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Entrepreneurial Orientation, Digital Self-Efficacy, and SME Business Performance Through Opportunity Recognition

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Abstract
Purpose: This study examines whether the interaction between entrepreneurial orientation and digital self-efficacy improves SME business performance through opportunity recognition within the internal business process perspective in culinary SMEs in West Java Province.
Research Methodology: This study employed a quantitative approach with an explanatory survey method. Data were collected using questionnaires distributed to 301 culinary SME owners in West Java Province, Indonesia. The sampling technique was carried out through probability sampling using a cluster random sampling approach. Data analysis was conducted using Structural Equation Modelling (SEM) with SEM-AMOS Software.
Results: The results indicate that entrepreneurial orientation and digital self-efficacy positively affect opportunity recognition, which in turn improves internal business process performance. Opportunity recognition partially mediates these effects, with digital self-efficacy, combining self-efficacy and digital literacy, playing a key role in enhancing SMEs' ability to identify and develop opportunities.
Conclusions: Strengthening entrepreneurial orientation and digital self-efficacy enhances opportunity recognition, which subsequently improves SME business performance from an internal business process perspective. Opportunity recognition serves as a critical mechanism linking entrepreneurial capability and digital confidence to performance.
Limitations: This study is confined to culinary SMEs in West Java Province using a cross-sectional design, limiting generalizability to other sectors, regions, or longitudinal behavioral changes.
Contributions: This study extends digital self-efficacy as an integrated psychological–digital construct and enriches SME performance literature through an internal business process perspective. Practically, it provides guidance for SMEs, policymakers, and development institutions to strengthen entrepreneurial orientation and digital self-efficacy via opportunity recognition to improve business performance.

Keywords: *Business Performance, Digital Self-Efficacy, Entrepreneurial Orientation, Internal Business Process Perspective, Opportunity Recognition*

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1. Introduction

Micro, Small, and Medium Enterprises (MSMEs) play a crucial role in Indonesia's economy through their contributions to economic growth, employment creation, and economic resilience. Their ability to

survive economic shocks, including the 1997–1998 crisis, demonstrates their adaptability and strategic importance in reducing inequality and improving public welfare (Bank & Lppi, 2015). Among MSME sectors, the culinary industry has experienced significant growth in recent years. According to the Single MSME Data Information System (SIDT-UMKM), West Java recorded the highest number of accommodation and food-service MSMEs in Indonesia in 2025, with 1,545,675 business units, exceeding East Java and Central Java (Kementerian Usaha Mikro, 2025).

As a major component of Indonesia's creative economy, the culinary subsector has substantially contributed to the national economic output. The number of culinary MSMEs in West Java increased from 1,658,481 units in 2016 to 2,524,740 units in 2023, indicating a strong development potential. Despite this growth, culinary MSMEs continue to face significant challenges in their operations. The COVID-19 pandemic reduced sales, profits, and employment, while disrupting business operations (Heriyanto, Guli, & Kusumawati, 2021). Industry performance has fluctuated considerably during the 2011–2025 period (Data Industri, 2025). Furthermore, the accommodation and food service sector contributed only 3.03% to West Java's Gross Regional Domestic Product in 2023, far below the manufacturing sector's contribution of 41.87% (Badan Pusat Statistik Provinsi Jawa, 2024). The culinary subsector also accounted for only 7% of Indonesia's creative economy exports, compared with 63% for fashion and 30% for crafts, indicating limited international competitiveness (Sopian & Oesman, 2023). To evaluate SME (Small and Medium Enterprises) success, this study adopts the internal business process perspective of the Balanced Scorecard, which emphasizes operational efficiency, product development, innovation, and service quality. This perspective is particularly relevant for culinary MSMEs because many business owners lack formal financial-performance measurement systems.

Entrepreneurial orientation is widely recognized as a key determinant of business performance. It reflects a firm's innovativeness, proactiveness, risk-taking, competitive aggressiveness, and autonomy. Previous studies have reported a positive relationship between entrepreneurial orientation and SME performance (Arthur, Agbemabiese, Amoako, & Anim, 2024; Fan et al., 2021; Kiyabo & Isaga, 2020). In addition, rapid technological development has increased the importance of digital self-efficacy, which is defined as an individual's confidence in using digital technologies to support business activities. The growing use of online media among culinary entrepreneurs highlights the increasing role of digital transformation in SME development.

According to Saraswati and Rozali (2021), digital self-efficacy increases entrepreneurs' confidence in the utilization of digital technologies. Rahma and Susanti (2022) found that it improves business performance through technology adoption and digital management. Another important factor is opportunity recognition, which refers to the ability to identify, evaluate and exploit business opportunities. This capability is essential in competitive industries because it enables entrepreneurs to respond to market changes and develop innovative solutions (Nafukho & El Mansour, 2025). Previous studies have shown that opportunity recognition positively influences business performance (Anwar, Shuangjie, & Ullah, 2020; Hamrick, Paterson, Michaelis, Murnieks, & Petrou, 2023). However, existing studies have primarily focused on the direct relationship between entrepreneurial orientation and business performance, with limited attention to the combined roles of digital self-efficacy and opportunity recognition within an integrated framework. Research examining these relationships in culinary MSMEs, particularly in West Java, remains limited. Moreover, the sector's relatively low economic and export performance, despite its considerable potential, suggests the existence of an empirical gap.

Therefore, this study aims to examine the influence of entrepreneurial orientation and digital self-efficacy on business performance from the internal business process perspective through opportunity recognition among culinary MSMEs in West Java Province. Based on the background and research gaps identified above, the research problems in this study are formulated as follows.

1) How are entrepreneurial orientation, digital self-efficacy, opportunity recognition, and business performance from the internal business process perspective described among culinary MSMEs in West Java Province?

2) Does entrepreneurial orientation significantly influence business performance from the internal business process perspective of culinary MSMEs in West Java Province?
3) Does digital self-efficacy significantly influence business performance from the internal business process perspective of culinary MSMEs in West Java Province?
4) Does entrepreneurial orientation significantly influence opportunity recognition among culinary MSMEs in West Java?
5) Does digital self-efficacy significantly influence opportunity recognition among culinary MSMEs in West Java?
6) Does opportunity recognition significantly influence business performance from the internal business process perspective of culinary MSMEs in West Java Province?
7) Does entrepreneurial orientation significantly influence business performance through opportunity recognition among culinary MSMEs in West Java?
8) Does digital self-efficacy significantly influence business performance through opportunity recognition among culinary MSMEs in West Java Province?
9) How is the business performance model from the internal business process perspective determined by entrepreneurial orientation, digital self-efficacy, and opportunity recognition among culinary MSMEs in West Java?

