

The role of characteristics and competencies in the business performance of functional beverage SMEs

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ABSTRACT

This study examines the effects of owner characteristics, product competence, and business capital on the business performance of SMEs in the functional beverage sector. It also investigates the mediating role of owner competence in the relationship between owner characteristics and business performance. Employing a quantitative approach, data were collected via a structured questionnaire from 105 functional beverage SMEs in Solo Raya, Indonesia. Structural Equation Modeling with Partial Least Squares was used for analysis. The results indicate that business capital and product competence significantly and positively influence business performance. Owner characteristics do not have a direct effect on business performance but influence it indirectly through full mediation by owner competence. The findings suggest that functional beverage entrepreneurs should enhance their self-competence encompassing knowledge, skills, and business experience, and strengthen business capital to improve performance. Additionally, developing entrepreneurial characteristics is crucial for boosting business outcomes through improved owner competence.

Keywords: Functional beverages, Owner Competence, Owner Characteristics, Product Competence, Business Capital.

INTRODUCTION

The restructuring of food systems plays a vital role in enhancing food resilience, while simultaneously safeguarding food security and nutrition. A notable trend influencing this shift is the increasing public demand for functional foods. These are products that deliver additional health advantages beyond their basic nutritional function. They contain bioactive compounds (such as vitamins, minerals, antioxidants, and phytochemicals) that help strengthen immune defences, lower the likelihood of long-term illnesses, and enhance general well-being. Given Indonesia's rich food resources and local wisdom, there is a significant opportunity to develop

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functional foods that align with global trends and contribute to both public health and economic growth.

Functional beverages are a type of functional food that not only provide essential nutritional intake but also offer sensory satisfaction, such as favorable taste and texture (Setyowati, Masyhuri, Mulyo, Irham, & Yudhistira, 2023a). These beverages can provide extra features, such as probiotics, enhanced nutrient intake, improved endurance, and reduced disease risk. Functional beverages can be derived from natural ingredients commonly found in daily life, such as plant-based materials including leaves, stems, flowers, roots, fruits, or even multiple parts of the plant (Wahyuningsih, Safitri, Rosidah, & Agustina, 2022).

SMEs in the functional beverage sector of Solo Raya demonstrate considerable potential, attributed to the diverse range of products they produce such as fruit-based juices, flavoured or infused water, fresh milk, coconut water, soy milk, mung bean beverages, and various traditional herbal drinks including *jamu* (herbal medicine), *wedang ronde* (a warm ginger broth with chewy rice balls filled with ground roasted peanuts), and *wedang jahe* (a hot ginger infusion). Despite their strengths, these enterprises face challenges such as low hygiene awareness, limited innovation, outdated management practices, and restricted marketing reach. Furthermore, they face stiff competition from other functional beverage products from outside Solo Raya and other popular beverages in the region. To succeed in this competitive environment, SMEs must differentiate their products by offering unique characteristics and benefits that resonate with consumers. This requires strong entrepreneurial skills, innovative approaches, and sufficient capital to support business growth and sustainability. By addressing these challenges and focusing on product differentiation, functional beverage SMEs in Solo Raya can carve out a successful niche in the market.

Previous studies have extensively examined the impact of entrepreneurial characteristics and competencies on business performance (Alizar & Mariyanti, 2024; Dewantoro, Putranto, & Purwanto, 2023; Isma & Aliasyahbana, 2022; Istinganah & Widiyanto, 2020; Karimah & Meliza, 2023; Sarwoko, Surachman, Armanu, & Hadiwidjojo, 2013; Sudiarti & Juliarsa, 2020; Suindari & Juniariani, 2020). However, a comprehensive analysis encompassing entrepreneur characteristics, entrepreneur competence, product competence, and digital business competence remains lacking. This study seeks to address this gap by investigating the mediating role of owner competence in the relationship between owner characteristics and business performance in SMEs.

While research on functional beverages has predominantly focused on nutritional content, health benefits, and sensory evaluations (Dini, 2019; Harmayani et al., 2019; Pamela & Kusumasari, S Meindrawan, 2021; Samilyk, Bolgova, Samokhina, Cherniavska, & Kharchenko, 2024; Widyaningsih, Siska, Fanani, & Martati, 2020; Yusuf Alkandahri et al., 2021), limited attention has been paid to the specific business dynamics of functional beverage SMEs, particularly in the Solo Raya region.

Therefore, this study aims to explore the influence of product characteristics, entrepreneur characteristics, and business capital on the business performance of functional beverage SMEs. Additionally, it examines the mediating effect of owner competence on the relationship between owner characteristics and business performance within this sector and region.

