate by competitors and has the potential to be developed so that the company will excel in market competition (Alvarez & Busenitz, 2001; Mishra & Zachary, 2015). The entrepreneurial orientation as a company resource is important to study based on the great benefits generated.

The nexus between entrepreneurial orientation and firm performance is inconclusive; the causal relationship between the two cannot be proven directly. For causal relationships that cannot be proven directly, a mediating variable is required to bridge and explain the mechanism of influence between independent constructs and dependent constructs. Mediation reveals the actual relationship between

independent constructs (Hair et al., 2017). Mediating variables strengthen a study's internal validity and provide a deeper understanding of the phenomena being studied. This study uses knowledge management and value innovation as mediating variables. These two variables were chosen because knowledge is another resource that affects firm performance (Al Mehrez et al., 2021). Studies within the Knowledge-Based View (KBV) framework, based on the Resource-Based Theory (RBT), view firm knowledge as a strategic asset—rare, valuable, imperfectly imitable, and irreplaceable (Halawi et al., 2005). Understanding customer needs well leads to the discovery of new, unserved markets. The unserved markets create opportunities for firms to find new demand. Focusing on innovation that can create new market spaces to meet new demand is known as value innovation. Firms that focus on finding new demand or unserved market spaces can avoid direct competition. Micro, small, and medium enterprises (MSMEs) are interesting research topics because, according to World Bank survey data, only 2% of Indonesian MSMEs invest in research and development (OECD, 2018). Meanwhile, East Java province is ranked second as the most significant contributor to Indonesia's GRDP, with a GRDP value of IDR 2,730.9 trillion. This makes East Java not only one of the main economic centers in Indonesia but also an important national contributor due to its significant role in supporting the country's economy. East Java's strategic position as a regional trade hub in Eastern Indonesia, supported by its rapidly growing industrial, trade, and agribusiness sectors, further strengthens its role in national economic stability and growth, primarily through the agricultural sector. Specifically in the agricultural industry, the Farmer Exchange Rate (NTP) serves as an indicator of farmer welfare, calculated by comparing the index of price received by farmers (production price) with the index of price paid by farmers (consumption and production costs). However, East Java's 2023 horticultural crop NTP is lower than that of other provinces. In 2023, East Java's horticultural crop farmer exchange rate was 117.79, compared to West Nusa Tenggara Province (137.60). Although East Java boasts the largest agricultural land and the most horticultural firms (55 firms according to BPS, 2022), it needs to increase its competitiveness compared to other provinces, especially in horticultural crops, one of the leading commodities in the Strategic Plan (Renstra) of the East Java Provincial Agriculture and Food Security Service for 2019-2024. East Java has the largest horticultural land area, totaling 175,000 hectares, yet its productivity is relatively lower at 15 tons per hectare, compared to West Java's 16 tons per hectare (BPS, 2022). Furthermore, East Java's NTP is lower than several other provinces, such as NTB (137.60), Bali (130.21), and Yogyakarta (126.04). This indicates that, despite its advantage in land area, East Java faces challenges in productivity and market price competitiveness. To enhance the competitiveness of horticultural products, efforts must focus on increasing productivity and strengthening the market position of horticultural farmers in East Java. The province has many horticultural agricultural MSMEs, making it essential to leverage existing assets, including entrepreneurial orientation. This study try to explores the impact of entrepreneurial orientation on firm performance. In addition, this study also examines how value innovation and knowledge management mediate this relationship.

II. LITERATURE REVIEW

2.1 Resource Based Theory (RBT)

Resource-Based Theory (RBT), originally known as Resource-Based View, emphasizes that competitive advantage arises from a firm's ability to utilize and exploit its unique resources. Wernerfelt (1984) first conceptualized RBT by focusing on the resources controlled by firms to address business competition. Barney (1991) expanded on this by identifying four key characteristics of resources that contribute to sustainable competitive advantage: valuable, rare, imperfectly imitable, and non-substitutable. Firms achieve sustainable competitive advantage by leveraging their internal strengths, exploiting external opportunities, and mitigating threats. Over time, RBT has been applied to various fields, such as strategic management, entrepreneurship, marketing, and international business, offering insights into how resources drive superior performance.

While RBT research primarily focuses on large firms, it applies to micro, small, and medium enterprises (MSMEs). Smaller firms face unique challenges, including limited financial and human resources, making it harder to protect and capitalize on their distinctive resources. Despite these constraints, specific unique resources can help MSMEs achieve competitive advantages and superior performance (Pulka et al., 2021). However, as noted by Duarte and Bressan (2016), MSMEs often need help to fend off competition from larger firms or new entrants, limiting their ability to exploit their resource potential fully. Therefore, enhancing resource management and strategic planning is essential for MSMEs to achieve sustainable growth and competitiveness.

2.2 Resource Orchestration Theory

According to Sirmon et al. (2011), Resource Orchestration Theory (ROT) extends the concept of Resource-Based Theory (RBT) by emphasizing the role of managerial actions in structuring, bundling, and leveraging resources effectively. While characteristics such as value, rarity, inimitability, and non-substitutability are core to achieving competitive advantage, merely possessing such resources is insufficient. Resources must be accumulated, bundled, and utilized to unlock their full potential. The ROT

framework outlines three main processes: (1) structuring, which involves three aspects, namely acquiring, accumulating, and divesting resources to build a resource portfolio; (2) bundling, which integrates resources to build capabilities through stabilization, enrichment, and pioneering; and (3) leveraging, which includes mobilizing, coordinating, and deploying capabilities to exploit market opportunities. Asset orchestration in ROT comprises two primary processes: searching/selecting and configuring/deploying.

