

Analysis of Efficiency, Productivity, and Performance of Small and Medium Industries in the Sarbagita Region, Bali Province



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ABSTRACT: This study aims to: 1) analyze the level of efficiency, elasticity, and the impact of inputs on the productivity of Small and Medium Industries (SMIs) in the Sarbagita region of Bali Province; 2) examine the influence of inputs and productivity on the performance of SMIs in the Sarbagita region of Bali Province; and 3) investigate the indirect effect of inputs on performance through the productivity of SMIs in the Sarbagita region of Bali Province. Non-probability sampling was employed, with a quota of 200 samples, and each district/city represented by 50 SMI actors. Data collection methods included observation, collection of relevant documents, and structured interviews using questionnaires. The analysis technique utilizes the Cobb-Douglas production function and SEM PLS. The analysis concludes that: 1) the use of capital and labor inputs has not yet reached optimum efficiency, and the elasticity of output to input is inelastic; 2) capital and labor inputs have a positive and significant effect on productivity, social capital has a positive and significant effect on performance, and productivity has an insignificant impact on the performance of SMIs in the Sarbagita region of Bali Province; and 3) there is no indirect influence of capital and labor inputs on performance through productivity in SMIs in the Sarbagita region of Bali Province. If the use of inputs, especially labor, is not well regulated, it results in inefficient operations and does not impact the improvement of business performance.

KEYWORDS: Efficiency, Productivity, Social Capital, Labor, Small and Medium Industries

1. INTRODUCTION

Empowering communities is the primary objective of national development. When a community's welfare is achieved, its basic needs, including clothing, food, and shelter, are fulfilled. Sustainable Development Goals (SDGs) aim to eradicate poverty, hunger, ensure good health and well-being, provide quality education, achieve gender equality, ensure clean water and sanitation, affordable and clean energy, promote economic growth and decent work, build resilient industry, innovation, and infrastructure, reduce inequalities, make cities and communities sustainable, ensure responsible consumption and production, combat climate change, conserve life below water and on land, provide access to justice for all, and strengthen the means of implementation through global partnership. Therefore, the existence of small and medium industries (SMIs) is an integrated aspect that requires attention and priority for sustainable development objectives. More efficient input management is necessary to enhance productivity and business performance and ultimately improve welfare.

The excessive and wasteful use of production factors can increase production costs, making businesses less efficient. Ayu Manik et al.'s (2014) research, using the stochastic frontier model, found that labor and raw materials significantly affect the output of large and medium industries in Bali Province. The technical efficiency level has been declining over the years, and not all classifications of large and medium industries in the Bali Province are fully efficient. The elasticity of output to input is the elasticity of output to raw materials.

Kurniawati and Yuliando's (2015) research indicates that the most critical production factor affecting performance is human resources. This finding also supports the argument that non-financial factors are more important than financial factors. Quality human resources are crucial to improving productivity and business performance. Margono and Sharma's (2004) discussion of food, textile, chemical, and metal product efficiency in Indonesia using the stochastic frontier model shows average technical efficiencies of 50.79%, 47.89%, 68.65%, and 68.91%, respectively. Technical inefficiency in the food industry sector is influenced by ownership, location, and size; in the textile sector, by size, ownership, and age; and in the chemical and metal product sectors, by size, ownership, and age. The output of medium- and large-scale companies in the food and beverage sector relies more on raw materials than on capital and labor.

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This research differs from the previous two by focusing on SMIs and questioning whether their condition is the same or different from that of large and medium-sized companies. This study uses primary data, unlike previous studies, which mainly used secondary data and did not include intangible variables such as social capital. The limitations of capital, human resource quality, innovation, and technology adoption in SMIs might affect the productivity and efficiency of output-to-input, thereby impacting performance.

Social capital, along with other inputs, plays a crucial role in empowering SMIs. This is demonstrated by the formation of strong networks among SMI actors, consumers, and raw material suppliers, maintaining mutually beneficial relationships that can enhance business productivity. As with other forms of capital, productivity can also be determined by social capital (Coleman, 1988). Social capital positively and significantly influences the role of government and traditional institutions in empowering SMIs in Bali Province (Yuliarmi, et al, 2012). Research by Sudibia et al. (2017) shows that social capital has a positive and significant impact on the existence of LPDs, with stronger social capital enhancing LPD existence. Social capital, mediated by the LPD community (managers, supervisors, and members), significantly affects the existence of the LPD in Bali Province.

Marhaeni et al.'s (2019) research indicates that social capital significantly influences human resources. Social capital and human resources positively and significantly affect the empowerment of wooden craft actors in Bangli District. Human resources such as human capital can significantly enhance company performance, as found in Okafor (2012). Small and medium enterprises gain a competitive advantage in value creation and performance through investment in human resources (Salwa & Ridhuan, 2016). The main issues raised in this study are as follows. 1) Are the inputs used to efficiently produce outputs? (2) What is the level of output elasticity of the input? (3) What is the impact of the inputs on productivity? 4) How do inputs and productivity affect the performance of SMIs? 5) Is there an indirect influence of inputs on performance through the productivity of SMIs in the Sarbagita Region, Bali Province?