Based on this background, the researcher is interested in conducting a study on "The Business Performance Model from the Perspective of Internal Business Processes Through Opportunity Recognition in Culinary SMEs in West Java Province."

2. Literature Review and Hypotheses Development

This section discusses the literature review and Hypotheses Development related to the research subject.

2.1. Literature Review

2.1.1 Business Performance

2.1.1.1 Concept of Business Performance from the Internal Business Process Perspective

Business Performance from the Internal Business Process Perspective refers to an organization's ability to achieve strategic objectives through effective and efficient internal processes that create customer value. Derived from the internal business process perspective of the Balanced Scorecard, this concept encompasses innovation, operational, and customer service processes (Kaplan & Norton, 1996). Recent studies emphasize that it includes not only operational efficiency but also innovation management, process flexibility, service quality, and business sustainability (AlQudah, Al-Emran, & Shaalan, 2021). In SMEs, this perspective serves as an important indicator for evaluating internal process quality as the basis for competitive advantage and long-term sustainability.

2.1.1.2 Business Performance Measurement from the Internal Business Process Perspective (KBPPBI)

In this study, Business Performance Measurement from the Internal Business Process Perspective is measured based on the internal business process perspective in the Balanced Scorecard, focusing on non-financial dimensions relevant to culinary SMEs. The measurement is conducted through four main dimensions: company operational efficiency, changes in product development, the level of innovation processes, and after-sales service (Fatima & Elbanna, 2023; Herlinawati & Machmud, 2020). These four dimensions were selected because they effectively represent the effectiveness of SMEs' internal processes in enhancing operational quality, innovation, and customer relationships for business value creation.

2.1.2 Entrepreneurial Orientation

2.1.2.1 Concepts and Definitions of Entrepreneurial Orientation (EO)

Entrepreneurial Orientation (EO) is a strategic orientation that reflects an organization's mindset, values, and behaviors in creating and capitalizing on business opportunities through innovation, proactivity, and risk-taking (Al-Dhobee, Goaill, & Al-Dhobee, 2025; Wales, Kraus, Filser, Stöckmann, & Covin, 2021). Recent literature explains that EO is not only understood as entrepreneurial behavior but also as a strategic decision-making process that drives companies to be more adaptive, innovative, and competitive in facing market dynamics (Cheng, Wang, Huang, & Risko, 2025; Cobb-Clark,

Dahmann, Kamhöfer, & Schildberg-Hörisch, 2024). In the context of SMEs, EO is a critical factor in enhancing a business's ability to survive and thrive in dynamic business environments.

2.1.2.2 Measurement of Entrepreneurial Orientation (EO)
The measurement of EO in this study is based on the dimensions developed by Lumpkin and Dess (1996) and supported by recent studies (Al-Momani, Haddad, Sharabati, & Hashesh, 2023; Hruby, 2024). EO is measured using five main dimensions: innovativeness, proactiveness, risk-taking, competitive aggressiveness, and autonomy. These five dimensions were selected because they represent the ability of culinary SMEs to create innovations, seize market opportunities, cope with business uncertainties, compete actively, and make independent business decisions.

2.1.3 Digital Self-Efficacy (DSE)
2.1.3.1 Concept and Definition of Digital Self-Efficacy (DSE)
Digital Self-Efficacy (DSE) is an extension of Albert Bandura's concept of self-efficacy, referring to an individual's belief in their ability to use and leverage digital technology effectively to achieve specific goals (Bandura, 1997). Recent literature explains that DSE is not only related to digital technical skills but also encompasses confidence in managing information, adapting to technological changes, solving digital problems, and supporting business performance and digital transformation (Alghamdi & Sideridis, 2025; Malodia, Mishra, Fait, Papa, & Dezi, 2023; Maran et al., 2022). In the context of SMEs, DSE is viewed as a critical factor influencing business owners' readiness to adopt digital technologies and enhance their competitiveness.

2.1.3.2 Measurement of Digital Self-Efficacy (DSE)
In this study, DSE was measured across six main dimensions: confidence in managing information and data literacy, confidence in solving problems through digital communication and collaboration, confidence in facing digital challenges, confidence in maintaining information security, confidence in digital adaptation, and confidence in managing emotions in a digital environment. These dimensions were selected because they represent the psychological and digital capabilities of SME actors in utilizing technology to support business activities and navigate the dynamics of digital transformation (Cobb-Clark et al., 2024; Peiffer, Ellwart, & Preckel, 2020; Ulfert-Blank & Schmidt, 2022).

2.1.4 Opportunity Recognition
2.1.4.1 Concept Opportunity Recognition (OR)
Opportunity Recognition (OR) is an individual's ability to identify, evaluate, and capitalize on business opportunities with potential economic value (Murad, Li, Javed, Hassan, & Islam, 2024). The entrepreneurship literature explains that OR is the initial stage in the entrepreneurial process, involving cognitive processes, knowledge, experience, and the interpretation of changes in the market and business environment (Terán-Yépez & Guerrero-Mora, 2020). In the context of SMEs, OR is not only related to the ability to identify new opportunities but also to the ability to create innovative solutions and transform opportunities into valuable business actions (AlMulhim, 2023; Faroque, Mostafiz, Faruq, & Bashar, 2020). Therefore, OR is viewed as a strategic capability that plays a crucial role in supporting business development and sustainability.

2.1.4.2 Measurement of Opportunity Recognition (OR)
In this study, Opportunity Recognition (OR) is measured through three main dimensions: mapping competitive opportunities, proactively seeking opportunities, and creating innovative solutions. These three dimensions were adapted from Ardichvili, Cardozo, and Ray (2003) and Ataei et al. (2024) because they were deemed capable of comprehensively representing the opportunity recognition process, ranging from the identification of market information and active opportunity search to the development of innovative solutions. These dimensions are relevant to the characteristics of culinary SMEs, which require adaptability, creativity, and speed in responding to market changes and consumer demands.