2.3 Knowledge Management

Knowledge management, as emphasized by Xue (2017), is crucial for organizational success and sustainability in the competitive landscape of the 21st century. Knowledge is recognized as a vital asset and a new form of capital that enhances business performance and fosters competitive advantage (Abuaddous et al., 2018; Chaithanapat & Sirisuhk, 2020). It is carried within organizations by individuals, groups, organizations, and inter-organizational networks (Handzic, 2006). The process of knowledge management can be categorized into four dimensions: acquiring knowledge, converting it into usable forms, applying it in practice, and protecting it from misuse (Ha et al., 2021).

Effective application of knowledge, as described by Gold et al. (2001), focuses on solving problems, making decisions, improving efficiency, and reducing costs. It reflects the efficiency and productivity of an organization's knowledge management processes (Bolisani & Bratianu, 2018). The companies that successfully implement knowledge strategies enhance their operational performance and maintain a competitive edge in their industries (Xue, 2017).

2.4 Entrepreneurial Orientation

The entrepreneurial orientation refers to the value creation process through entrepreneurs in unknown environments, characterized by innovation, proactiveness, and risk-taking. It reflects a company's tendency to enhance innovation (introducing new products, processes, or business models), act proactively (entering new markets and seeking market leadership), and take risks (allocating resources to projects with uncertain outcomes). This orientation helps companies improve performance and achieve competitive advantages (Anderson et al., 2009; Lumpkin & Dess, 1996). Entrepreneurial orientation also considered as one of the crucial role for supporting managers, especially in small businesses and SMEs, to be creative and competitive. Entrepreneurs and managers with high levels of innovation, proactiveness, and risk-taking can drive dynamic business strategies, improving the financial and economic conditions of their companies (Ključnikov et al., 2019). This orientation enables companies to effectively

achieve business goals and adapt to changing market conditions (Gupta & Gupta, 2015; Isichei et al., 2020).

2.5 Innovation Value

Kim and Mauborgne (1997) highlight that innovative companies succeed by breaking free from competition and venturing into untapped markets through the creation of unique products or services with no direct rivals. This approach, known as value innovation, shifts the focus from battling competitors to making competition irrelevant. The strategy differs through conventional business logic across five dimensions: industry assumptions, strategic focus, customers, assets and capabilities, and product and service offerings (Kim & Mauborgne, 1997). Furthermore, value innovation is not limited by factors such as company size, wealth, type, location, or advanced technology. It requires aligning innovation with utility, pricing, and cost positioning (Hajar et al., 2021).

2.6 Firm Performance

Firm performance is defined as the organization's ability to efficiently exploit available resources to achieve consistent goals (Taouab & Issor, 2019). The primary purpose of performance measurement is to evaluate whether the firm's strategies have been achieved. High firm performance increases opportunities for business expansion, job creation, and improving workers' quality of life (Nguyen et al., 2021). Firm performance is categorized into two main areas: financial performance, which focuses on profitability, and operational performance, which relates to productivity and quality outcomes (Saunila, 2019). Financial performance is measured using cost-based metrics, while operational performance incorporates both cost-based and non-cost-based metrics (Saunila, 2019). For SMEs, financial performance indicators include sales growth and cost reduction, while operational performance is evaluated through increased productive capacity and product/service quality improvements (Exposito & Sanchis-Llopis, 2018). Together, these dimensions provide a comprehensive framework for assessing a firm's success in achieving its strategic objectives.

2.7 Previous Research about Nexus between Entrepreneurial Orientation and Firm Performance

Research on the influence of entrepreneurial orientation on firm performance has been explored extensively in recent years. Hanif et al. (2018) examined the positive impact of knowledge management processes and international entrepreneurial orientation on organizational performance in the banking sector. The study highlighted the importance of skilled human resources in generating innovative ideas and improving efficiency, with risk-taking playing a critical role as banks invest in profitable opportunities. Similarly, Farooq & Vij (2018) found that entrepreneurial orientation positively affects business

performance, mediated by knowledge management orientation in India. Among the dimensions of entrepreneurial orientation, proactiveness was identified as the most significant, followed by risk-taking and innovation. Soares & Perin (2019) identified a direct and positive impact of entrepreneurial orientation on organizational performance, with stronger effects observed for multi-item and revenue-based performance measures. The study also revealed partial mediation by learning orientation and innovation, suggesting that strategy types (e.g., prospectors, analyzers, defenders, reactors) may moderate the relationship. Diaz & Sensini (2020) analyzed the influence of five dimensions of entrepreneurial orientation on 214 firms in Argentina. The findings indicated that innovation, proactiveness, and risk-taking positively influenced performance, while competitive aggressiveness and autonomy were insignificant or irrelevant. These studies collectively underscore the multifaceted nature of entrepreneurial orientation and its varying impact across different contexts.

III. METHODOLOGY

3.1 Research Framework

The research framework is compiled by using a literature review and supported by the results of previous studies. The concept of this study built from the Resource Based Theory by Wernerfelt (1984) and Barney (1991), and supported by the Resource Orchestration Theory by Sirmon et al. (2011) and Endogenous Growth Theory by Schumpeter (1934). This study was conducted on horticultural agricultural MSMEs in East Java province to explain the impact of entrepreneurial orientation on company performance with the mediation of knowledge management or value innovation. The logical framework of thinking in this study begins with understanding the main theory of RBT (Wernerfelt, 1984; Barney, 1991, 2007; Barney et al., 2001; Pulka, 2021). This study is also supported by the supporting theory of ROT (Sirmon et al., 2007, 2011). This theory emphasizes the importance of resource management through resource acquisition, arrangement, and use. It is important for companies to plan, coordinate, and implement effective resource strategies to achieve organizational goals. This study is also supported by EGT (Schumpeter, 1934; Kim & Mauborgne, 2005a). Schumpeter developed an endogenous growth theory with innovation and technological change as the main drivers of growth. In the context of business strategy, Kim and Mauborgne introduced the Blue Ocean Strategy, which can be linked to the endogenous growth theory. Companies can create growth space by creating innovation to avoid dense competition). This approach is in line with Schumpeter's concept of innovation as the main driver of growth. In this research framework, the exogenous variables in this study