2. LITERATURE REVIEW

Literature and empirical studies are crucial to support this research, as they provide a foundation for hypothesis formulation. The following is an elaboration of the empirical literature review.

2.1 Cobb-Douglas Production Function

Production output is determined by the amount of capital and labor (Mankiw, 2012). Mathematically, Dornbusch et al. (2008) describe the Cobb-Douglas production function as $Y = cK^\alpha L^{1-\alpha}$, where Y represents production output, K is capital, L is labor, c is production efficiency, and α and $(1 - \alpha) = \beta$ represent the elasticity of each production factor. The scale of returns, whether decreasing, constant, or increasing, is used to determine whether a production function follows the respective return-to-scale rule. There are three criteria for the scale of returns: (1) decreasing returns to scale if $\alpha + \beta < 1$, indicating that the proportion of added production factors exceeds the proportion of increased output; (2) constant returns to scale if $\alpha + \beta = 1$, indicating that the addition of production factors is proportional to the increase in output; and (3) increasing returns to scale if $\alpha + \beta > 1$, indicating that the addition of production factors results in a proportionally larger increase in output. For more than two independent variables as inputs, the general form of the Cobb-Douglas function linearized using \ln transformation becomes $\ln Y = \ln \alpha + \beta_1 \ln X_1 + \beta_2 \ln X_2 + \dots + \beta_n \ln X_n + e$, where X represents the independent variables (inputs), Y is the dependent variable (output), and $\beta_1, \beta_2, \dots, \beta_n$ in the Cobb-Douglas function shows the elasticity of X to Y , with the sum of elasticities representing the return to scale (Soekartawi, 2003). Productivity is defined as the ratio of output to input for specific production. Changes in productivity can be caused by the use of the best production technology or changes in efficiency levels. Inputs include human, financial, or physical resources that are incorporated into a process to achieve a result or output. Efficient use of inputs can increase productivity.

2.2 Relationship between Capital and Production

Sukirno (2009) suggests that capital, as an investment, involves costs incurred to purchase production equipment and capital goods used in the production process to produce goods and services. Capital directly influences production output. Capital has a positive and significant effect on production (Chandra & Budiana, 2013; Huazhang, 2014). Assuming that all production factors are optimally utilized and supported by technology, it can be inferred that technology also affects production output (Li & Dongge, 2015).

2.3 Business Capital and Performance of SMIs

Bartocho (2016) shows that financial resources significantly influence employee performance and play a key role in organizational performance. Elsenhardt and Martin (2000) used resource-based theory to demonstrate the importance of financial capital for small and medium enterprise performance. Gathogo and Ragui (2014) explain that capital is crucial for a company's superior performance and increased competitiveness. Capital can be used first for investment purposes, which include buying or financing fixed and long-term assets that can be used repeatedly. Working capital is used for short-term financing, such as

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purchasing raw materials, paying salaries and wages, and covering operational costs (Kasmir, 2014). Business capital can originate from personal or external sources, where it must be effectively maximized.

2.4 Human Capital and Performance of SMIs

Human resources are a vital factor in enhancing production, which subsequently determines the performance. Resources derived from individual capabilities, as seen in knowledge, attitudes, talent, skills, education, and employee experience, are very important assets in a company. Intellectual capital significantly affects business performance, and widely used training tools can enhance the importance of developing intellectual capital (Bontis et al., 2000). Human capital (human capital) is a dimension of intellectual capital based on human knowledge and experience and can influence a company's value by affecting other elements (Mushrel, 2014). Human resource development variables significantly affect the performance of small and medium enterprises, as investment in human capital can enhance company performance (Ojokuku, R.M & Sajuyigbe, A.S., 2015). Human resources are a crucial factor determining the performance of Micro, Small, and Medium Enterprises (MSMEs) in the food product sector, compared to other financial factors (Kurniawati & Henry, 2016).

2.5 Financial Capital and Performance

Access to financial capital to purchase fixed and current assets is crucial for maintaining a company's competitive advantage. Empirical studies such as those by Zhou and Chen (2008) identify that SMEs require financial capital to acquire physical resources to exploit business opportunities. Bartocho's (2016) findings demonstrate that financial resources greatly influence employee performance and play a key role in organizational performance. SMIs also require financial capital to obtain physical resources to enhance their business opportunities.

2.6 Social Capital

Social capital can be developed by building networks that provide external information that supports business performance. Social capital contributes to increasing happiness and welfare (Dowling & Fang, 2007). The dimensions of social capital, consisting of bonding, bridging, and linking social capital, affect the empowerment of impoverished communities (Babaei et al., 2012). Productivity can also be improved by enhancing social capital. However, if work morale decreases, productivity also declines. High work morale, work ethics, trust, and information-sharing are reflections of social capital. If social capital diminishes, business performance declines, disrupting business activities. Forms of social capital that rely on trust and expectations indicate that individuals perceived as honest and with good reputations find it easier to receive rewards than those lacking credibility, for example, in obtaining loans or credit (Yustika, 2012). Social capital can also influence the entrepreneurial orientation of industrial business actors (Gandhiadi et al., 2017). This research supports Chegini et al.'s (2012) finding that social capital is an organizational asset in enhancing productivity and professionalism, impacting members or parties associated with the organization, thus leading to improved social and economic lives or better quality of life opportunities. Yuliarmi et al.'s (2021) research shows that social capital and SME financing positively and significantly influence SME performance. Social capital also positively and significantly affects the welfare of communities involved in cooperatives in Denpasar City (Yuliarmi et al., 2020).