2.1.5 Hypothesis Development

2.1.5.1 The Relationship Between Entrepreneurial Orientation and Business Performance

Entrepreneurial orientation is also an organizational phenomenon that reflects managerial capabilities, enabling firms to take the initiative and transform their competitive actions to benefit the business in which they are engaged. The literature indicates that EO plays a crucial role in enhancing competitiveness, innovation, and business performance, particularly among SMEs operating in dynamic business environments (Huang, 2023; Reshi, Saqib, & Nazir, 2025). Business performance describes the results achieved by a company through its operational and strategic activities (Armstrong & Vickers, 2022). Several empirical studies have demonstrated that EO positively and significantly impacts business performance through increased innovation, business competence, and competitive advantage (Arabeche et al., 2022; Sukmamedian, 2021; Wahyuni & Sara, 2020). Thus, the higher the EO of business actors, the greater the business's ability to improve its performance.

H_1: Entrepreneurial orientation influences business performance from the perspective of internal business processes.

2.1.5.2 The Relationship Between Digital Self-Efficacy and Business Performance

Digital Self-Efficacy (DSE) is an individual's belief in their ability to use digital technology effectively to support business activities and goals (Bandura, 2012). Individuals with high DSE levels tend to be more adaptive, proactive, and capable of addressing digital challenges in a dynamic business environment. Business performance reflects work outcomes and behaviors that support the achievement of organizational goals (Aguinis, 2023). In the context of SMEs, DSE plays a crucial role in enhancing entrepreneurs' ability to adopt technology, innovate, and manage business processes effectively. Several studies have indicated that self-efficacy and digital self-efficacy positively influence SME business performance, both directly and through digital transformation and business innovation (Ibrahim & Aldawsari, 2023; Malodia et al., 2023). Thus, the higher the DSE level of business owners, the greater the business's ability to improve its performance.

H_2: Digital self-efficacy influences business performance from the perspective of internal business processes.

2.1.5.3 The Relationship Between Entrepreneurial Orientation and Opportunity Recognition

Entrepreneurial Orientation (EO) reflects an innovative, proactive attitude and willingness to take risks in the face of business dynamics (D. Miller, 1983). These characteristics encourage entrepreneurs to be more active in identifying and capitalizing on business opportunities that arise in the market. Opportunity Recognition (OR) is an individual's ability to identify and evaluate valuable business opportunities. Research indicates that EO positively influences OR, with entrepreneurs with high levels of EO tending to be better able to discover and capitalize on new opportunities (Anwar, Clauss, & Issah, 2022). Thus, the higher an entrepreneur's EO, the greater their capacity for recognizing opportunities.

H_3: Entrepreneurial orientation influences opportunity recognition.

2.1.5.4 The Relationship Between Digital Self-Efficacy and Opportunity Recognition

Digital Self-Efficacy (DSE) refers to an individual's belief in their ability to use digital technology to support business activities and decision-making (Alghamdi & Sideridis, 2025; Maran et al., 2022). Individuals with high DSE levels tend to be more confident, adaptive, and active in utilizing digital information to seek new business opportunities. Opportunity Recognition (OR) is the ability of business actors to recognize and capitalize on potential business opportunities. Research indicates that self-efficacy and digital competence positively influence opportunity recognition because they help entrepreneurs be more responsive to market information, technological changes, and innovation opportunities (Malodia et al., 2023; Solves, Estrada, & Gómez-Gras, 2021). Thus, the higher an entrepreneur's digital self-efficacy, the greater their opportunity recognition ability.

H_4: Digital self-efficacy influences opportunity recognition.

2.1.5.5 The Relationship Between Opportunity Recognition and Business Performance

Opportunity Recognition (OR) is the ability of entrepreneurs to identify and evaluate valuable business opportunities (Baron & Byrne, 2003). This ability helps entrepreneurs adapt to market changes and create business innovations. Several studies indicate that OR positively impacts the business

performance of SMEs. Hartono and Ardini (2022), also Khurotul, Ferina, and Sukowidyanti (2019) found that the ability to recognize opportunities can enhance innovation and business performance. Thus, the higher an entrepreneur's opportunity recognition ability, the higher the resulting business performance will be.

H_5: Opportunity recognition influences business performance from the perspective of internal processes.

2.1.5.6 The Influence Entrepreneurial orientation on business performance from the perspective of internal business processes, mediated by opportunity recognition

Entrepreneurial Orientation (EO) is widely acknowledged as a strategic orientation that enables Small and Medium Enterprises (SMEs) to enhance business performance through innovation, proactiveness, and risk-taking behavior. From the perspective of internal business processes, EO encourages SMEs to improve operational efficiency, accelerate decision-making, strengthen innovation activities, and respond effectively to changing market demands. Firms characterized by a high level of EO tend to develop superior organizational capabilities that support sustainable performance and competitive advantages. Empirical studies have consistently demonstrated that EO positively influences SME performance by fostering strategic flexibility and innovation-oriented business processes.

H_6: Entrepreneurial orientation influences business performance from the perspective of internal business processes, mediated by opportunity recognition.

2.1.5.7. The Influence Digital self-efficacy on business performance from the perspective of internal business processes, mediated by opportunity recognition

Digital self-efficacy, an individual's belief in their ability to use digital technology effectively, is an important predictor of SME business performance, particularly from the perspective of internal business processes. SME owners with high digital self-efficacy can integrate technology into their operational processes more optimally, generating measurable internal efficiency through process automation, value chain integration, and data-driven decision-making (Zahoor et al., 2023). Digital capability, as a manifestation of self-efficacy, has been proven to indirectly influence SME performance through opportunity capability, namely the ability to recognize and exploit business opportunities enabled by the digital ecosystem (Kim & Jin, 2024).

Accordingly, opportunity recognition serves as a critical mediating mechanism that converts individual digital beliefs into tangible improvements in an organization's internal business processes. A further systematic review confirms that digital capability has a significant impact on the internal business process dimension by strengthening process innovation capability and cost competitiveness, which in turn drives overall financial performance (Samsuden et al., 2024). Therefore, strategic interventions aimed at enhancing the digital self-efficacy of SME owners will create a multiplier effect: strengthening internal business processes while simultaneously sharpening opportunity recognition capability, which serves as a bridge toward superior and sustainable business performance (Malodia et al., 2023; Kim & Jin, 2024).