are entrepreneurial orientation, the intervening variables are knowledge management and value innovation. Meanwhile, the endogenous variable is company performance. Furthermore, the hypotheses and relationships between variables in this study are arranged based on the framework of thought presented in Figure 1.
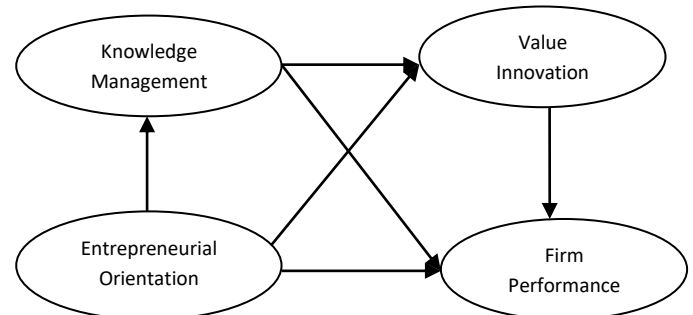

Figure 1. Research Model

Based on the introduction, literature review and research model above, the hypotheses formulated are as follows:

H1: Entrepreneurial orientation significantly affect on firm performance.

H2: Value innovation mediates the nexus between entrepreneurial orientation and firm performance.

H3: Knowledge management mediates the nexus between entrepreneurial orientation and firm performance.

H4: Knowledge management and value innovation mediate the nexus of entrepreneurial orientation and firm performance.

3.2 Sample of the Research

The survey area of this study is East Java Province. Meanwhile, the target population for generalization is Horticultural MSMEs domiciled and having business land in the area. Sources of information regarding Horticultural MSMEs were obtained from the East Java Province Agricultural Company Directory (DPP) 2023 and the East Java Province Other Agricultural Business Directory (DUTL) 2023 of the East Java Province Central Statistics Agency. Hair et al. (2019) suggest that the minimum sample size in SEM is between 100 and 200 as an absolute measure. The statistical power analysis is also recommended to determine a sufficient sample size to detect the desired effect with a certain level of significance and adequate statistical power. While CB-SEM requires a larger sample size compared to PLS-SEM because more statistical assumptions must be met, such as data normality, these rules provide practical guidance in determining an adequate sample size for valid and reliable analysis. Therefore, this study used 126 respondents who were suggested as agricultural MSMEs in the horticulture sector in East Java Province. The sampling used in this study is the multistage random sampling technique. This technique was chosen in this study because it allows for gradual sampling based on

several population levels. This technique is very effective in the context of research involving regional heterogeneity and characteristics of MSMEs, such as horticultural agricultural MSMEs spread across various regions with diverse characteristics. The use of multistage random sampling in the context of this study can help better understand the dynamics of horticultural MSMEs in various regions, while ensuring representation that covers various aspects of regional heterogeneity and business characteristics.

3.3 Technique Analysis

Covariance-Based Structural Equation Modeling (CB-SEM) is used as a technique analysis, which is basically intended to test and validate the theory that has been developed by estimating the relationship between variables in the structural model. CB-SEM is a comprehensive method for handling complex models and allows researchers to identify and spread the relationship between variables in more depth (Hair et al., 2017). The analysis that will be used in estimating the coefficients is the Structural Equation Model based on the covariance based model known as the Covariance-Based Structural Equation Modeling (CB-SEM) with Linear Structural Relationship (LISREL). The CB-SEM method is used in this study

because it aims to explain the relationship between dependent and independent variables that are arranged in a causality model. The CB-SEM allows for detailed structured hypothesis testing, focusing on models based on theory. This provides a strong model for testing hypothesized relationships between latent variables, allowing researchers to be more assertive in their conclusions regarding the theory being tested (Kline, 2015). Data analysis using CB-SEM was carried out through the following stages: 1) Data Quality & Normality Check, 2) Validity Test, 3) Reliability Test, 4) Goodness-of-Fit Evaluation, 5) Structural Model Evaluation, and 6) Mediation Effect Test using innovation value and management knowledge variables.

IV. RESULT AND DISCUSSION

4.1 The Respondent Distribution Based on Type of Crops

The distribution of areas and types of plant commodities in this study refers to the mapping of locations involved in the study and the objects of analysis. This study considers different geographic factors and business sectors to understand how business distribution and regional

Table 1. The Type of Crops

Type of Crops	Blitar City	Mojokerto Regency	Madiun City	Batu City	Malang Regency	Banyuwangi	Total Respondents (n)
Fruits	6	17	6	4	3	7	43
Vegetables	3	10	12	4	8	10	47
Flowers	2	3	3	8	0	6	22
Medicinal	8	0	6	0	0	0	14
Total	19	30	27	16	11	23	126

Characteristics affect the variables studied. Thus, understanding the distribution of areas and business activities provides a broader context regarding the economic and social dynamics that influence the phenomena being analyzed. The amount of respondents in this study was initially planned to be 113 respondents, while 13 other respondents who were originally used as reserves turned out to be reliable to be added to the sample data, so that the total number of respondents used in this study was 126 respondents. Based on Table 1, the area with the most respondents was Mojokerto Regency with 30 respondents (23.8%), followed by Madiun City with 27 respondents (21.43%). Based on the distribution of business fields, the largest number of respondents were engaged in the vegetable crop business (olericulture), followed by fruit crops (fruiticulture) with 47 (37.3%) and 43 respondents

(34.1%) respectively, while respondents from the medicinal plant/biopharmaceutical group numbered 14 respondents (11.1%).