LITERATUR REVIEW

The effect of business capital on business performance

Capital is a crucial factor in starting a business. According to the Resource-Based View (RBV), organisations gain a competitive edge by efficiently managing their existing resources (Barney, Ketchen, & Wright, 2021). In this perspective, a company is regarded as a collection of tangible and intangible assets that can be leveraged to achieve strategic advantages (Ozdemir, Carlos Fernandez de Arroyabe, Sena, & Gupta, 2023). RBV emphasizes that heterogeneous business capital, such as financial capital, knowledge, experience, and human capital (Rumangkit & Prabowo, 2025). Recent research proves that venture capital, including determination, experience, and networking, significantly improves the performance of MSMEs (Renaldo et al., 2021). However, without sufficient financial capital, it can be challenging for a business to grow and perform well. Entrepreneurial knowledge and partner networks are critical dimensions of capital for MSMEs. A study by Yani et al. (2020) reinforces these findings by showing that social capital, such as partner networks and trust, also contributes to improving MSME business performance. In addition, managerial competence, business experience, and competent human resources are also important parts of non-financial capital that contribute to the success of MSMEs. For SMEs, business growth is often influenced by the amount of capital invested. In their study, Surya et al. (2021) stated that business capital and strengthening the capacity of human resources in business can increase the development of MSME performance. Business capital is an essential element of SME development (Isma & Aliasahbana, 2022; Istinganah & Widiyanto, 2020; Syam, Amir, Dewantara, & Jufri, 2023). Therefore, this study proposes the following hypothesis:

H1: Business capital has a positive and significant effect on business performance.

The effect of owner characteristics on business performance

Characteristics refer to the traits, qualities, or attributes that define an individual and distinguish them from others. In the context of entrepreneurship, essential traits include self-confidence, a future-oriented mindset, risk-taking ability, responsibility, and strong motivation to grow a business (Istinganah & Widiyanto, 2020). Recent findings indicate that the need to achieve, openness to risk-taking, and an internally driven sense of control are among the entrepreneurial qualities that strongly influence business success (Obschonka & Stuetzer, 2017). In addition, self-efficacy remains a critical psychological mechanism that shapes entrepreneurial behavior and business outcomes (Newman, Obschonka, Schwarz, Cohen, & Nielsen, 2019). According to prior studies, SME performance is shaped considerably by the attributes of their owners (Cahyati, 2023; Hidayah, Rahayu, Riptanti, Harisudin, & Khomah, 2024). Based on these findings, this study offers the hypothesis:

H2: Owner characteristics have a positive and significant effect on business performance.

The effect of owner characteristics on owner competence

The competence of a business owner is determined by the owner. Stronger characteristics will increase the competence of business owners characteristics (Sarwoko et al., 2013).. Owner characteristics in this context are the entrepreneurial characteristics possessed by the business owner which are reflected in the competencies they develop, with stronger personal traits often leading to higher levels of competence. Key entrepreneurial traits that contribute to competence include motivation, personality, knowledge, and skills. Essential aspects impacting owner competence include work experience, skills, confidence, responsibility, and goal-oriented priorities which is difficult for competitors to imitate (Sarwoko et al., 2013; Zainol, Al Mamun, Ahmad, & Simpong, 2018). This suggests a significant relationship between owner characteristics and competence. Based on these insights, the following hypothesis is proposed:

H3: Owner characteristics have a positive and significant effect on owner competence.

The effect of owner competence on business performance

Owner competence pertains to the entrepreneur's capacity to utilise resources efficiently and perform managerial roles to achieve desired business outcomes. This competence involves knowledge mastery, skills, and relevant experience that directly influence an entrepreneur's performance in meeting business objectives (Sudiarti & Juliarsa, 2020). Based on Human

Capital theory and meta-analysis by (Unger, Rauch, Frese, & Rosenbusch, 2011), this competency is the outcome of human resource investment (such as education and training) that has been proven to have a significant effect on business performance, especially when based on specific knowledge (task-related knowledge) and direct skills. Competence can often be a predictor of performance achievement (Suindari & Juniariani, 2020). For SMEs, enhancing business performance is challenging without strong owner competence. A study by (Unger et al., 2011) also shows that competencies related to risk management and strategy making have a stronger influence than general competencies. Competence serves as a key factor in the success and growth of SMEs (Dewantoro et al., 2023; Sarwoko et al., 2013; Suindari & Juniariani, 2020). All research results emphasize that higher levels of competence in SME owners will increase business performance outcomes. Based on these findings, this study formulates the subsequent hypothesis:

H4: Owner competence has a positive and significant effect on business performance.

The effect of product competence on business performance

Product competence refers to the extent to which a product contributes to achieving a company's goals. High product competence is a critical factor in business success (Cahyati, 2023). Products that attract consumers typically possess distinctive characteristics and strongly reflect the company's vision. Product competence can drive SME growth by enhancing product appeal and competitiveness (Cahyati, 2023). Product competence can be reflected in the ability to produce innovative and quality products. Product and process innovation in MSMEs contributes significantly to business performance, especially when supported by competitive strategies such as differentiation and focus on certain segments (Pusung, Narsa, & Wardhaningrum, 2023). Based on this, the following hypothesis is proposed:

H5: Product competence has a positive and significant effect on business performance.

The effect of owner competency in mediating the effect of owner characteristics on business performance

The characteristics of business owners are certainly the main foundation for achieving optimal business performance. However, it should be understood that the characteristics of business owners, such as daring to take risks, are not enough in developing a business, so owners need to have appropriate competencies, such as making business strategies, the ability to read opportunities, and understanding the market. This basis of thinking is supported by theories such as Human Capital Theory, which states that investments such as education and training

will only have an impact on business performance when they are actualized into practical competencies such as risk-taking ability (Unger et al., 2011). Owner's competence functions as a behavioral embodiment of entrepreneurial characteristics that directly contribute to business performance (Man, Lau, & Chan, 2002). The characteristics of business owners are able to improve business performance through the formation of competencies (Sarwoko et al., 2013). Therefore, this study recommends the hypothesis:

H6: Owner characteristics has a positive and significant effect on business performance through owner competency.