H_7: Entrepreneurial digital self-efficacy influences business performance from the perspective of internal business processes, mediated by opportunity recognition.

3. Methodology

This study uses a quantitative approach with an explanatory survey method to empirically test the relationship between the variables studied. The data used in this study is in the form of primary data collected directly from respondents through a closed questionnaire distributed online and offline to owners or managers of culinary SMEs registered with the Digital Entrepreneurship Academy (DEA) of Kominfo West Java. The research was carried out for three months, from March to May 2025, with geographical coverage in various areas of West Java Province (under the guidance of the Ministry of Communications and Digital) to ensure the equitable representation of respondents.

The population in this study is all culinary SMEs registered in the DEA West Java Program under the guidance of the Ministry of Communications and Digital, which amounts to 1,217 SMEs. The number of samples collected and analyzed was 301 respondents, which is considered representative and

sufficient for the purpose of accurate statistical analysis in the context of culinary SME research. In this study, the sampling technique was probability sampling with a cluster random sampling approach.

Variable measurement involves three main constructs: Entrepreneurial Orientation (OK) as an independent variable, Opportunity Recognition (OPR) as a mediation variable, and Business Performance (KB) as a dependent variable. The Entrepreneurship Orientation variable is measured through five dimensions: innovativeness, proactiveness, risk-taking, competitive aggressiveness, and autonomy, with reference to the scale developed by (D. Miller, 1983) and (Bhatti et al., 2020). Opportunity Recognition is measured through three dimensions: competitive scanning of opportunities, proactive searching of opportunities, and innovative solution creation, based on the theory of (Ataei et al., 2024) and (Baron & Byrne, 2003).

Meanwhile, Business Performance is measured through the perspective of internal business processes which includes operational efficiency, product innovation, product development, and customer service quality, referring to Kaplan and Norton (1996), Fatima and Elbanna (2023), Gupta (2021), and Herlinawati and Machmud (2020). Data technical analysis was conducted using Structural Equation Modelling (SEM) with SEM-AMOS Software. Instrument validity was evaluated using convergent validity through standardized loading factors (SLF), while reliability was assessed using Composite Reliability (CR) and Average Variance Extracted (AVE). Indicators with loading factors greater than 0.50, CR values above 0.70, and AVE values above 0.50 were considered acceptable.

4. Results and Discussions

4.1. Results

4.1.1 Respondent Characteristics

This study involved 301 respondents who were culinary SMEs in West Java Province. Based on the demographic data collected, most respondents were women (166 people, 55.26%), while men amounted to 135 people (44.74%). The majority of respondents were in the 34–38year age group (31.05%), followed by those aged ≥44 years (24.47%) and 29–33 years (21.32%). This age composition shows that most SMEs are at a productive age with relatively mature business experiences. In terms of education, most respondents were high school graduates or equivalent (50%), followed by bachelor's graduates (33.95 %), diploma holders (8.68%), master's graduates (3.16%), and the rest with junior high and elementary education. This composition shows that culinary SMEs in this region have a background in secondary to upper education, which has the potential to affect their managerial skills and adaptability to market changes.

The type of business run by the respondents was mostly a combination of food and beverage businesses (65.82%), while the rest ran food only (30.38%) or beverages only (3.80%). Based on the length of business operation, most respondents have been running their business for 1-5 years (53.68%), while the other 35.26% have been operating for 6 to 10 years. This shows that most actors have sufficient experience managing their businesses. Interestingly, some respondents had only started a business for less than a year, while a small number had been running their businesses for more than a decade. These findings reflect the dynamics and diversity of the business maturity levels in the culinary sector. In terms of annual turnover, most respondents are in the small business category, with an annual turnover ranging from IDR 167 million to IDR 1.25 billion. The highest turnover range was recorded between IDR 250 million and IDR 500 million (65.49%), while only a small number recorded a turnover of more than IDR 1.25 billion. This shows that the majority of culinary SMEs in West Java are in a potential growth phase, although they still face challenges in scaling up their businesses.

4.1.2 Descriptive Analysis

A descriptive analysis was conducted to determine how culinary SMEs perceive the main variables in this study: Entrepreneurial Orientation (OK), Opportunity Recognition (OPR), and Business Performance (KB). To determine the respondents' perception categories, a five-point scale was used: very low, low, medium, high, and very high. The Entrepreneurial Orientation (EO) variable measures the entrepreneurial attitudes and behaviors of culinary SMEs in West Java, including innovation,

proactivity, risk taking, competitive aggressiveness, and autonomy. Based on the results of the descriptive analysis, the EO variable generally fell into the high category.

Most respondents gave high and very high ratings, indicating that culinary SME operators possess a strong entrepreneurial orientation in running their businesses. The dimensions of innovation and risk-taking received relatively high scores, suggesting that business operators are sufficiently bold in facing uncertainty and are open to innovation in both products and business management. Meanwhile, the autonomy dimension received a relatively lower score, although it still fell within the high category, indicating that the level of independence in decision-making was not yet fully consistent. Overall, these results show that culinary SME operators in West Java possess good entrepreneurial characteristics as a foundation for improving their business's performance.

The Digital Self-Efficacy (DSE) of culinary SME operators in West Java generally falls into the "confident" category. These results indicate that business operators have a high level of confidence in using digital technology to support their activities. The dimensions of confidence in managing business information and data literacy, communication and collaboration, and facing digital challenges showed relatively high scores. This indicates that SME operators feel capable of utilizing digital information, collaborating through digital media, and facing the challenges of technology use in their businesses. Meanwhile, the dimensions of maintaining information security, digital adaptability, and managing emotions also fell into the "confident" category, although there was variation among respondents. Overall, these results indicate that culinary SME operators in West Java possess good digital self-efficacy in using, adapting to, and addressing the dynamics of digital technology in their business activities.