4.2 CB- SEM Analysis

The criteria for the suitability of the measurement model are assessed based on the ability of indicator variables to explain their latent variables. An indicator is considered good if it meets the following test parameters:
1. A loading factor value with above 0.5 and a t-value greater than 1.96.
2. The Construct of Reliability (CR) value with above 0.7.
3. An Average Variance Extracted (AVE) value with above 0.5.

Table 2. Reliability Analysis

Latent Variables	Indicators	Lambda	t-value	CR	AVE
Entrepreneurial Orientation (EO)	Risk	0.79	18.10	0.97	Reliable
	Innovation	1.06	24.24		
	Proactivity	1.00	22.94		
Knowledge Management (KM)	Acquisition	-0.18	2.61	0.81	Reliable
	Conversion	1.00	-		
	Application	1.53	13.57		
	Protection	0.82	9.91		
Value Innovation (VI)	Creating Uncontested Market Space	0.94	-	0.97	Reliable
	Making Competition Irrelevant	0.81	15.48		
	Creating and Capturing New Demand	0.96	16.71		
	Breaking the Value-Cost Trade-Off	0.88	14.30		
	Achieving Differentiation and Low Cost	0.83	15.76		
Firm Performance (FP)	Firm Performance (FP) - Financial	0.89	-	0.89	Reliable
	Firm Performance (FP) - Non-Financial	0.76	13.89		

Based on the estimation of model coefficients conducted simultaneously, the results are presented in Table 2. Regarding the results of the measurement model fit test, it is evident that all measurement models, such as EO, KM, VI, and FP, meet the goodness-of-fit standards for both Construct Reliability (CR) and Average Variance Extracted (AVE), with values greater than or equal to 0.7 and 0.5, respectively. Construct Reliability is a parameter that indicates the reliability of indicator variables collectively in explaining the behavior of their latent variable. Meanwhile, the AVE parameter reflects the average ability of each indicator variable to explain the variance of its latent variable. Meanwhile, the results of the coefficient (loading factor) testing for indicator variables on each latent variable show values equal to or greater than 0.5, meaning that these variables individually can explain the variance of their latent variable, except for the Acquisition indicator variable under the latent variable KM, which has a value of -0.18, indicating it is below 0.5

Table 3. Goodness of Fit

Parameter	Criteria	Result	Remarks
Chi-Square Test	χ value	27	Fit
	df	61	
	p-value >	1.00	
		0.05	
RMSEA	≤ 0.08	0.00	Fit
GFI	≥ 0.9	0.99	Fit
AGFI	≥ 0.9	0.99	Fit
NFI	≥ 0.9	1.00	Fit
NNFI	≥ 0.9	1.03	Fit
CFI	≥ 0.9	1.00	Fit

The structural model fit test uses seven goodness-of-fit parameters (Hair et al., 2019) to ensure that the model is fit, as presented in Table 3. However, according to Hair et al. (2020), using four to five goodness-of-fit criteria is considered sufficient to evaluate a model's goodness, provided that the tests for absolute fit indices, incremental fit indices, and parsimonious fit indices are represented. The Root Mean Square Error of Approximation (RMSEA) is one of the absolute fit indices. The recommended RMSEA value is ≤ 0.08, which serves as a criterion for model acceptance. Based on Table 4.31, the RMSEA value is 0.000, indicating that the model is acceptable. The Goodness of Fit Index (GFI) ranges from 0 (poor fit) to 1 (perfect fit). According to the analysis, the GFI value is 0.99, which is categorized as good because it is close to 1. Additionally, the Adjusted Goodness of Fit Index (AGFI), an extension of GFI adjusted for the ratio of degrees of freedom in the estimated model, is 0.99 in this study. The AGFI value range is the same as GFI, from 0 (poor fit) to 1 (perfect fit), meaning the structural

model is classified as good because it is close to 1. The Comparative Fit Index (CFI) is an incremental fit index recommended for use because it is relatively insensitive to sample size. The recommended CFI value is ≥ 0.9, with the criterion of good fit. The analysis shows a CFI value of 1.00, meeting the criteria and indicating that the model is acceptable. The final result of the overall model fit test demonstrates that the final model is acceptable. Based on the evaluation of several Goodness-of-Fit criteria, it can be concluded that the research model is acceptable, and hypothesis testing can proceed

Table 4. Hypotheses Testing

Variable	Type of Effect	Model Coefficient	t-value	Conclusion
EO → FP	Direct	0.530	5.98	Significant
EO → VI	Direct	0.570	8.81	Significant
EO → KM	Direct	0.410	12.22	Significant
KM → FP	Direct	0.470	2.05	Significant
KM → VI	Direct	0.470	3.33	Significant
VI → FP	Direct	0.170	1.50	Not Significant
EO → VI → FP	Indirect	0.097	1.87	Not Significant
EO → KM → FP	Indirect	0.193	2.01	Significant
EO → KM → VI	Indirect	0.193	3.23	Significant
EO → KM → VI → FP	Indirect	0.033	1.09	Not Significant
EO → FP	Total	0.853		