MATERIALS AND METHODS

This quantitative study employs survey techniques as outlined by (Creswell & Creswell, 2018). It investigates the influence of owner characteristics, product competence, and business capital on the business performance of functional beverage SMEs. Additionally, the study examines the mediating role of owner competence in the relationship between owner characteristics and business performance. A cross-sectional methodology was applied, with data obtained from subjects within a defined time frame (Creswell & Creswell, 2018). Data collection took place between June and August 2024. The study location was purposively selected in the Solo Raya region, known for its significant potential in developing functional beverage businesses. Sukoharjo Regency serves as the primary hub of this potential, while other areas within Solo Raya also present promising opportunities for similar functional beverage products.

A five-point Likert scale was employed to measure the constructs, where 1 represented "strongly disagree" and 5 indicated "strongly agree. This scale was chosen because of its balance between the convenience of respondents and the adequacy of the information produced. In addition, the use of this scale also aims to minimize ambiguity in the answers given by respondents (Roselidyawaty & Rokeman, 2024). Drawing from prior research, the indicators were formulated to capture and represent the dimensions of each variable.

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Table 1. Operational definition and variables Measurement.

| Description | Indicator | Code | Source |
|---|--|------|---|
| Business Capital | | | |
| Business Capital is defined as the essential resources possessed by business owners to operate and grow their enterprises. | I have good business knowledge. | BC1 | (Isma & Aliasyahbana, 2022; Syam et al., 2023) |
| | I have adequate financial resources. | BC2 | |
| | I have a network of partners who support my business | BC3 | |
| | I have competent human resources. | BC4 | |
| | I have sufficient business experience. | BC5 | |
| | I have the availability and adequacy of business capital | BC6 | |
| Business Performance | | | |
| Business Performance is defined as the outcomes achieved by a business in terms of growth in sales, profits, market reach, and assets. | Penjualan produk saya meningkat sesuai harapan | KB1 | (Absah, Chairunisa Muchtar, & Qamariah, 2018; Augustinah, Chandra, Julyanthry, Putri, & Sudirman, 2022) |
| | Profit yang saya peroleh semakin bertumbuh | KB2 | |
| | Pasar produk saya semakin luas | KB3 | |
| | My customers are growing. | KB4 | |
| | The quality of my products is getting better | KB5 | |
| | There is an increase in production process capabilities | KB6 | |
| | Increase in the number of business assets owned | KB7 | |
| Product Competencies | | | |
| Product Competencies are defined as the distinctive attributes of a product that make it desirable, unique, high-quality, and competitive in the market. | My products are desired by consumers. | KP1 | (Cahyati, 2023; Sarwoko et al., 2013) |
| | Consumers often buy my products (repeat orders) | KP2 | |
| | My products easily attract consumers. | KP3 | |
| | My product has uniqueness and advantages compared to competitor products | KP4 | |
| | My product has the potential to be innovative | KP5 | |
| | My product is superior to similar products | KP6 | |
| | My products are guaranteed quality. | KP7 | |
| Owner Competency | | | |
| Owner Competency is defined as the essential skills business owners possess to manage, develop, and sustain their enterprises. | I have conceptual competencies (ideas, solutions) | OC1 | (Dewantoro et al., 2023; Sarwoko et al., 2013) |
| | I have the competence to read and take advantage of business opportunities | OC2 | |
| | I have the competence to learn. | OC3 | |
| | I have the competence to build a network | OC4 | |
| | I have managerial competence. | OC5 | |
| | I have entrepreneurial competence. | OC6 | |
| | I have technical competence (using equipment) in running a business | OC7 | |
| Owner Characteristic | | | |
| Owner Characteristic is defined as the personal traits of business owners that drive motivation, confidence, responsibility, and risk-taking in achieving business goals. | I dare to take risks for the advancement of business | OCh1 | (Cahyati, 2023; Hidayah et al., 2024) |
| | I have a strong motivation in running a business | OCh2 | |
| | I am oriented towards future business development | OCh3 | |
| | I have strong confidence. | OCh4 | |
| | I want to achieve my business goals | OCh5 | |
| | I am responsible for the success of the business I run | OCh6 | |

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Data Collecting and Sampling Technique

The research utilised purposive sampling to gather data from all regencies and the city within the Solo Raya region, namely Boyolali, Sragen, Klaten, Wonogiri, Karanganyar, Sukoharjo, and Surakarta. The sample size was determined based on the variable-to-sample ratio of 1:20 (Hair et al., 2018). This research model includes five variables, the required sample size was 100. In each regency/city, 15 functional beverage SMEs were selected, resulting in a total of 105 functional beverage SMEs as samples. Data collection was conducted through surveys (direct interviews) with the owners of these SMEs using a structured questionnaire. Moreover, in-depth interviews were conducted with seven personnel of the Cooperatives and SMEs Office from the seven regencies/cities in Solo Raya region to gather additional insights, particularly on government initiatives for functional beverage development in the area. The research model is presented in Figure 1.