The Opportunity Recognition (OPR) variable among culinary SMEs in West Java generally falls into a high category. These results indicate that business owners possess strong capabilities in identifying, evaluating, and capitalizing on business opportunities that arise in the business environment. The dimensions of competitive opportunity mapping suggest that SME owners are sufficiently capable of understanding market dynamics and business competition. The dimension of proactive opportunity seeking also falls into the high category, indicating that business owners actively seek and explore opportunities for business development. Meanwhile, the dimension of creating innovative solutions shows that culinary SMEs have the ability to develop new ideas and solutions in response to existing opportunities, although there is still variation among the respondents. Overall, these results illustrate that culinary SMEs in West Java possess strong opportunity recognition capabilities, which serve as a foundation for business development and sustainability.

The Business Performance Variables from the Internal Business Process Perspective (KBPPBI) for culinary SMEs in West Java generally fall into the high category. The majority of respondents gave high and very high ratings across all measured dimensions, indicating that the businesses' internal processes were functioning well. The business operational efficiency dimension shows that SME operators are capable of managing operational activities effectively. The product development dimension received high to very high scores, reflecting efforts to update and develop products according to market needs. Additionally, the innovation process dimension also falls into the high category, indicating that business owners have implemented innovation in their activities. Meanwhile, the after-sales service dimension received high to very high ratings, indicating that culinary SMEs prioritize customer relationships and satisfaction after the sale. These results indicate that culinary SMEs in West Java have strong internal business process performance, particularly in operations, product development, innovation, and customer service.

Overall, the results of the descriptive analysis indicate that culinary SME operators in West Java exhibit relatively high levels of entrepreneurial orientation, digital self-efficacy, opportunity recognition, and business performance from an internal perspective. These findings indicate that business owners possess entrepreneurial capabilities, digital confidence, the ability to recognize opportunities, and effective management of internal business processes, all of which serve as crucial assets in supporting business development and sustainability amid the ever-evolving business environment.

4.1.3 Results of Instrument Validity Testing

Before testing the structural model, the validity of all measurement indicators was evaluated using a convergent validity analysis. Indicator validity was assessed based on the Standardized Loading Factor (SLF) value, where an indicator was considered valid if it had a loading factor greater than 0.50. The results of the validity tests are presented in Table 1.

Table 1. Indicator validity test results

Variable	Indicator	Standardized Loading Factor (λ)	Validity (λ > 0.5)
Y: Business Performance from the Internal Business Process Perspective (KBPPBI)	KBPPBI.1	0.845	Valid
	KBPPBI.2	0.870	Valid
	KBPPBI.3	0.854	Valid
	KBPPBI.4	0.862	Valid
X1: Entrepreneurial Orientation (EO)	EO.1	0.835	Valid
	EO.2	0.854	Valid
	EO.3	0.898	Valid
	EO.4	0.827	Valid
	EO.5	0.752	Valid
X2: Digital Self-Efficacy (DSE)	DSE.1	0.837	Valid
	DSE.2	0.865	Valid
	DSE.3	0.840	Valid
	DSE.4	0.838	Valid
	DSE.5	0.828	Valid
	DSE.6	0.832	Valid
M: Opportunity Recognition (OPR)	OPR.1	0.860	Valid
	OPR.2	0.868	Valid
	OPR.3	0.836	Valid

Table 1 shows that all indicators have standardized loading factor values ranging from 0.752 to 0.898, which exceed the recommended threshold of 0.50. These results indicate that all the indicators are valid and adequately represent their respective latent constructs. Therefore, no indicator was removed from the measurement model, and all indicators were retained for further analysis.

4.1.4 Results of Construct Reliability Testing

After the validity of the indicators was confirmed, construct reliability was assessed using Composite Reliability (CR) and Average Variance Extracted (AVE). A construct is considered reliable if the CR value exceeds 0.70, while an AVE value above 0.50 indicates adequate convergent validity. The results of the reliability tests are presented in Table 2.

Table 2. Reliability and convergent validity test results

Variable	Indicator	λ	λ²	E	CR	AVE	Description
Business Performance from the Internal Business Process Perspective (KBPPBI)	KBPPBI.1	0.845	0.714	0.286	0.918	0.736	Reliable and valid
	KBPPBI.2	0.871	0.759	0.241			
	KBPPBI.3	0.854	0.729	0.271			
	KBPPBI.4	0.862	0.743	0.257			
Entrepreneurial Orientation (EO)	EO.1	0.835	0.697	0.303	0.920	0.696	Reliable and valid
	EO.2	0.854	0.729	0.271			
	EO.3	0.898	0.806	0.194			
	EO.4	0.827	0.684	0.316			
	EO.5	0.752	0.566	0.434			

Digital Self-Efficacy (DSE)	DSE.1	0.837	0.701	0.299	0.935	0.706	Reliable and valid
	DSE.2	0.865	0.748	0.252			
	DSE.3	0.840	0.706	0.294			
	DSE.4	0.838	0.702	0.298			
	DSE.5	0.828	0.686	0.314			
	DSE.6	0.833	0.694	0.306			
Opportunity Recognition (OPR)	OPR.1	0.860	0.740	0.260	0.891	0.731	Reliable and valid
	OPR.2	0.868	0.753	0.247			
	OPR.3	0.836	0.699	0.301			

Table 2 presents the results of the construct reliability tests. All constructs achieved Composite Reliability (CR) values above the recommended threshold of 0.70, indicating excellent internal consistency. Furthermore, all Average Variance Extracted (AVE) values exceeded 0.50, ranging from 0.696 to 0.736, confirming adequate convergent validity. These findings demonstrate that all constructs satisfy both validity and reliability requirements and are therefore appropriate for subsequent structural model analysis using the SEM-AMOS.

4.1.5 Structural Model Testing

The structural model testing is presented in Figure 1.