The hypothesis testing in this study was conducted through path coefficient analysis and t-tests within the structural equation model. Table 4 presents the results of the analysis of the direct and indirect effects of EO on FP through mediating variables, namely KM and VI. These results include model coefficient estimates, t-values, and conclusions based on the significance level (α = 5%). The findings are consistent with relevant previous research. The direct effect of EO on FP, with a model coefficient of 0.530 and a t-value of 5.98, indicates a significant positive relationship. This result aligns with studies by Wales et al. (2013), and Hughes et al. (2021), which emphasize that EO plays a crucial role in improving FP. The direct effect of EO on VI, with a model coefficient of 0.570 and a t-value of 8.81, is significant. This supports the findings of Ayub et al. (2013) and Kristinae et al. (2020), which state that EO directly drives VI. The effect of EO on KM, with a model coefficient of 0.410 and a t-value of 12.22, is also significant. This finding reinforces previous research by Madhoushi et al. (2011) and Adam et al. (2022), which highlight the direct effect of EO on KM. The direct effect of KM on FP, with a model coefficient of 0.470 and a t-value

of 2.05, is significant. This finding aligns with studies by Siregar et al. (2020) and Urban & Matela (2022), which found that KM contributes positively to FP. KM also has a positive and significant effect on VI, with a coefficient of 0.47 and a t-value of 3.33. This supports previous research by Bagnoli & Vedovato (2012), which found that knowledge management processes—such as acquisition, sharing, and application—accelerate innovation by providing strategic information and new insights.

These findings highlight that firms capable of effectively managing knowledge can enhance collaboration, optimize ideas, and generate innovations that add value to consumers, thereby strengthening their competitiveness in the market. A different result is found for the direct effect of VI on FP, with a model coefficient of 0.170 and a t-value of 1.50, indicating a non-significant result. This contrasts with studies by Christa et al. (2020) and Hajar et al. (2022), which suggest that the effect of VI on FP might be stronger in specific contexts or industries. The indirect effects evaluate several mediation pathways. The pathway EO → VI → FP, with a model coefficient of 0.097 and a t-value of 1.87 (< 1.97), indicates a non-significant result. This suggests that VI is not strong enough as a mediator in this relationship. Therefore, it can be concluded that VI does not mediate the effect of EO on FP. This contrasts with Acar's (2020) findings, which identified a significant mediating role in certain contexts. The pathway EO → KM → FP, with a model coefficient of 0.193 and a t-value of 2.01 (> 1.97), shows a significant result. Thus, it can be concluded that KM mediates the effect of EO on FP. This finding is consistent with previous research by Madhoushi et al. (2011) and Khan et al. (2021), which highlight KM as an effective mediator between EO and FP. The pathway EO → KM → VI, with a model coefficient of 0.193 and a t-value of 3.23 (> 1.97), indicates a significant result. This finding demonstrates that KM also serves as a critical link between EO and VI. Therefore, it can be concluded that KM mediates the effect of EO on VI, supporting research by Okanga (2017) and Abbas et al. (2020). The pathway EO → KM → VI → FP, with a model coefficient of 0.033 and a t-value of 1.09 (< 1.97), indicates a non-significant result. Thus, it can be concluded that neither VI nor KM mediates the effect of EO on FP. This finding differs from studies by Christa et al. (2020) and Hajar et al. (2022), which identified a significant role for VI as a mediating variable in different research contexts. From the analysis of the indirect effects of EO on FP through KM and VI, it is evident that KM has a significant role in mediating EO's effect on FP, whereas VI does not significantly mediate this relationship. Apart from mediating EO's effect on FP, KM also significantly mediates the effect of EO on VI. However, VI does not significantly mediate the effect of KM on FP. Based on the analysis results, two hypotheses are supported: H1 and H2.

Entrepreneurial orientation has the largest and most significant direct effect on FP. The KM aspect plays a significant role in mediating the effect of EO on FP. Meanwhile, H3 is not supported by the research data, as the role of VI as a mediator in the relationship between EO and FP could not be proven. Furthermore, although KM significantly mediates EO's effect on VI, VI's role in mediating the effect of KM on FP is not significant.

V. CONCLUSION

This study found that entrepreneurial orientation has a significant influence on company performance. This finding supports theoretically and empirically that entrepreneurial orientation can improve entrepreneurs' competence in exploring opportunities to drive improved company performance. Therefore, hypothesis 1 in this study is supported by CB-SEM analysis. In addition, knowledge management was also found to have a positive and significant influence on the relationship between entrepreneurial orientation and company performance as a mediating variable. This strengthens the view that knowledge is a strategic asset of the company that plays an important role in improving performance. Through good knowledge management, MSMEs can utilize the information they have to improve business processes and competitiveness. Thus, hypothesis 2 is also supported. However, the results of the study indicate that value innovation is not enough to provide a significant influence on company performance as a mediating variable. This indicates that value innovation in this context has not fully developed to have a direct impact on improving company performance. Therefore, hypothesis 3 is not supported. For this reason, further development is needed in value innovation so that it can be optimized as the main driver of improving company performance. In addition, the mediation analysis of the knowledge management and value innovation variables also shows that the mediating role of the two variables is not yet fully significant on company performance. This causes hypothesis 4 not to be supported. Further analysis in the future is needed to identify other factors that can strengthen this relationship and ensure the effectiveness of value innovation in influencing company performance. This study highlights the main problem faced by horticultural agricultural MSMEs in East Java Province, namely suboptimal performance despite having a large agricultural land area. One indicator is the exchange rate which is still relatively small compared to other provinces with lower land areas. This shows that despite having large natural resource potential, horticultural agricultural MSMEs in East Java have not been able to optimize this potential to achieve better performance. The results of this study also confirm that entrepreneurial orientation has a significant influence on company performance. However, to optimize the existing potential, knowledge management plays an important role as a link in the relationship. The effective knowledge management can help agricultural MSMEs to manage information, improve innovation, and make more informed decisions, thus potentially improving their company performance. Although value innovation has not made a significant contribution in this study, it does highlight the opportunity to increase the capacity of MSMEs to innovate, which is important for improving the exchange rate and overall performance. This study also provides practical and theoretical implications for the development of entrepreneurial strategies, knowledge management, and value innovation in the context of horticultural agricultural MSMEs in East Java. In addition, these findings open up opportunities for further research that can investigate more deeply how these strategies can be optimized to improve the performance of MSMEs in this sector, especially in overcoming the challenges of low exchange rates and less than optimal performance compared to other provinces. Generalization of research results that need to be considered along with the development of future research. Furthermore, this study was conducted only on limited MSMEs so that the results of the study cannot be generalized to large businesses. Moreover, the most of the respondents in this study are also in East Java Province so that the results of this study need special attention when generalized to other regions specifically.