2.7 Concept of Industry

According to the BPS (2021), the Processing Industry involves economic activities that mechanically, chemically, or manually transform basic goods into finished/semi-finished products or products of lesser value into higher value ones, closer to the end-user. An industrial company or business is a unit undertaking economic activities aimed at producing goods or services, located in a specific building or location with its own administrative records regarding production and cost structure, and managed by one or more responsible individuals. The Processing Industry was divided into four groups: 1) Large Industry (100 or more workers), 2) Medium Industry (20-99 workers), 3) Small Industry (5-19 workers), and 4) Household Industry (1-4 workers).

2.8 Concepts of Efficiency and Elasticity

Companies constantly strive for efficient production, minimizing inputs, and achieving desired results. The ability to achieve the desired outcomes with minimal sacrifice is the concept of efficiency. An activity is considered efficient if it achieves output with the lowest input, meaning that efficiency is synonymous with the absence of waste (Nicholson, 2002). According to Soekartawi (2003), price efficiency is achieved when the ratio of the marginal product value (MPV) of each input to its price equals one. A production factor is said to be technically efficient if it produces maximum output. Price (allocative) efficiency occurs when the Marginal Product Value (MPV) equals the production factor. Economic efficiency is achieved when a company attains both technical and price efficiencies. Elasticity measures the sensitivity of one variable to changes in another; commonly, it measures the sensitivity of the output quantity relative to changes in other factors. Price elasticity refers to how individuals, consumers, or producers change their demand or offered quantity in response to price or income changes. It is mainly used to assess changes in consumer demand due to price changes in goods or services. Elasticity is an economic concept used to measure the aggregate quantity change of a good or service in relation to the price movement of that good or service.

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2.9 Research Hypotheses

Based on the research objectives and theories discussed, the research hypotheses can be formulated as follows: 1) inputs have a positive effect on the productivity of SMIs in the Sarbagita region of Bali Province; 2) inputs and productivity positively influence the performance of SMIs in the Sarbagita region of Bali Province; and 3) inputs have an indirect effect on performance through the productivity of SMIs in this region of Bali Province.

3. RESEARCH METHODOLOGY

This research was designed using a quantitative associative approach that employs measurable variables such as input and latent variables in exogenous, intervening, and endogenous variables. The productivity of Small and Medium Industries (SMIs) is a mediating variable influenced by inputs, such as capital (raw materials, auxiliary materials), labor, and social capital. The endogenous variable, SMI performance, is influenced by input and productivity.

The endogenous variable is SMI Performance (Y2), the intervening/mediating variable is SMI Productivity (Y1), and the exogenous input variables consist of financial capital input (X1), labor (X2), and social capital (X3). Productivity (Y1) is measured by the output/capital ratio (Y11), the output/labor ratio (Y12), and the output/raw materials ratio (Y13). Performance variables were measured by the ability to increase sales volume (Y21), the ability to increase capital (Y22), the ability to increase the number of workers (Y23), the ability to expand the market (Y24), and the ability to generate profit (Y25).

The population for this study includes all SMI actors in the Sarbagita area, namely, Denpasar, Badung, Gianyar, and Tabanan. The sampling method used was non-probability sampling with a quota sampling of 200 SMI actors. Fifty SMI actors were sampled in each district/city is 50 SMI actors. Accidental sampling was used to determine the units to be interviewed.

Quantitative analysis employs the Cobb-Douglas production function to calculate the efficiency of each input and the scale of the business, and path analysis with SEM PLS to analyze the influence of inputs on productivity and SMI performance. Partial least squares (PLS) (Hair et al., 2010) was used. The production function is expressed as

$$\ln Y = \ln \alpha + \beta_1 \ln X_1 + \beta_2 \ln X_2 + e \quad (1)$$

The structural equations are as follows.

$$Y_1 = \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + e_1 \quad (2)$$

$$Y_2 = \beta_4 X_1 + \beta_5 X_2 + \beta_6 X_3 + \beta_7 Y_1 + e_2 \quad (3)$$

4. RESULTS AND DISCUSSION

4.1 Data Analysis

4.2.1 Validity and Reliability Test of Instruments

The validity test employed here involved correlating the score of each instrument item with the total score. An instrument was considered valid if the correlation value exceeded 0.3. The calculation results indicate that the correlation values exceed 0.3. The reliability of the research instrument was tested by calculating Cronbach's alpha value. If the Cronbach's alpha value was above 0.6, the instrument was deemed reliable. The obtained Cronbach's alpha value indeed showed a figure greater than 0.6, confirming the reliability of the instrument used.

4.2.2 Characteristics of Respondents

From an economic perspective, age can provide insights into the conditions of the respondents. This can reflect whether respondents are of productive age. In this study, the respondents were aged 15 years and above. If their age ranges between 15-64 years, they were classified as the productive population; if their age reached 65 years and above, they were considered the non-productive population. The age composition details of SMI actors in the Sarbagita area are shown in Figure 1.