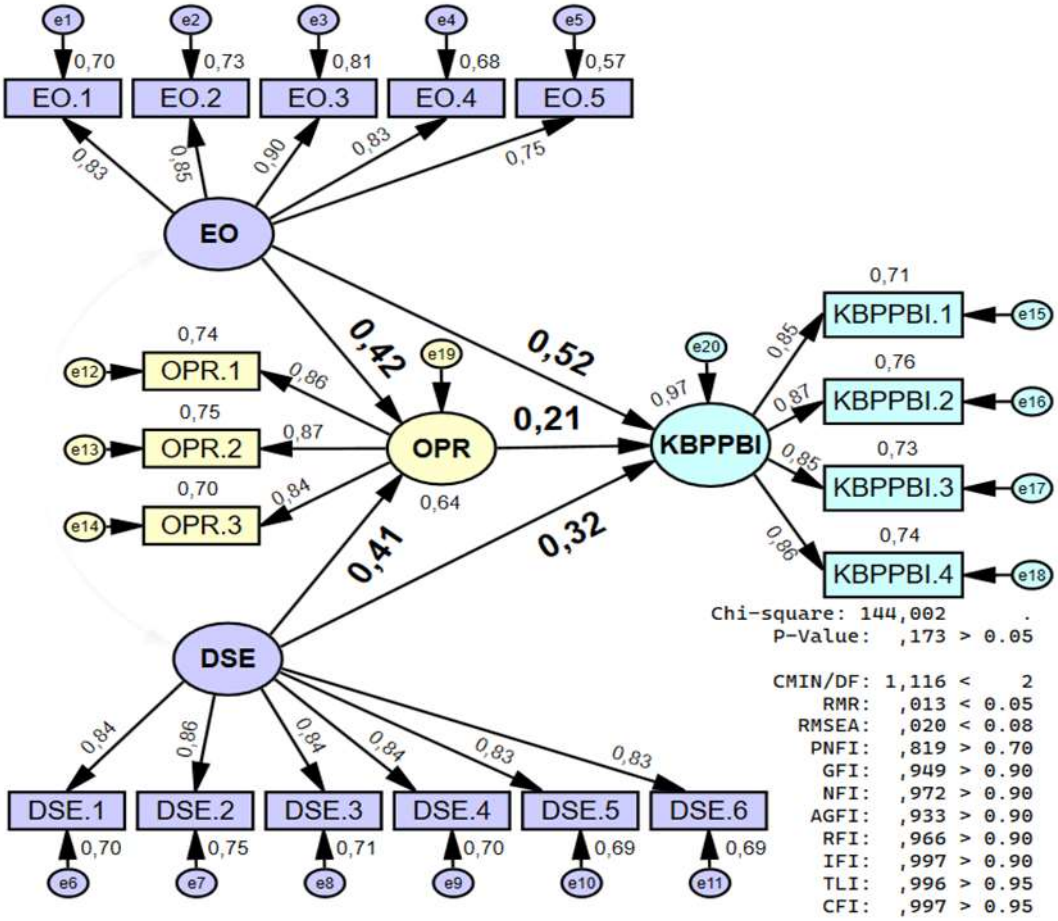

Figure 1 Structural model

After the measurement model was confirmed to satisfy the requirements of convergent validity, construct reliability, and an adequate goodness-of-fit model, the next stage involved estimating the causal relationships among the latent constructs within the structural model. This estimation aimed to

examine the direction and strength of the effects of the exogenous constructs (entrepreneurial orientation and digital self-efficacy) on the endogenous construct (Business Performance from the Internal Business Process Perspective), both directly and indirectly through the mediating construct (opportunity recognition).

This procedure was conducted using a path analysis approach within the covariance-based Structural Equation Modeling (SEM) framework with the assistance of AMOS software. Each relationship among the constructs was estimated based on the standardized regression weight (β) and tested for significance using the Critical Ratio (CR) and p-value. The initial estimation was performed without applying the bootstrap method to focus primarily on the direct effects among the constructs. The following are the results of the direct path parameter estimation without applying the bootstrap method.

Table 3. Direct path parameter estimation

Causal Path Relationship	**Estimate (β)**	**CR**	**p-value**	**p-value < 0.05**	**Interpretation**
EO → OPR	0.423	4.125	0.001	< 0.05	Significant: EO affects OPR
DSE → OPR	0.407	3.989	0.001	< 0.05	Significant: DSE affects OPR
EO → KBPPBI	0.521	8.056	0.001	< 0.05	Significant: EO affects KBPPBI
DSE → KBPPBI	0.316	5.236	0.001	< 0.05	Significant: DSE affects KBPPBI
OPR → KBPPBI	0.209	4.526	0.001	< 0.05	Significant: OPR affects KBPPBI

The structural model in this study represents the complex causal interaction between Entrepreneurial Orientation (EO) and Digital Self-Efficacy (DSE) on Business Performance from the Internal Business Process Perspective (KBPPBI), both directly and indirectly through Opportunity Recognition (OPR).

1) Effect on Opportunity Recognition (OPR)
   a. Entrepreneurial Orientation (EO) has a positive and significant effect on opportunity recognition, with a standardized coefficient of $\beta = 0.423$ and $p < 0.001$. This finding indicates that the higher the level of entrepreneurial orientation among business actors, the greater their ability to identify and exploit business opportunities innovatively and in a market-responsive manner.
   b. Digital Self-Efficacy (DSE) also had a positive and significant effect on OPR ($\beta = 0.407$, $p = 0.001$). This finding suggests that the greater the confidence of business actors in utilizing digital technology, the stronger their capability to recognize business opportunities driven by it.
2) Effect on Business Performance from the Internal Business Process Perspective (KBPPBI)
   a. Entrepreneurial Orientation (EO) directly and significantly affects Business Performance from the Internal Business Process Perspective, with $\beta = 0.521$ and $p < 0.001$. This result confirms that entrepreneurial characteristics such as proactiveness, innovativeness, and risk-taking are important determinants of improving the business performance of culinary SMEs.
   b. Digital Self-Efficacy (DSE) also exerted a significant direct effect on KBPPBI ($\beta = 0.316$, $p < 0.001$). This finding indicates that the digital competence of business actors directly enhances operational efficiency, customer service quality and adaptability to market changes.
   c. Opportunity Recognition (OPR) significantly contributes to Business Performance from the Internal Business Process Perspective ($\beta = 0.209$, $p = 0.001$). This finding reinforces the strategic role of opportunity recognition capability as a link between internal capabilities (EO and DSE) and business performance.
3) Model Explanatory Power (R^2)
   a. The coefficient of determination (R^2) for the opportunity recognition construct was 0.641, indicating that approximately 64.1% of the variance in OPR could be jointly explained by EO and DSE.

b. For the Business Performance from the Internal Business Process Perspective construct, the R^2 value obtained was 0.969, indicating that 96.9% of the variance in KBPPBI can be explained by the combined influence of EO, DSE, and OPR.