REFERENCES

1. Abuaddous, H. Y., Al Sokkar, A. A. M., & Abualodous, B. I. (2018). The impact of knowledge management on organizational performance. *International Journal of Advanced Computer Science and Applications, 9*(4), 204-208. https://doi.org/10.14569/IJACSA.2018.090432

2. Acar, A. Z. (2020). The mediating role of value innovation between market orientation and business performance: evidence from the logistics industry. *International Journal of Business Innovation and Research*, *21*(4), 540-563. https://doi.org/10.1504/IJBIR.2020.106012

3. Adam, S., Fuzi, N. M., Ramdan, M. R., Mat Isa, R., Ismail, A. F. M. F., Hashim, M. Y., et al. (2022). Entrepreneurial orientation and organizational performance of online business in Malaysia: The mediating role of the knowledge management process. *Sustainability, 14*(9), 5081. https://doi.org/10.3390/su14095081

4. Al Mehrez, A. A., Alshurideh, M., Al Kurdi, B., & Salloum, S. A. (2021). Internal factors affect knowledge management and firm performance: A systematic review. In Proceedings of the

International Conference on Advanced Intelligent Systems and Informatics (632–643).

5. Alvarez, S. A., & Busenitz, L. W. (2001). The entrepreneurship of resource-based theory. *Journal of Management, 27*(6), 755–775. https://doi.org/10.1177/014920630102700609

6. Anderson, B. S., Covin, J. G., & Slevin, D. P. (2009). Understanding the relationship between entrepreneurial orientation and strategic learning capability: An empirical investigation. *Strategic Entrepreneurship Journal, 3*(3), 218–240. https://doi.org/10.1002/sej.72

7. Ayub, A., Razzaq, A., Aslam, M. S., & Iftekhar, H. (2013). Gender effects on entrepreneurial orientation and value innovation: Evidence from Pakistan. *European Journal of Business and Social Sciences, 2*(1), 82–90.

8. Badan Pusat Statistik Provinsi Jawa Timur. (2022). *Direktori usaha pertanian lainnya (DUTL), Provinsi Jawa Timur 2022.* Diunduh July 5, 2023, dari https://jatim.bps.go.id/publication/2022/12/28/d471a48be1a5cad7a93838a6/direktori-usaha-pertanian-lainnya--dutl--provinsi-jawa-timur-2022.html

9. Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management, 17*(1), 99–120. https://doi.org/10.1177/014920639101700108

10. Barney, J. B., & Arikan, A. M. (2001). The resource-based view: Origins and implications. in Hitt, M. A., Freeman, R. E., & Harrison, J. S. (Eds.), *The Blackwell Handbook of Strategic Management* (pp. 124–188). Wiley-Blackwell. https://doi.org/10.1002/9781405164061

11. Barney, J. B., & Clark, D. N. (2007). *Resource-Based Theory: Creating and Sustaining Competitive Advantage*. New York: Oxford University Press Inc.

12. Bolisani, E., & Bratianu, C. (2018). The emergence of knowledge management. In E. Bolisani & C. Bratianu (Eds.), *Emergent Knowledge Strategies: Strategic Thinking in Knowledge Management* (pp. 23–48). Cham: Springer International Publishing. https://doi.org/10.1007/978-3-319-60657-6_2

13. Chaithanapat, P., & Sirisuhk, R. (2020). Customer knowledge management in SMEs: Review and research agenda. *Knowledge and Process Management, 27*(1), 1–19. https://doi.org/10.1002/kpm.1653

14. Christa, U. R., Wardana, I. M., Dwiatmadja, C., & Kristinae, V. (2020). The role of value innovation capabilities in the influence of market orientation and social capital to improving the performance of Central Kalimantan Bank in Indonesia. *Journal of Open Innovation: Technology, Market, and Complexity, 6*(3), 140. https://doi.org/10.3390/joitmc6040140

15. Diaz, E., & Sensini, L. (2020). Entrepreneurial orientation and firm performance: evidence dari Argentina. *International Business Research*, *13*(8), 47-55. https://doi.org/10.5539/ibr.v13n8p47

16. Duarte, A, A., & Bressan, A. (2016). A resource-based view of the firm and micro and small Italian wine firms. *International Journal of Wine Business Research, 28*(4), 349-368. https://doi.org/10.1108/IJWBR-12-2015-0051

17. Exposito, A., & Sanchis-Llopis, J. A. (2018). Innovation and business performance for Spanish SMEs: New evidence from a multi-dimensional approach. *International Small Business Journal*, *36*(8), 911-931. https://doi.org/10.1177/0266242618782596

18. Farooq, R., & Vij, S. (2018). Linking entrepreneurial orientation and business performance: Mediating role of knowledge management orientation. *Pacific Business Review International, 10*(8), 174-183.