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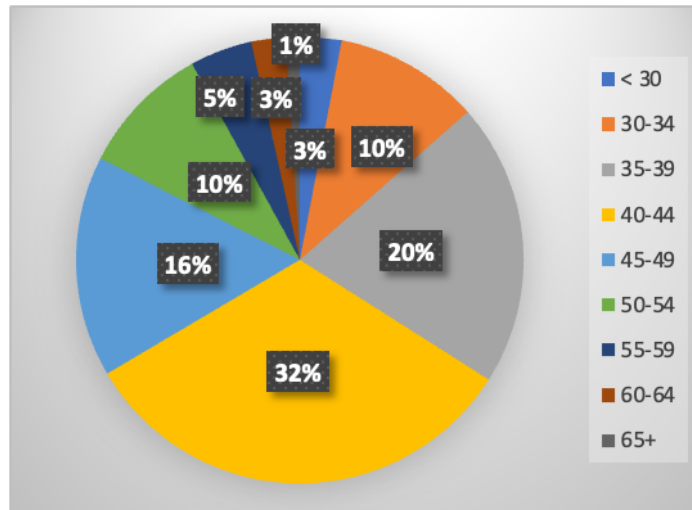


Figure 1 Age Distribution of Respondents

Source: Research Results 2022

Most respondents in Figure 1 are still in their productive age, indicated by about 99 percent, and only about 1 percent are in the nonproductive age group. An age that is still considered highly productive will be able to work and utilize the available time optimally. The characteristics of the respondents according to education among the Small and Medium Industry (SMI) actors were obtained from information about the highest level of education completed. In this study, the completed education levels varied widely. The lowest level of education was junior high school completion and the highest level was university graduation. A description illustrating the characteristics of the respondents according to education level is shown in Figure 2.

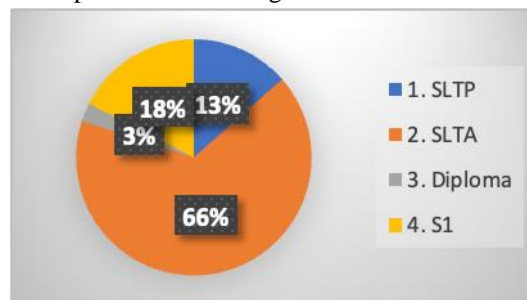


Figure 2 Characteristics of Respondents According to Education

Source: Research Results 2022

Level of education can also reflect the ability or competence of respondents to compete with other similar businesses. The higher the education level, the greater the ability to seize business opportunities and enhance the ability to absorb technology and information to improve the performance of the business. The duration of respondents' involvement in SMIs varied from less than five years to over 35 years. Based on eight groupings of business duration, most respondents (about 46 percent) had been in business for 5 to 24 years. Only a small portion of respondents had been in business for over 25 years. The distribution of respondents according to the duration of the business, based on the type of business, is shown in Figure 3.

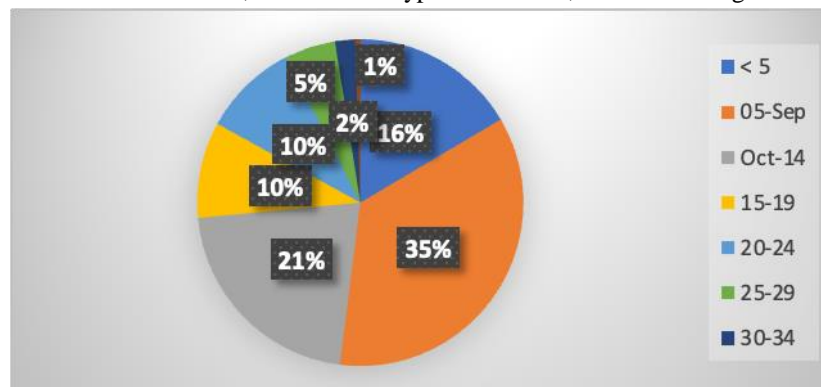


Figure 3 Distribution of Respondents According to Business Duration

Source: Research Results 2022

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4.2.3 Analysis of Input Efficiency Level in SMIs in the Sarbagita Region, Bali Province

The analysis using the Cobb–Douglas production function, as shown in Table 1, indicates that the efficiency level of inputs used in the production process, namely, capital and labor, has not yet reached an optimal level. The coefficient value for labor is less than 1 ($0.872 < 1$), indicating inefficiency. This means that if labor input increases by 1 percent, productivity increases by only 0.87 percent. Therefore, in this inefficient condition, it is not necessary for SMI actors to excessively increase labor hours for production, as it will not be efficient. The use of labor in SMIs in the Sarbagita area exceeds the limit for producing optimal output; therefore, it will not impact productivity improvement. In this case, SMI actors tend to use excessive labor. In general, SMIs employ family labor. Most businesses are small household industries, and the use of family labor is inevitable. Including these working hours in the production process certainly affects the results, making them less efficient. Therefore, the majority of industrial businesses have not yet demonstrated a resource quality that can enhance production. The use of other production factors, namely capital, also shows a coefficient value of less than 1 ($0.185 < 1$), indicating inefficiency. If the use of capital is increased by 1 percent, productivity only increases by approximately 0.19 percent, and excessive use of capital will not be able to increase output. Therefore, the use of capital in the production process should be carefully considered to avoid wastage, as it cannot increase productivity beyond the increase in capital usage. This result aligns with Hanafi's (2017) study, which shows that the use of production factors in the furniture industry is not technically efficient. Similarly, research by Ayu Manik et al. (2014) concluded that the technical efficiency level has been decreasing over the years, and not all classifications of large and medium industries in Bali Province are fully efficient.