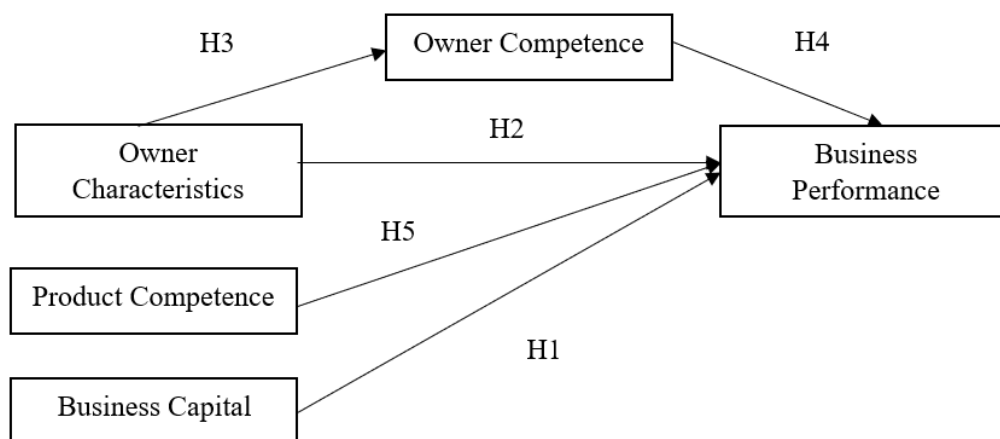


Figure 1. Proposed Research Model.

Data Analysis

To test the research model, this study employed Structural Equation Modeling (SEM) using Partial Least Squares (PLS) as the analytical tool. PLS focuses on predictive modeling, enabling the examination of relationships among dependent and independent variables to predict existing or new observations. This approach allows for drawing conclusions based on the significance of relationships, relative influences, explained variance, and hypothesis testing. The choice of PLS was motivated by its nature as a variance-based SEM technique, which provides a robust analytical framework with minimal reliance on stringent assumptions. Notably, PLS does not require the data to follow a normal distribution, making it well-suited for survey data that may violate this assumption. Furthermore, PLS is effective for analyzing relatively small sample sizes while maintaining high statistical power. It also accommodates

constructs measured by either reflective or formative indicators (Hair et al., 2018). Data analysis was conducted using SmartPLS version 4. In PLS, two types of components are recognized within the causal model, as detailed below.

Measurement Model

The measurement model was applied directly to the indicator (manifest) variables associated with the latent variables. These indicators define the dimensions of the latent constructs. The reflective measurement model was evaluated using several criteria, including factor loadings. Convergent validity measured by average variance extracted (AVE), discriminant validity, and internal consistency, assessed through composite reliability and Cronbach's alpha (Joseph F. Hair, Hult, Ringle, & Sarstedt, 2022).

Structural Model

The structural model comprises latent constructs that cannot be directly observed but are theorized to have relationships with one another. Testing the structural model involves estimating path coefficients, which indicate the strength and direction of relationships between dependent and independent latent variables. The significance of these path relationships was assessed using the bootstrapping technique, allowing for robust hypothesis testing. The rule of thumb for structural model testing is as follows.

Table 2. Rule of thumb for structural model testing.

| No | Criteria | Rule of Thumb | Reference |
|----|----------------------------|--|--|
| 1 | <i>R-Square</i> | Values of 0.75, 0.50, and 0.25 indicate a strong, moderate, and weak model, respectively. | (Hair, Risher, Sarstedt, & Ringle, 2019) |
| 2 | Q^2 Predictive relevance | $Q^2 > 0$ indicates that the model has predictive relevance, whereas $Q^2 < 0$ suggests the model lacks predictive relevance. Values of 0.02, 0.15, and 0.35 indicate weak, moderate, and strong predictive relevance, respectively. | (Hair et al., 2019) |
| 3 | Significance (two-tailed) | P-value < 0.05 (5%) and a t-statistic > 1.96 | (Hair et al., 2019) |
| 4 | Upsilon V | Values of 0.010, 0.075, and 0.175 correspond to low, moderate, and high mediation, respectively. | (Lachowicz, Preacher, & Kelley, 2018) (Ogbeibu, Jabbour, Gaskin, Senadjki, & Hughes, 2021) |

RESULTS AND DISCUSSION

Characteristics of respondents

Based on the survey, the owner of a functional beverage SME in Solo Raya is predominantly female, comprising 61%. Production activities require perseverance, patience, and consistency. For instance, women are more diligent in concocting herbal medicine, choosing ingredients, or selling products. The majority of functional beverage SME owners are of productive age, which is 80% aged 26-55 years. This means that SME owners have the potential to create and are open to innovation. A productive age provides a quick response and is able to formulate

solutions more effectively. Based on the level of education, SME owners are dominated by high school graduates, which is 59%. As many as 34% have an education level up to S2. Adequate education is the capital of human resources that will support business development. A high level of education makes it easier to absorb knowledge and skills, plan a business well, and have good communication skills, so as to support the development of business networks. Based on the length of operation, the majority of functional beverage MSMEs are 1 to 10 years old. This shows that functional beverage MSMEs in Solo Raya are still in the development stage. At this age, MSMEs must continue to open themselves up to technological developments and continue to innovate to build a business.