19. Ferreira, J. J., Azevedo, S. G., & Ortiz, R. F. (2011). Contribution of resource-based view and entrepreneurial orientation on small firm growth. *Cuadernos de Gestión, 11*(1), 95-116. https://doi.org/10.5295/cdg.100185jf

20. Ferreira, J. J., Fernandes, C. I., Kraus, S., & McDowell, W. C. (2021). Moderating influences on the entrepreneurial orientation-business performance relationship in SMEs. *The International Journal of Entrepreneurship and Innovation, 22*(4), 240-250. https://doi.org/10.1177/14657503211018109

21. Gold, A. H., Malhotra, A., & Segars, A. H. (2001). Knowledge management: An organizational capabilities perspective. *Journal of Management Information Systems, 18*(1), 185-214. https://doi.org/10.1080/07421222.2001.11045669

22. Gupta, V., & Gupta, A. (2015). The concept of entrepreneurial orientation. *Foundations and Trends® in Entrepreneurship, 11*(2), 55–137. http://dx.doi.org/10.1561/0300000054

23. Ha, S. T., Lo, M. C., Suaidi, M. K., Mohamad, A. A., & Razak, Z. B. (2021). Knowledge management process, entrepreneurial orientation, and performance in SMEs: Evidence from an emerging economy. *Sustainability, 13*(17), 9791. https://doi.org/10.3390/su13179791

24. Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis* (8th ed.). Andover: Cengage Learning EMEA.

25. Hair, J. F., Hult, G. T. M., Ringle, C. M., & Sarstedt, M. (2017). *A primer on partial least squares*

structural equation modeling (PLS-SEM) (2nd ed.). Los Angeles: SAGE Publications, Inc.

26. Hair, J. F., Page, M., & Brunsveld, N. (2020). *Essentials of business research methods* (4th ed.). New York: Routledge.

27. Hajar, M. A., Alkahtani, A. A., Ibrahim, D. N., Al-Sharafi, M. A., Alkawsi, G., Iahad, N. A., et al. (2022). The effect of value innovation in the superior performance and sustainable growth of telecommunications sector: Mediation effect of customer satisfaction and loyalty. *Sustainability, 14*(10), 6342. https://doi.org/10.3390/su14106342

28. Hajar, M. A., Alkahtani, A. A., Ibrahim, D. N., Darun, M. R., Al-Sharafi, M. A., & Tiong, S. K. (2021). Approach of value innovation towards superior performance, competitive advantage, and sustainable growth: A systematic literature review. *Sustainability, 13*(18), 10131. https://doi.org/10.3390/su131810131

29. Halawi, L. A., Aronson, J. E., & McCarthy, R. V. (2005). Resource-based view of knowledge management for competitive advantage. *The Electronic Journal of Knowledge Management, 3*(2), 75-86.

30. Handzic, M. (2006). Knowledge management in SMEs: Practical guidelines. *CACCI Journal, 1*, 1-16.

31. Hanif, M. I., Malik, F., & Hamid, A. B. A. (2018). The effect of knowledge management and entrepreneurial orientation on organizational performance. *Journal of Entrepreneurship Education, 21*(4), 1-15.

32. Hughes, M., Hughes, P., Hodgkinson, I., Chang, Y. Y., & Chang, C. Y. (2021). Knowledge-based theory, entrepreneurial orientation, stakeholder engagement, and firm performance. *Strategic Entrepreneurship Journal, 15*(3), 1–33. https://doi.org/10.1002/sej.1409

33. Isichei, E. E., Agbaeze, K. E., & Odiba, M. O. (2020). Entrepreneurial orientation and performance in SMEs: The mediating role of structural infrastructure capability. *International Journal of Emerging Markets, 15*(6), 1219–1241. https://doi.org/10.1108/IJOEM-08-2019-0671

34. Khan, A. J., Tufail, M. S., & Ali, A. (2021). Factors affecting performance of small & medium enterprises: The mediating role of knowledge management. *Pakistan Journal of Humanities and Social Sciences, 9*(2), 197–209. https://doi.org/10.52131/pjhss.2021.0902.0129

35. Kim, W. C., & Mauborgne, R. (1997). Value innovation: The strategic logic of high growth. *Harvard Business Review*, 75(1), 103–112.

Republished in 2004 in *Harvard Business Review*, 82(7–8), 172–180.

36. Kim, W. C., & Mauborgne, R. (2005a). *Blue ocean strategy: how to create uncontested market space and make the competition irrelevant.* Boston: Harvard Business School Publishing Corporation.

37. Kline, R. B. (2015). *Principles and practice of structural equation modeling* (4th ed.). New York: The Guilford Press.

38. Ključnikov, A., Civelek, M., Čech, P., & Kloudová, J. (2019). Entrepreneurial orientation of SMEs' executives in the comparative perspective for Czechia and Turkey. *Oeconomia Copernicana, 10*(4), 773–795. https://doi.org/10.24136/oc.2019.035

39. Kristinaea, V., Wardana, I. M., Giantari, I. G. A. K., & Rahyuda, A. G. (2020). The role of powerful business strategy on value innovation capabilities to improve marketing performance during the COVID-19 pandemic. *Uncertain Supply Chain Management, 8*, 675–684. https://doi.org/10.5267/j.uscm.2020.8.005

40. Lumpkin, G. T., & Dess, G. G. (1996). Clarifying the entrepreneurial orientation construct and linking IT to performance. *Academy of Management Review, 21*(1), 135–172. https://doi.org/10.5465/amr.1996.9602161568

41. Madhoushi, M., Sadati, A., Delavari, H., Mehdivand, M., & Mihandost, R. (2011). Entrepreneurial orientation and innovation performance: The mediating role of knowledge management. *Asian Journal of Business Management, 3*(4), 310–316.

42. Massaro, M., Handley, K., Bagnoli, C., & Dumay, J. (2016). Knowledge management in small and medium enterprises: A structured literature review. *Journal of Knowledge Management, 20*(2), 258–291. https://doi.org/10.1108/JKM-08-2015-0320

43. Milovanovic, B. M. (2022). Exploring direct and non-linear effects of entrepreneurial orientation and its dimensions on firm performance in a small, open, transitional economy. *International Journal of Strategic Management and Decision Support Systems in Strategic Management*, 27(3).