However, this result differs from Lie et al.'s (2018) study, which found that the use of production inputs in SMEs was already efficient. There is a difference in efficiency between SMEs in urban areas that are more efficient than those in rural areas. Companies operating in large cities are more efficient and have better technologies. However, low technology seems to be the choice for most SMEs in Vietnam, located in rural areas, as labor and raw materials are the most influential inputs for companies in both metropolitan and non-metropolitan areas.

Table 1: Regression Analysis Results in the Research “Analysis of Efficiency, Productivity, and Performance of SMIs in the Sarbagita Region, Bali Province”

Constant/Variable	Regression Coefficient	Standard Deviation	t	Description
(Constant)	7.290	.336	21.692	Significant
LN_Labor	.872	.031	27.938	Significant
LN_Capital	.185	.033	5.671	Significant

Source: Research Results 2022

4.2.4 Output Elasticity to Input in SMIs in the Sarbagita Region, Bali Province

The results indicate that the output elasticity to labor is inelastic, as the elasticity value is less than one ($0.872 < 1$). Similarly, the output elasticity to capital shows a value of less than one ($0.185 < 1$). Therefore, the production elasticity for both labor and capital inputs is inelastic. Adding inputs did not increase production. Under such conditions, SMI actors do not need to increase input usage, as they do not enhance production. The scale of business in SMIs in the Sarbagita Region, Bali Province, shows a value of 1.037 (>1), indicating a very small scale of increasing returns to scale. If the input increases by 1 percent, the output increases by 1.04 percent. However, each input was inelastic. This study supports the findings of previous research.

4.2.5 The Impact of Inputs on Productivity in SMIs in the Sarbagita Region, Bali Province

The analysis of the Cobb-Douglas Production function shows that the inputs used (capital and labor) significantly influence production. Capital had a positive and significant effect on production. Capital is calculated monthly using the value of working capital in the production process to buy raw materials, auxiliary materials, labor wages, and production equipment for a specific production process. The statistical results show that capital has a positive and significant effect on production, as indicated by a significance value of $0.000 < 0.05$. Thus, if working capital increases by 1 percent, productivity increases by 0.87 percent, assuming that the labor factor remains constant. Similarly, labor positively and significantly affects productivity, as indicated by a significance value of $0.000 < 0.05$. If the time used by labor to produce a product increases by 1 percent, productivity increases by approximately 0.19 percent, assuming that the capital factor remains constant. This research is supported by Irvan and Yuliarmi (2019), who concluded that labor and production costs directly affect production. Human resources are crucial for improving business performance. Productivity, besides being influenced by capital and labor inputs, is also affected by other factors, such as technology utilization, entrepreneurial motivation, government policies, education, and business competition, which are supporting factors that enhance competitiveness (Dewi & Yulianto, 2015). Additionally, the government is expected to pay attention to supporting factors, such as access to finance, facilities, and infrastructure. This research is also supported by Fatoki (2011), who showed that investment in human capital leads to increased human productivity, which in turn positively impacts

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output, and by Ayu Manik et al. (2014), who found that labor and raw material inputs significantly affect the output of large and medium industries in Bali Province. The technical efficiency level has been decreasing over the years, and not all classifications of large and medium industries in Bali Province are fully efficient, with the greatest elasticity of output to input being elasticity of output to raw materials.

4.2.6 The Impact of Inputs and Productivity on SMI Performance in the Sarbagita Region, Bali Province

The analyses in Table 2 and Figure 4 show that only labor and social capital have a positive and significant impact on the performance of SMIs in the Sarbagita Region, Bali Province, whereas capital and productivity have a positive but not significant impact at the 5 percent error level. This research does not support the findings of Bartocho (2016), who showed that financial resources have a significant impact on employee performance and play a key role in organizational performance. Labor, with a regression coefficient of 0.200 and a t-value of 1.783 > 1.65, positively and significantly affected SMI performance, indicating that labor can enhance SMI performance. Similarly, social capital with a regression coefficient of 0.401 and a t-value of 6.306 > 1.65, positively and significantly affected SMI performance. This means that the stronger the social capital, the better is the SMI performance. This research is supported by Bontis et al. (2000), who stated that intellectual capital significantly influences business performance and that widely used training tools can enhance the importance of developing intellectual capital. Human capital can influence company value by affecting other factors (Mushrel, 2014). This research is also supported by Ojokuku, R.M & Sajuyigbe, A.S. (2015), that human resource development significantly affects the performance of small and medium enterprises, as investment in human capital can enhance company performance. Human resources are an important factor in determining the performance of MSMEs in the food product sector, compared to other factors, such as financial (Kurniawati & Henry 2016). This research is also supported by previous studies such as Chegini et al. (2012), who found that social capital is an organizational asset in enhancing productivity. Similarly, this research is supported by Yuliarmi et al. (2020), who concluded that social capital and cooperative empowerment positively and significantly affect community welfare and that social capital can strengthen the positive influence of cooperative empowerment on community welfare. Yuliarmi et al. (2021) conclude that social capital positively and significantly affects SME performance.