Outer Model

Convergent Validity

To evaluate convergent validity in the reflective measurement model, the correlation between each indicator's score and the corresponding construct score, as computed through PLS, was examined. An indicator is regarded as having strong reflective properties when its loading factor exceeds 0.70, indicating a substantial association with the construct it represents. The loading factor results obtained in this research are presented as follows.

Table 3. Factor Loading.

| | Business Capital | Business Performance | Owner Characteristics | Owner Competency | Product Competence |
|------|------------------|----------------------|-----------------------|------------------|--------------------|
| BC2 | 0.803 | | | | |
| BC3 | 0.777 | | | | |
| BC4 | 0.685 | | | | |
| BC5 | 0.600 | | | | |
| BC6 | 0.769 | | | | |
| KB1 | | 0.694 | | | |
| KB2 | | 0.679 | | | |
| KB3 | | 0.811 | | | |
| KB4 | | 0.834 | | | |
| KB5 | | 0.665 | | | |
| KB6 | | 0.829 | | | |
| KB7 | | 0.696 | | | |
| KP1 | | | | | 0.600 |
| KP4 | | | | | 0.730 |
| KP5 | | | | | 0.788 |
| KP6 | | | | | 0.795 |
| KP7 | | | | | 0.773 |
| OC1 | | | | 0.668 | |
| OC2 | | | | 0.646 | |
| OC3 | | | | 0.823 | |
| OC4 | | | | 0.758 | |
| OC5 | | | | 0.729 | |
| OC6 | | | | 0.667 | |
| OCh2 | | | 0.730 | | |
| OCh3 | | | 0.764 | | |
| OCh4 | | | 0.813 | | |
| OCh5 | | | 0.754 | | |
| OCh6 | | | 0.814 | | |

Source: Primary Data Analysis, 2024.

The next validity test was conducted by examining the Average Variance Extracted value to assess the validity. The following are the AVE values from the validity test in this study.

Table 4. AVE, Cronbach Alpha, and Composite Reliability Values.

| Variable | AVE | Decision | CA | CR | Decision |
|-----------------------|-------|----------|-------|-------|----------|
| Business capital | 0.525 | Valid | 0.776 | 0.845 | Reliable |
| Business performance | 0.558 | Valid | 0.868 | 0.898 | Reliable |
| Owner characteristics | 0.602 | Valid | 0.836 | 0.883 | Reliable |
| Owner competency | 0.515 | Valid | 0.810 | 0.864 | Reliable |
| Product competency | 0.549 | Valid | 0.799 | 0.857 | Reliable |

Source: Primary Data Analysis, 2024.

Table 4 shows that all constructs in this study meet the validity requirement, as their AVE values exceed the threshold of 0.50. This indicates that all variables can explain the variance of their respective indicators. In the outer model, instrument reliability is determined through the analysis of CR and CA, which are both indicators of internal consistency. A construct meets the criteria when the CR score is greater than 0.6 and CA is above 0.7. The results indicate that each variable met the criteria, with CA and CR values exceeding 0.7 for all variables. This demonstrates that each variable is considered reliable, consistent and stable responses.

Table 5. Cross-Loading Values.

| | Business Capital | Business Performance | Owner Characteristics | Owner Competency | Product Competence |
|------|------------------|----------------------|-----------------------|------------------|--------------------|
| BC2 | 0.803 | 0.335 | 0.470 | 0.568 | 0.482 |
| BC3 | 0.777 | 0.448 | 0.327 | 0.503 | 0.461 |
| BC4 | 0.685 | 0.459 | 0.232 | 0.332 | 0.217 |
| BC5 | 0.560 | 0.191 | 0.371 | 0.456 | 0.293 |
| BC6 | 0.769 | 0.393 | 0.352 | 0.457 | 0.484 |
| KB1 | 0.283 | 0.694 | 0.140 | 0.354 | 0.214 |
| KB2 | 0.282 | 0.679 | 0.222 | 0.357 | 0.144 |
| KB3 | 0.504 | 0.811 | 0.339 | 0.560 | 0.464 |
| KB4 | 0.435 | 0.834 | 0.288 | 0.353 | 0.415 |
| KB5 | 0.384 | 0.665 | 0.336 | 0.465 | 0.466 |
| KB6 | 0.398 | 0.829 | 0.241 | 0.364 | 0.395 |
| KB7 | 0.420 | 0.696 | 0.224 | 0.375 | 0.244 |
| KP1 | 0.324 | 0.150 | 0.367 | 0.461 | 0.599 |
| KP4 | 0.451 | 0.394 | 0.259 | 0.254 | 0.730 |
| KP5 | 0.400 | 0.347 | 0.438 | 0.473 | 0.788 |
| KP6 | 0.437 | 0.274 | 0.331 | 0.378 | 0.795 |
| KP7 | 0.362 | 0.454 | 0.282 | 0.387 | 0.773 |
| OC1 | 0.379 | 0.232 | 0.408 | 0.668 | 0.345 |
| OC2 | 0.326 | 0.383 | 0.387 | 0.646 | 0.172 |
| OC3 | 0.493 | 0.435 | 0.442 | 0.823 | 0.379 |
| OC4 | 0.466 | 0.427 | 0.470 | 0.758 | 0.401 |
| OC5 | 0.513 | 0.394 | 0.420 | 0.729 | 0.347 |
| OC6 | 0.479 | 0.473 | 0.428 | 0.667 | 0.488 |
| OCh2 | 0.197 | 0.124 | 0.730 | 0.361 | 0.176 |
| OCh3 | 0.243 | 0.249 | 0.764 | 0.436 | 0.168 |
| OCh4 | 0.457 | 0.384 | 0.813 | 0.538 | 0.473 |
| OCh5 | 0.413 | 0.288 | 0.754 | 0.470 | 0.404 |
| OCh6 | 0.411 | 0.268 | 0.814 | 0.465 | 0.373 |