44. Mishra, C. S., & Zachary, R. K. (2015). The theory of entrepreneurship. *Entrepreneurship Research Journal, 5*(4), 251–268. https://doi.org/10.1515/erj-2015-0042

45. Mohammed, R., & Zakari, M. (2021). Entrepreneurial orientation and firm performance: The moderating role of transformational leadership behaviour of SMEs in Ghana. *International Journal of Entrepreneurship, 5*(1), 26–41.

46. Nemlioglu, I., & Mallick, S. K. (2017). Do managerial practices matter in innovation and firm performance relations? New evidence from the UK. *European Financial Management*, *23*(5), 1016-1061. https://doi.org/10.1111/eufm.12123

47. Nguyen, V. H., Nguyen, T. T. C., Nguyen, V. T., & Do, D. T. (2021). Internal factors affecting firm performance: A case study in Vietnam. *Journal of Asian Finance, Economics and Business, 8*(5), 303–314. https://doi.org/10.13106/jafeb.2021.vol8.no5.0303

48. OECD. (2018). *Studi OECD mengenai UMKM dan kewirausahaan, tentang kebijakan UMKM dan kewirausahaan di Indonesia 2018*. Diunduh July 7, 2022, dari https://www.oecd.org/cfe/SME%20Indonesia_Bahasa.pdf.

49. Okanga, B. (2017). Small and medium-sized enterprises' knowledge management systems as edifiers of new value innovations. *South African Journal of Information Management, 19*(1), 1-11. https://doi.org/10.4102/sajim.v19i1.786

50. Pulka, B. M., Ramli, A., & Mohamad, A. (2021). Entrepreneurial competencies, entrepreneurial orientation, entrepreneurial network, government business support and SMEs performance. The moderating role of the external environment. *Journal of Small Business and Enterprise Development*, *28*(4), 586-618. https://doi.org/10.1108/JSBED-12-2018-0390

51. Rauch, A., Wiklund, J., Lumpkin, G. T., & Frese, M. (2009). Entrepreneurial orientation and business performance: An assessment of past research and suggestions for the future. *Entrepreneurship Theory and Practice, 33*(3), 761–787. https://doi.org/10.1111/j.1540-6520.2009.00308.x

52. Ribeiro, M. A., Adam, I., Kimbu, A. N., Afenyo-Agbe, E., Adeola, O., Figueroa-Domecq, C., et al. (2021). Women entrepreneurship orientation, networks, and firm performance in the tourism industry in resource-scarce contexts. *Tourism Management, 86*, 104343. https://doi.org/10.1016/j.tourman.2021.104343

53. Saunila, M. (2014). Innovation capability for SME success: Perspectives of financial and operational performance. *Journal of Advances in Management Research, 11*(2), 163–175. http://doi.org/10.1108/JAMR-11-2013-0063

54. Saunila, M. (2016). Performance measurement approach for innovation capability in SMEs. *International Journal of Productivity and Performance Management, 65* (2), 162-176. https://doi.org/10.1108/IJPPM-08-2014-0123

55. Saunila, M. (2019). Innovation capability in SMEs: A systematic review of the literature. *Journal of Innovation & Knowledge*, *5*(4), 260-265. https://doi.org/10.1016/j.jik.2019.11.002

56. Schumpeter, J. A. (1934). *The theory of economic development* (J. E. Elliott, Trans.). New Jersey: Transaction Publishers. (Original work published 1934).

57. Siregar, Z. M. E., Suryana, Ahman, E., & Senen, S. H. (2020). Knowledge management, innovation, and firm performance: The case of batik industry in Indonesia. *Quality Access to Success, 21*(179), 27-32.

58. Sirmon, D. G., Hitt, M. A., & Ireland, R. D. (2007). Managing firm resources in dynamic environments to create value: Looking inside the black box. *Academy of Management Review, 32*(1), 273–292. https://doi.org/10.5465/amr.2007.23466005

59. Sirmon, D. G., Hitt, M. A., Ireland, R. I., & Gilbert, B. A. (2011). Resource orchestration to create competitive advantage: Breadth, depth, and life cycle effects. *Journal of Management, 37*(5), 1390–1412. https://doi.org/10.1177/0149206310385695

60. Soares, M. D. C., & Perin, M. G. (2019). Entrepreneurial orientation and firm performance: An updated meta-analysis. *RAUSP Management Journal, 55*(2), 143–159. https://doi.org/10.1108/RAUSP-01-2019-0014

61. Sumiati, S. (2020). Improving small business performance: The role of entrepreneurial intensity and innovation. *Journal of Asian Finance, Economics and Business, 7*(10), 211–218.

62. Taouab, O., & Issor, Z. (2019). Firm performance: Definition and measurement models. *European Scientific Journal, 15*(1), 1857–7881. https://doi.org/10.19044/esj.2019.v15n1p93

63. Urban, B., & Matela, L. (2022). The nexus between innovativeness and knowledge management: A focus on firm performance in the hospitality sector. *International Journal of Innovation Studies, 6*, 26–34.

64. Wales, W. J., Patel, P. C., Parida, V., & Kreiser, P. M. (2013). Nonlinear effects of entrepreneurial orientation on small firm performance: The moderating role of resource orchestration capabilities. *Strategic Entrepreneurship Journal, 7*, 93–121. https://doi.org/10.1002/sej.1153

65. Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal, 5*(2), 171–180. https://doi.org/10.1002/smj.4250050207

66. Xue, C. T. S. (2017). A literature review on knowledge management in organizations. *Research in Business and Management, 4*(1), 30-41. https://doi.org/10.5296/rbm.v4i1.10786