Table 2: Results of the Full Model Analysis in the Research “Analysis of Efficiency, Productivity, and Performance of SMIs in the Sarbagita Region, Bali Province

Variable	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	Description
Capital -> SMI Performance	0,135	0,132	0,112	1,205	Not Significant
Capital -> Productivity	0,167	0,165	0,048	3,512	Significant
Social Capital -> SMI Performance	0,401	0,405	0,064	6,306	Significant
Social Capital -> Productivity	0,019	0,018	0,013	1,433	Not Significant
Productivity -> SMI Performance	0,105	0,140	0,263	0,400	Not Significant
Labor -> SMI Performance	0,200	0,198	0,112	1,783	Significant
Labor -> Productivity	0,822	0,826	0,051	16,005	Significant

Source: Research Results 2022

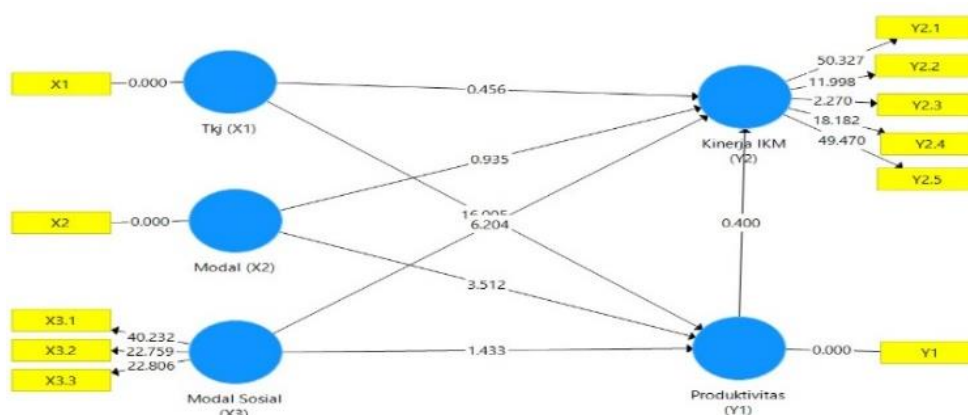


Figure 4 Full Model in the Research “Analysis of Efficiency, Productivity, and Performance of SMIs in the Sarbagita Region, Bali Province”

Source: Research Results 2022

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5. CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

Productivity in Small and Medium Industries (SMIs) in the Sarbagita Region, Bali Province, is significantly determined by labor as human resources and capital. As a variable, human resources have a more dominant influence on productivity than capital. However, the use of both capital and labor inputs is inefficient, as they are unable to produce optimal outputs, and both inputs are inelastic. This means that an increase in the use of capital and labor inputs cannot rapidly respond to an increase in productivity. Social capital as an intangible variable and labor can improve the performance of SMIs, whereas productivity does not significantly enhance SMI performance, nor does it mediate the effect of input on SMI performance.

5.2 Recommendations

This study recommends that excessive use of labor and capital will not enhance productivity and business performance. Therefore, the use of these inputs should be regulated to avoid waste.