Source: Primary Data Analysis, 2024.

The loading factor for each indicator with its respective variable exceeds its cross-loading with other variables, indicating that the data meet the criteria for discriminant validity.

Inner Model

Assessment of the structural model was carried out through the R-squared statistics of the dependent constructs. Within PLS analysis, the initial step in model evaluation involves reviewing the R-squared values of each endogenous latent variable. Variations in these R-squared values reflect the influence of independent construct on the dependent constructs. The coefficient of determination ranges from 0 to 1, with values of 0.67, 0.33, and 0.19 indicating strong, moderate, and weak explanatory power. The R-squared values are presented in Table 6. Furthermore, the relationships between latent variables were evaluated using the Q-square statistic, which measures the predictive relevance of the model by indicating how well the observed values align with the values predicted by the model (Ghozali, 2014).

Table 6. R² and Q² Values for the Functional Beverage Business Performance Model.

| Variable | R ² | Q ² | Status |
|----------------------|----------------|----------------|-------------------------------------|
| Business performance | 0.37 | 0.18 | Moderate; has predictive relevance. |
| Owner competency | 0.35 | 0.17 | Moderate; has predictive relevance. |

Source: Primary Data Analysis, 2024.

Hypothesis Testing (Bootstrapping)

In this research, hypotheses were evaluated using a 5% significance level. A p-value not exceeding 0.05 led to acceptance of the hypothesis, while a value above α resulted in rejection. Figure 2 displays the research model obtained from the bootstrapping procedure.

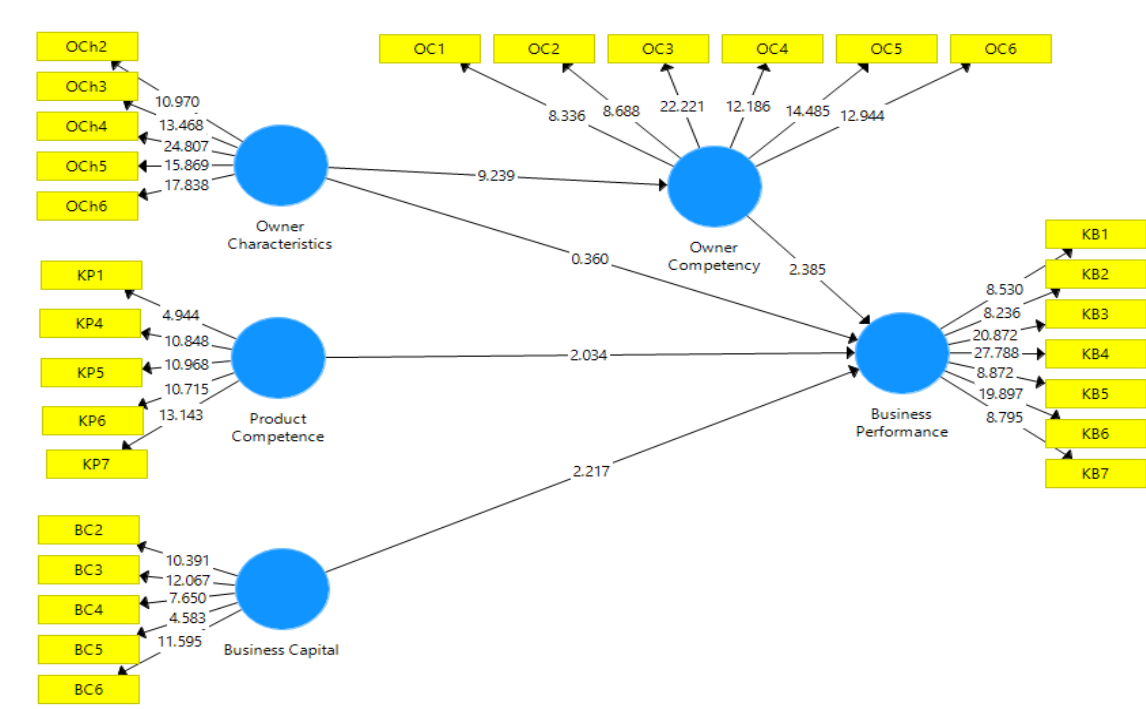


Figure 2. Research Model Based on Bootstrapping Results.