These results confirm that both Entrepreneurial Orientation and Digital Self-Efficacy play a strong and significant role in enhancing Business Performance from the Internal Business Process Perspective of culinary SMEs, both directly and indirectly through the mediating mechanism of Opportunity Recognition. This interaction demonstrates that strengthening entrepreneurial capabilities and digital confidence not only improves the ability of business actors to respond to opportunities but also has a substantial impact on overall business performance.

4.1.5 Evaluation of Model Goodness of Fit

After estimating the path parameters in the structural model, the next important stage is to evaluate the extent to which the proposed theoretical model fits empirical data. The evaluation of model fit, or Goodness of Fit (GoF), aims to assess whether the structure of relationships among constructs in the model reflects the actual relationship patterns observed in the research data.

Table 4. Measurement model goodness of fit evaluation results

GoF Index	Recommended Threshold	CFA Result	Interpretation
Chi-square/df	< 2.00	1.116	Good Fit
RMSEA	< 0.08	0.020	Excellent Fit
CFI	> 0.90	0.997	Excellent Fit
TLI	> 0.90	0.996	Good Fit
GFI	> 0.90	0.949	Good Fit
SRMR	< 0.08	0.020	Good Fit

Based on Table 4, it can be concluded that all model fit indices fall within the good-to-excellent categories. The low RMSEA and Chi-square values indicate that the model exhibits a high level of parsimonious fit. Furthermore, the CFI, TLI, and GFI values exceeded the recommended thresholds, suggesting that the model adequately represented the relationships between the latent constructs and their indicators. A low SRMR value indicates that the residual discrepancies between the observed covariance matrix and the model-implied covariance matrix are minimal. Therefore, it can be concluded that the measurement model demonstrates an excellent fit to the empirical data and is appropriate for further analysis in the structural model testing stage.

4.1.6 Statistical Hypothesis Testing

Statistical hypothesis testing was conducted to examine the direct and indirect relationships among the variables in the structural model. This study aimed to evaluate the significance of the effects of Entrepreneurial Orientation (EO), Digital Self-Efficacy (DSE), and Opportunity Recognition (OPR) on Internal Business Process Perspective Business Performance (KBPPBI). The test results were assessed based on the standardized regression weight (SRW), critical ratio (CR/Z), and probability value (p-value). The hypothesis is accepted when the p-value is less than 0.05, indicating a significant relationship between the variables. A summary of the hypothesis testing results is presented in Table 5.

Table 4. Summary of hypothesis testing results

Hypotheses	Variable Relationship	Type of Effect	SRW	CR / Z	p-value	Conclusion
H_1	EO → KBPPBI	Direct	0.521	8.056	<0.001	Accepted
H_2	DSE → KBPPBI	Direct	0.316	5.236	<0.001	Accepted
H_3	EO → OPR	Direct	0.423	4.125	<0.001	Accepted
H_4	DSE → OPR	Direct	0.407	3.989	<0.001	Accepted
H_5	OPR → KBPPBI	Direct	0.209	4.526	<0.001	Accepted
H_6	EO → OPR → KBPPBI	Indirect	0.088	3.067	0.0021	Accepted
	EO → KBPPBI	Total	0.609	—	—	—

H_7	DSE → OPR → KBPPBI	Indirect	0.085	3.0047	0.0027	Accepted
	DSE → KBPPBI	Total	0.401	—	—	—

4.2 Discussions

The results indicate that Entrepreneurial Orientation (EO) positively and significantly influences Business Performance from the Internal Business Process Perspective (KBPPBI) among culinary SMEs in West Java, Indonesia. This finding suggests that SMEs with stronger innovativeness, proactiveness, risk-taking, competitive aggressiveness, and autonomy tend to achieve higher operational efficiency, product innovation, and improved service quality. This result supports S. Miller (2011), who argued that entrepreneurially oriented firms perform better because they adapt more effectively to environmental changes and actively exploit market opportunities. This also aligns with Arabeche et al. (2022), who reported positive relationships between entrepreneurial orientation and SME performance, and Kiyabo and Isaga (2020), who found that entrepreneurial orientation enhances performance through competitive advantage. Similarly, Sorama and Joensuu-Salo (2023) demonstrate that innovation and risk-taking contribute positively to SME growth and performance in dynamic business environments.

Second, the findings from hypothesis testing indicate that Digital Self-Efficacy (DSE) significantly affects Business Performance from the Internal Business Process Perspective (KBPPBI) among culinary SMEs in West Java. The standardized regression weight value of 0.316, with a critical ratio (CR) of 5.236 and $p < 0.001$, indicates a positive and statistically significant relationship between these two variables. This finding is consistent with the study by Malodia et al. (2023), which found that business actors with high digital self-efficacy tend to be more innovative and adaptive to technological changes, ultimately strengthening their business performance. Similarly, Ibrahim and Aldawsari (2023) argued that digital self-efficacy is an important mediator between digital capabilities and organizational performance. Zimmermann (2019) further stated that digital fluency, consisting of digital knowledge and digital self-efficacy, directly improves individual performance in digital work environments in educational and business contexts. In addition, Malodia et al. (2023) emphasized that digital self-efficacy is a key determinant of successful SME digital transformation.

The findings indicate that Entrepreneurial Orientation (EO) positively influences Opportunity Recognition (OPR) among culinary SMEs in West Java. This suggests that entrepreneurs with stronger innovativeness, proactiveness, and risk-taking tendencies can better identify and evaluate business opportunities. Ardichvili et al. (2003) argued that entrepreneurial characteristics strengthen opportunity recognition through environmental scanning and active exploration. Similarly, Hanifah and Nugraha (2025) found that entrepreneurs with a higher entrepreneurial orientation demonstrate superior cognitive capabilities in identifying opportunities. Entrepreneurial orientation also promotes entrepreneurial alertness, enabling business actors to transform market information into valuable opportunities and innovative strategies. These findings support Anwar et al. (2022), who reported that entrepreneurial orientation contributes to venture performance through the recognition of opportunities.