REFERENCES

- 1) Andari Sukma Pradnyani, Cok Istri dan I Gusti Bagus Indrajaya. 2014. Analisis Skala Ekonomi dan Efisiensi pada Usaha Perkebunan Kakao di Kecamatan Abiansemal Kabupaten Badung. *E-Jurnal Ekonomi Pembangunan Universitas Udayana*, 3(9): h: 403-412
- 2) Ayu Manik Praeliwi, I.K.G Bendesa, N Yuliarini, 2014. Analisis Efisiensi dan Produktivitas Industri Besar dan Sedang di Wilayah Provinsi Bali (Pendekatan Stochastic Frontier Analysis). *Jurnal Ekonomi Kuantitatif Terapan*, Vol.7, No 1, hal 73-79.
- 3) Babaei, H, Ahmad, N, Gill, SS. 2012. Bonding, Bridging, and Linking Social Capital and Empowerment Among Squatter Settlements in Tehran, Iran. *World Applied Sciences Journal*. 17 (1): 119-126.
- 4) Bartocho, E. J. 2016. The Role Of Financial Capital Resource Capabilities In Improving Employee Performance In Courier Companies In Kenya. Published by European Centre for Research Training and Development UK (www.eajournals.org). *European Journal of Business and Innovation Research* Vol.4,No.1,pp.18-24, February 2016
- 5) Biney, Christian. 2018. The Impact of Venture Capital Financing on SMEs Growth and Development in Ghana. *Business and Economics Journal*. Volume 9 Issue 3 1000370, page 1-8, *Bus Eco J* 9: 370. doi: 10.4172/2151-6219.1000370. <https://www.omicsonline.org/open-access/the-impact-of-venture-capital-financing-on-smes-growth-and-development-in-ghana-2151-6219-1000370.pdf>
- 6) Bontis, Nick and J. Girardi. (2000). "Teaching Knowledge Management and Intellectual Capital Lessons: An empirical examination of the TANGO simulation", *International Journal of Technology Management*, forthcoming. performance in Malaysian industries. Academ
- 7) Bontis, N. & Fitzenz, J. (2002). Intellectual capital ROI: A current map to human capital antecedents and consequences. *Journal of Intellectual Capital*, 3(3), 223-247.
- 8) Chandra Adyatma, I Wayan dan Dewa Nyoman Budiana. 2013. Analisis Efisiensi Penggunaan Faktor Produksi pada Usahatani Cengkeh di Desa Manggisari. *E-Jurnal Ekonomi Pembangunan Universitas Udayana*, 2(9):h: 423-433.
- 9) Chegini, Mehrdad Goudarzdard., Alipour, Hamidreza., Zamani, Aida. 2012. The Relationship between social capital and Inter-organizational Entrepreneurship in Rasht Industrial City, Iran. *Journal of Basic Applied Scientific Research*. 2(1/2/3): 389 – 401.
- 10) Coleman, James S. 1988. Social Capital in the Creation of Human Capital. *The American Journal of Sociology*. 94: S95 – S120
- 11) Dornbusch, R., S. Fischer, and R. Startz, *Macroeconomics*, McGraw-Hill, 2 ed., New York, 2008.
- 12) Dowling, John Malcolm dan Fang Yap Chin. 2007. *Modern Development in Behavioral Economics, Social Science Perspective on Choice and Decision Making*. Singapore: World Scientific Publishing Co.Pte.Ltd.
- 13) Elsenhardt KM., Martin J A .2000. Dynamic capabilities: What are they? *Strategic Management J*,21(1):1105-1121.
- 14) Gandhiadi, G.K. Sudibia, I.K, Suyana Utama, I.M, Saskara, I.A.N. 2017. The Influence of Social Capital on Subjective Wellbeing: A Structural Model for The Weaving Industry in Bali Province of Indonesia. *International Journal of Economics Commerce and Management*, Vol. V.Issue 6, June, 2017. United Kingdom.
- 15) Gathogo, G., & Ragui, M. (2014). Capital structure of Kenyan firms : what determines it ? *Research Journal of Finance and Accounting*. 5(5). 118–125. Gössling, T., & Vocht, C. (2007). Social
- 16) Hair, JR. Joseph. F., William C. Black., B. J.. Babin., R. E Anderson. 2010. *Multivariate Data Analysis. A Global Perspective*, 7th Edition. Upper Saddle River, NJ: Prentice-Hall.

Analysis of Efficiency, Productivity, and Performance of Small and Medium Industries in the Sarbagita Region, Bali Province