Table 7. Hypothesis Testing Results.

| Hypothesis | | Path coefficient | P-value | Decision | F-Square | Result |
|---|----|------------------|---------|--------------|----------|--------|
| Business capital -> business performance | H1 | 0.239 | 0.037 | Accepted | 0.051 | Low |
| Owner characteristics -> business performance | H2 | 0.036 | 0.707 | Non-accepted | - | - |
| Owner characteristics -> owner competency | H3 | 0.595 | 0.000 | Accepted | 0.548 | High |
| Owner competency -> business performance | H4 | 0.327 | 0.018 | Accepted | 0.084 | Low |
| Product competence -> business performance | H5 | 0.199 | 0.031 | Accepted | 0.042 | Low |

Source: Primary Data Analysis, 2024.

The Effect of Business Capital on Business Performance

The bootstrapping analysis indicates that business capital exerts a significant and positive influence on the business performance of SMEs in the functional beverage sector, with a p-value of 0.037, thereby confirming H1. This suggests that increased business capital correlates with improved business performance in the functional beverage sector. SMEs that possess adequate financial resources, skilled labor, relevant experience, and extensive business networks are better equipped to improve their outcomes. The finding supports prior empirical research (Augustinah et al. (2022) that employees with high competencies and skills can consistently produce high-quality functional beverages. High-quality products not only attract potential consumers but also foster customer loyalty (López Rodríguez & Serrano Orellana, 2020). Furthermore, a skilled workforce adds value to the business, providing a competitive advantage and enabling superior service delivery to customers (Absah et al., 2018). The capacity to build business networks also plays a crucial role in enhancing business performance (Parida, Pesämaa, Wincent, & Westerberg, 2017; Riptanti et al., 2022). Business experience, as a component of business capital, further enhances performance by enabling the identification of business opportunities and fostering the creation of strategic networks (Othman, Attaullah, & Pazil, 2016). Notably, 79% of entrepreneurs in this sector possess over 10 years of business experience, which supports their expertise in production, management, and network development. Based on the F-square value, the effect of business capital on functional beverage business performance is categorized as low, with an F-square value of 0.051.

The Effect of Owner Characteristics on Business Performance

This study found no direct or significant relationship between owner characteristics and the performance of functional beverage SMEs, as evidenced by a p-value of 0.707, suggesting that H2 is not accepted. This implies that the strength or weakness of the owner's characteristics in functional beverage businesses does not directly influence their performance. This finding is

inconsistent with the results of the previous studies (Alizar & Mariyanti, 2024; Cahyati, 2023) that strong entrepreneurial characteristics can drive business performance improvement. In the context of this study, SMEs in the functional beverage with entrepreneurs who possess strong entrepreneurial traits do not directly lead to increased product sales, expanded market share, improved profit, or business asset growth. Characteristics such as confidence and courage to take risks need to be realized in the form of competence so that they will have an impact on business performance. According to Man et al. (2002), entrepreneurial competence serves as a mediator between personal characteristics and business performance. Unger et al. (2011) also said that human capital, such as new traits, experiences, and education, will actively contribute to performance when converted into specific competencies. Therefore, owner competence is needed as a mediator in the influence of owner characteristics on business performance.

The Effect of Owner Characteristics on Owner Competency

The outcomes of the hypothesis test indicate that owner characteristics have a positive and significant effect on owner competency in the functional beverage business. This is evidenced by a p-value of 0.000, thus H3 is accepted. This suggests that stronger owner characteristics in functional beverage SMEs are associated with higher levels of competency. As entrepreneurs' motivation and self-confidence increase, so does their orientation and sense of responsibility towards achieving business goals and targets, which in turn enhances their competencies (Ode, Fitrah, Madjid, Zaid, & Yusuf, 2024). This is because the achievement of business goals requires essential competencies, such as knowledge and skills. The effect size of 0.548 indicates a high influence, meaning that strengthening the characteristics of functional beverage SME entrepreneurs can improve their competencies by 54.8%. A strong character is, therefore, a crucial factor for entrepreneurs to possess.

The Effect of Owner Competency on Business Performance

The findings from the hypothesis testing reveal that owner competency has a positive and significant effect on business performance. This is evidenced by a p-value of 0.018; thus, H4 is accepted. This suggests that higher competency levels in functional beverage SME entrepreneurs are associated with improved business performance. This finding is consistent with the outcomes of previous research (Alizar & Mariyanti, 2024; Karimah & Meliza, 2023) that human resource competency influences business performance. Entrepreneurs in the functional beverage industry are required to possess conceptual competency (ideas, solutions,

concepts), the ability to identify business opportunities, learning competency, networking competency, entrepreneurship competency, and managerial competency. Mastery of these competencies enables entrepreneurs to achieve business performance outcomes that align with their expectations. This is especially significant given the competitive landscape in the functional beverage market, both from outside Solo Raya and the rise of beverages popular with younger generations. The effect size of 0.084 suggests that the influence of owner competency on business performance is relatively low.