The results show that Digital Self-Efficacy (DSE) positively influences Opportunity Recognition (OPR) among culinary SMEs in West Java. This finding indicates that entrepreneurs who are more confident in using digital technology are better able to identify and evaluate business opportunities. (Al-Ayed, Al-Tit, & Alashjaee, 2023) found that digital opportunity recognition significantly affects digital entrepreneurial attitudes, intentions, and behaviors through perceived self-efficacy. Likewise, Sobakinova, Zhou, and Azeez (2019) demonstrated that self-efficacy supports the realization of business ideas, while Marta, Yulastri, Riyanda, Hasan, and Yunus (2023) highlighted its role in improving proactive and opportunistic recognition. Kreuzer, Lindenthal, Oberlaender, and Röglinger (2022) emphasized that digital technologies facilitate the opportunity recognition process by expanding access to information and entrepreneurial opportunities.

The findings confirm that Opportunity Recognition (OPR) positively influences Business Performance from the Internal Business Process Perspective (KBPPBI) among culinary SMEs in West Java. This suggests that entrepreneurs who are more capable of identifying and exploiting business opportunities tend to achieve better operational and business results. This finding is consistent with Hartono and

Ardini (2022), who reported that opportunity recognition enhances SME performance through business model innovation. Similarly, Kesumahati, Angeloi, and Fasha (2026) found that opportunity recognition improves firm performance by fostering innovative behavior and entrepreneurial orientation (EO). Kean Lip et al. (2025) further emphasized the importance of opportunity-based entrepreneurship in strengthening strategic and innovative processes, while Alim et al. (2023) demonstrated that opportunity recognition directly contributes to entrepreneurial performance and mediates the influence of environmental factors on business success.

The findings confirm that Opportunity Recognition (OPR) significantly mediates the relationship between Entrepreneurial Orientation (EO) and Business Performance from the Internal Business Process Perspective (KBPPBI). Entrepreneurially oriented SMEs are more capable of identifying and exploiting business opportunities, which subsequently improves internal business processes and overall performance. This result supports the opportunity-based entrepreneurship model of Ardichvili et al. (2003), which emphasizes that opportunity recognition is a mechanism that links entrepreneurial characteristics to business outcomes. In the context of culinary SMEs, the ability to identify emerging consumer trends, market changes, and technology-driven opportunities contributes to operational efficiency and service improvements. This finding is consistent with Anwar et al. (2022), who reported that opportunity recognition partially mediates the relationship between entrepreneurial orientation and venture performance. Similar evidence was provided by Alim et al. (2023) and Taleb, Emrouznejad, Charles, Khalid, and Ramli (2024), who highlighted the mediating role of opportunity recognition in enhancing entrepreneurial outcomes.

The SEM analysis confirms that Opportunity Recognition (OPR) significantly mediates the relationship between Digital Self-Efficacy (DSE) and Business Performance from the Internal Business Process Perspective (KBPPBI) among culinary SMEs in West Java. This finding indicates that business owners with higher confidence in using digital technologies are better able to identify and exploit business opportunities, which subsequently enhances internal business processes and overall performance. This result supports Arifin, Zakaria, and Bustaman (2023), who found that self-efficacy mediates the relationship between digital adoption and micro-business success by facilitating more effective technology utilization. Similarly, Muo and Azeez (2019) reported that self-efficacy positively influences the realization of business ideas, and that opportunity recognition strengthens this relationship. Sobakinova et al. (2019) further demonstrated that individuals with strong self-efficacy and opportunity recognition capabilities are more effective in developing and implementing business ideas. Consistent with these findings, Al-Ayed et al. (2023) showed that perceived self-efficacy mediates the relationship between digital opportunity recognition and digital entrepreneurial intention, highlighting the strategic role of digital confidence in transforming opportunities into better business outcomes. The business performance model from the internal business process perspective of culinary SMEs in West Java Province is most strongly influenced by Entrepreneurial Orientation through Opportunity Recognition. In contrast, Digital Self-Efficacy exerts a moderate direct and indirect influence on business performance from the internal business process perspective.

5. Conclusions

5.1. Conclusion

Overall, the conclusions of the research are that entrepreneurial orientation, digital self-efficacy, opportunity recognition, and business performance from the internal business process perspective demonstrated a relatively high level. From the internal business process perspective, entrepreneurial orientation and digital self-efficacy influence business performance. In addition, entrepreneurial orientation and digital self-efficacy influence opportunity recognition. Beyond direct effects, entrepreneurial orientation influences business performance from the internal business process perspective through opportunity recognition as a mediating variable, underscoring the critical mediating role that opportunity recognition plays in the relationship between entrepreneurial orientation and business performance. A parallel finding emerged for digital self-efficacy, where its positive effect on business performance from the internal business process perspective was also channeled through opportunity recognition, confirming that digital self-efficacy influences business performance directly and indirectly through this mediating pathway. This finding shows that the business performance model

from the internal business process perspective among culinary SMEs in West Java Province is most strongly driven by entrepreneurial orientation through opportunity recognition. Simultaneously, digital self-efficacy has a meaningful direct and indirect influence on business performance from the internal business process perspective, positioning both variables as essential drivers of SME performance in the culinary sector.

5.2. Research Limitations

First, the scope of the research object and geographical coverage of this study were limited to culinary SMEs in West Java Province, Indonesia. This limitation affects the generalizability of the findings to SMEs in other sectors or regions with different social, cultural, and economic characteristics.

Second, the methodological approach employed in this study was quantitative, using structured questionnaires as the primary data collection instrument. This approach has limitations in capturing the subjective and contextual aspects of business actors' experiences, such as personal motivation, barriers encountered during the innovation process, or adaptation strategies for digital technology.

Third, the research model in this study only included the variables of Entrepreneurial Orientation, Digital Self-Efficacy, and Opportunity Recognition. In reality, SME business performance is also influenced by various external factors, such as government policies, support from financial institutions, regulatory changes, market dynamics, business environment conditions, the availability of digital infrastructure, and other related factors.

5.3 Suggestions and Directions for Future Research

Future research should incorporate external factors such as business environment conditions, government policies, and access to financing. Expanding the research scope to non-culinary sectors and different regions and adopting a mixed-method approach would provide deeper and more generalizable insights into SME competitiveness.

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