- 17) Hamouri, Basem M.; Qasem Hamouri; Mahmoud Radaydeh. 2014. The Impact of Islamic Financing and Conventional Financing on Companies' Performance (A Comparative Study of Industrial Companies Listed on the Amman Stock Exchange), *International Journal of Business and Social Science* Vol. 5, No. 7; June 2014.
- 18) Hanafi, Raihan, Harlen dan Azwar Harahap. 2017. Analisis Efisiensi Penggunaan Faktor Produksi Pada Industri Kecil Dan Menengah Furnitur Di Kota Pekanbaru. *JOM Fekon*, Vol. 4 No. p: 883-893
- 19) Huazhang D. 2014. Agricultural Input and Output in Juangsu Province with Case Analisis. *Journal of Agricultural Science & Technology*, 15(11), pp:2006-2010, 2025.
- 20) Irvan, I Putu & Ni Nyoman Yuliarmi. 2019. Analysis of Impact Factors on Farmers Income. *International Research Journal of Management, IT & Social Sciences*, Vol. 6 No. 5, pages: 218~225
- 21) Jogiyanto, H.M. 2004. *Metodologi Penelitian Bisnis: Salah Kaprah Dan Pengalaman-Pengalaman*. BPFE Yogyakarta.
- 22) Kasmir, 2014. *Analisis Laporan Keuangan*, cetakan ke-7. Jakarta: PT RajaGrafindo Persada.
- 23) Kurniawati, Dewi and Henry Yuliando. 2015. The 2014 International Conference on Agro-industry (ICoA): Competitive and sustainable Agroindustryfor Human Welfare. Productivity Improvement of Small Scale Medium Enterprises (SMEs) on Food Products: Case at Yogyakarta Province, Indonesia, *ELSEVIER, Procedia, Agriculture and Agricultural Science Procedia* 3 (2015) 189 – 194
- 24) Krishna, Anirudh, and Norman Uphoff. 1999. Mapping and Measuring Social Capital: A Conceptual and Empirical Study of Collective Action for Conserving and Developing Watersheds in Rajasthan, India. Staff Working Paper. Washington: World Bank.
- 25) Le, V., Vu, X.-B. & Nghiem, S. 2018. Technical efficiency of small and medium manufacturing firms in Vietnam: A Stochastic meta-frontier analysis. *Economic Analysis and Policy*, 1-20. <https://doi.org/10.1016/j.eap.2018.03.001>
- 26) Li, Xiaoyang and Dongge Liu. 2015. Urbanization ang Grain Production Efficiency. *Asian Agricultural Research*. 7(7). Pp. 75-80.
- 27) Mankiw, N. G., *Macroeconomics*, 6 ed., Worth Publishers, New York dan Basingstoke 2007
- 28) Mankiw N, Gregory (2012). *Pengantar Ekonomi Makro*. Jakarta : Salemba Empat.
- 29) Margono, Heru and Subhash C Sharma.2004. Productivity Analyses of Indonesian Manufacturing Industries. Southern Illinois University Carbondale OpenSIUC https://opensiuc.lib.siu.edu/cgi/viewcontent.cgi?article=1024&context=econ_dp. Diunduh 25 Desember 2022.
- 30) Marhaeni, AAIN, Ni Nyoman Yuliarmi, dan Nyoman Djinar Setiawina. 2019. Empowering small industry of wood carving handicraft in Bangli district. *Asia Pacific Journal of Innovation and Entrepreneurship*, Vol. 15 (1), p 121-136.
- 31) Mayo, A., 2001. *The Human Value of the Enterprise: Valuing People as Assets: Monitoring, Measuring, Managing*, Nicholas Brealey Publishing, London.
- 32) Mushrel, Abbas Mezeal. 2014. The Moderator Role of Organizatioan Culture between Intelectual Capital and Business Performance: An Empirical Study an Iraqi Industry. *Net Journal of Social Science*, 2 (3): 82-92.
- 33) Ojokuku, R.M & Sajuyigbe, A.S. 2015. Effect of Human Capital Development on the Performance of Smalland Medium Scale Enterprises in Nigeria. *Journal of Emerging Trends in Economics and Management Sciences (JETEMS)* 6 (1): 88-93
- 34) Okafor, Regina G. 2012. The Role of Human, Financial and Social Capital in the Performance of Small Businesses in Nigeria: A Second Look. *Journal of Economics and Sustainable Development* ISSN 2222-1700 (Paper), ISSN 2222-2855 (online). Vol.3, No.14. www.iiste.org.in SMEs Life Cycle Perspective, 7th International Economics & Business Management Conference, 5th & 6th October 2015, ELSEVIER, *Procedia Economics and Finance* 35 (2016) 683 – 689
- 35) Soekartawi. 2003. *Teori Ekonomi Produksi Dengan Pokok Bahasan Analisis Fungsi Cobb-Douglass*. PT. Raja Grafindo Persada. Jakarta
- 36) Sullivan A, and Sheffrin, DM (2003). *Economic Principles in Action*. Upper Saddle River, New Jersey: Pearson Prentice Hall
- 37) Sukirno, Sadono. (2009). *Mikro Ekonomi Teori Pengantar Edisi Ketiga*. Jakarta. Rajawali Pers.
- 38) Sharafat, Ali Al . 2017. The Impact of Human Capital Development on the Financial Performance of Agricultural Enterprises: Application on Broiler Industry, *International Journal of Business and Social Science* Vol. 8, No. 3; March 2017. http://ijbssnet.com/journals/Vol_8_No_3_March_2017/18.pdf
- 39) Todaro, Michael P, Stephen C. Smith. 2003. *Pembangunan Ekonomi di Dunia Ketiga*. (Jilid 1 dan 2, Terjemahan Haris Munandar). Jakarta: Erlangga.
- 40) Uphoff, Norman. 1998. Understanding Social Capital: Learning from the Analysis and Experience of Participation, for volume on social capital edited by Ismail Serageldin and Partha Dasgupta. Oxford University Press, forthcoming.
- 41) Wang, X. and Fu, Y. (2013). "Some Characterizations of the Cobb-Douglas and CES Production Functions in Microeconomics". *Abstract and Applied Analysis*, pp. 1-6.

Analysis of Efficiency, Productivity, and Performance of Small and Medium Industries in the Sarbagita Region, Bali Province

- 42) Yuliarmi, Ni Nyoman, Agus Suman, S.M. Kiptiyah, Ahmad Erani Yustika. 2012. The Role Of Government, Traditional Institution, And Social Capital For Empowering Small And Medium Industries. *journal of Economics, Business, and Accountancy Ventura*, Volume 15, No. 2, August 2012, pages 205 – 218
- 43) Yuliarmi, Ni Nyoman, N.P. Martini Dewi, S.D. Rustariyuni, A.A.I.N. Marhaeni, G. Andika. 2021. The effects of social capital and human resources on financing and SMEs performance. *International Journal of Human Capital in Urban Management (IJHCUM)*, Vol. 6(1): 29-44.
- 44) Yuliarmi, Ni Nyoman, Maryam Dunggio & I Nyoman Mahaendra Yasa 2020. Improving public welfare through strengthening social capital and cooperative empowerment. *Cogent Business & Management*, Vol 7, No 1, 1-13
- 45) Yustika, Ahmad Erani. 2012. *Ekonomi Kelembagaan, Teori dan Kebijakan*. Penerbit Erlangga
- 46) Zhou H, Chen X. 2008. Resources, Capabilities and New Venture Growth Choice. From https://scholar.google.co.id/scholar?q=Zhou+H,+Chen+X+2008.+Resource+capabilities+and+new+venture+choice.&hl=en&as_sdt=0&as_vis=1&oi=scholar&sa=X&ved=0ahUKEwi3p4qf2JXZAhXIvo8KHQdWBLgQgQMIJTAA. Diunduh 5 Februari 2018.



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