The Effect of Product Competence on Business Performance

In this study, product competence has been shown to have a positive and significant effect on the business performance of functional beverage SMEs. This is indicated by a p-value of 0.031; thus, H5 is accepted. This means that the higher the product competence of functional beverages, the higher the business performance of functional beverage SMEs. Product competence in functional beverages is reflected in the uniqueness, advantages, and quality of the products. These beverages attract consumer interest through their innovation and use of natural ingredients, offering health benefits. For example, ginger drinks are known for their ability to alleviate colds, improve circulation, and reduce cholesterol levels (Setyowati, Masyhuri, Mulyo, Irham, & Yudhistira, 2023b). Functional beverages meet consumer demand for products with nutritional content that promotes health, while also offering a pleasurable taste experience. The influence of product competence on business performance is relatively weak, as indicated by the effect size of 0.042. This suggests that improvements in product competence could lead to a modest increase in the business performance of functional beverage SMEs, with a potential increase of only 4.2%.

The mediating role of owner competency in the effect of owner characteristics on business performance

The findings reveal that owner competency completely serves as a mediator in the relationship between owner characteristics and the performance of the functional beverage SMEs. Consistent with (Sarwoko et al., 2013), owner competency functions as an intermediary linking owner characteristics to business outcomes. This is evidenced by the significant and positive effect of owner characteristics on owner competency. Likewise, the influence of owner competency on business performance is both positive and significant. However, the direct effect of owner characteristics on business performance is not significant. While identifying the significance of the mediation is important, it is equally crucial to assess the magnitude of

its mediating role. This can be done using the Upsilon V parameter, specifically the effect size (F-square) for the mediation function (Lachowicz et al., 2018; Ogbeibu et al., 2021). The results of the Upsilon V calculation ($a^2 \times b^2$) are presented in Table 8.

Table 8. F Square (Upsilon V).

| Hypothesis | P Value | 95% Confidence Interval | | Upsilon V (F Square) | Description |
|---|---------|-------------------------|-------------|----------------------|--------------------------------|
| | | Lower limit | Upper limit | | |
| Owner characteristics -> Owner competency -> Business performance | 0.019 | 0.005 | 0.337 | 0.038 | The mediating effect is small. |

Source: Primary Data Analysis, 2024.

As presented in Table 8, the Upsilon V value for owner competency is 0.038. Referring to the mediation effect categorization according to (Ogbeibu et al., 2021), a large mediation effect is indicated by Upsilon V > 0.175, a moderate effect by > 0.075, and a small effect by > 0.010. Therefore, it can be concluded that owner competency provides a small mediating effect on the relationship between owner characteristics and business performance in functional beverage SMEs. With a 95% confidence interval, owner competency can mediate the influence of owner characteristics on business performance between 0.005 and 0.337. Although the mediation effect is small, it warrants attention, as strong owner characteristics can contribute to improving business performance through the competencies possessed.

CONCLUSIONS

Efforts to enhance the business performance of functional beverage SMEs can be effectively achieved by strengthening key aspects related to entrepreneurs, products, and business resources. The findings of this study confirm that business capital, product competence, and owner competence significantly contribute to improving the business performance of functional beverage SMEs. In contrast, owner characteristics do not have a direct impact on business performance; rather, their influence operates indirectly through the full mediating role of owner competence. This indicates that while owner characteristics are important, their effect on business performance is primarily realized by enhancing the owner's competencies.

Implication

These results carry important implications for entrepreneurs in the functional beverage SME sector. It is crucial for them to focus on developing their competencies, particularly by improving learning abilities, fostering creativity in generating new ideas and concepts, enhancing the capacity to identify business opportunities, and strengthening managerial and entrepreneurial skills. Competency development can be supported through mastery of

production technologies as well as information technologies such as e-commerce, e-business, and other digital literacy tools.

Moreover, business resources including financial capital, skilled employees, business experience, and networking capabilities should be prioritized by functional beverage SME entrepreneurs. Collaboration with key stakeholders such as government agencies, universities, business communities, and NGOs can play a vital role in enhancing entrepreneurial competencies, improving product quality, and reinforcing business resources. Practical initiatives may include providing intensive and continuous education on product quality management, training in product and marketing innovation, and programs aimed at strengthening entrepreneurship.

This study also contributes to the literature on the role of entrepreneurial characteristics and competencies in business performance, particularly within the SME context. It offers a unique perspective on functional beverage SMEs in Indonesia, a country with rich potential in this sector. Future research could broaden the geographical scope to include other Asian countries such as Malaysia, Thailand, and India, which also possess diverse opportunities in functional beverages. Additionally, business success is influenced by various factors not explored in this study, such as technological advancements, government support, and other environmental variables. Future studies should examine these factors to provide a more comprehensive understanding and further support the enhancement of SME performance.

Research Limitation

This study also has some limitations, such as the research design, which is still cross-sectional, where data is collected only at one specific time. This prevents research to not being able to explain the long-term influence. The geographical scope of this study is also limited to the Solo Raya area, so it is not able to generalize to other regions or business sectors outside of functional beverages. The study is also limited to specific variables, so that further research can expand its scope by adding other factors, such as government support, that have not yet been considered. This is also supported by the results of F-square, which are still relatively small, so other factors are needed.

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