

Enhancing Member Welfare in Savings and Loan Cooperatives: The Roles of Digitalization, Product Quality, and Financial Performance

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Abstract. Cooperatives in Indonesia should be the backbone of the economy. This study aims to test whether digitalization and product quality improve the welfare of savings and loan cooperatives (SLCs) members in Indonesia, with SLC's financial performance as a mediator. This explanatory research is intended to explain causal relationships between variables. The data used were primarily obtained through questionnaires filled out by respondents. The purposive sampling method was chosen as a sample selection technique. The number of respondents was 389 people. The respondents' domicile places are spread throughout Indonesia. Validity and reliability testing on data using SPSS. Inner model (goodness of the fit model and coefficient of determination) and hypothesis testing used WarpPLS. Validity testing results show that any question on which to measure a variable is valid. The reliability testing results show that every question to measure variables is reliable. The good-of-fit testing results show that the research model used is acceptable. The findings obtained in this study are as follows. Digitalization and product quality positively affect SLC's financial performance. Digitalization and product quality positively affect the welfare of SLC members. SLC's Financial performance positively influences the welfare of SLC members. Therefore, improving the welfare of SLC members can be done through digitalization and quality products, with SLC's financial performance as a mediator. The results of this research are expected to contribute to advancing cooperatives in Indonesia through the welfare of SLC members. The welfare of SLC has an impact on the welfare of society in general.

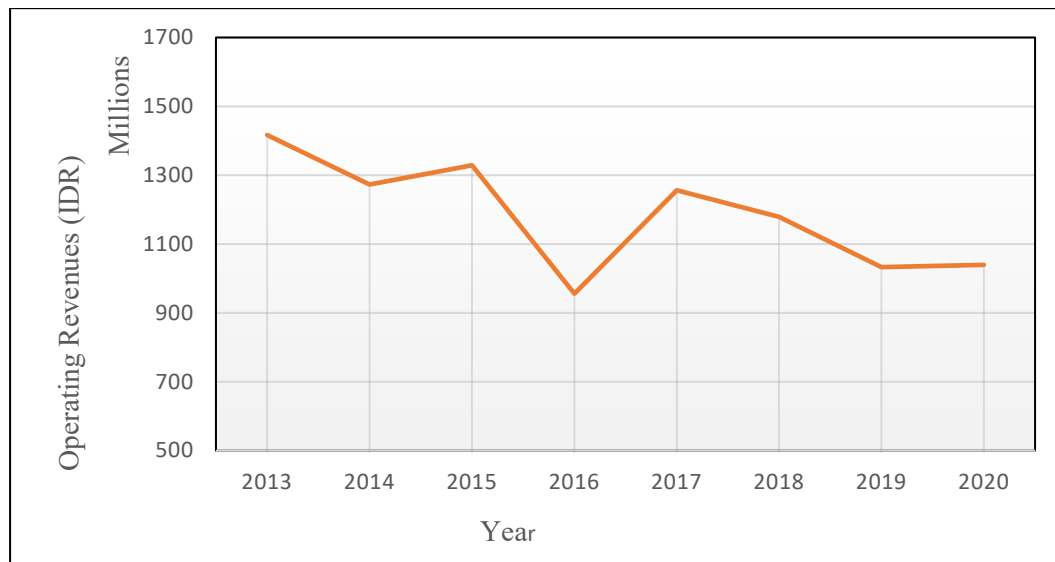
Keywords: member welfare, financial performance, digitalization, product quality, savings and loan cooperative (SLC)

1. Introduction

The company aims to maximize the welfare of owners (Hart & Zingales, 2017). Cooperatives also aim to prosper owners. The company's owner is a shareholder, and the cooperative's owner is a cooperative member. Therefore, cooperatives aim to maximize the welfare of cooperative members (Panagiotou & Stavrakoudis, 2018). A Cooperative is defined as a community group that gathers to meet its needs and is implemented democratically to improve the welfare of its members (Chan & Raharja, 2023; Miswanto, Pradini, et al., 2022; Stoyanova, 2020). A cooperative comprises people with shared interests and goals among participants or members (Afolabi & Ganiyu, 2021). The members have a critical position and role in the cooperative. Cooperative membership is voluntary, democratic, and independent (Stoyanova, 2020). The members can elect the cooperative's management and supervisors at the cooperative's annual membership meeting (Harisudin et al., 2020).

In Indonesia, cooperatives are the only business entities mentioned in the national constitution. Article 33 of the 1945 Constitution states that the national economy is structured as a joint effort based on the principle of kinship (Tulus & Nerang, 2020). Cooperative business entities are established to improve the welfare of members in particular and society in general and support the development of the national economic order to realize an advanced, just, and prosperous society based on shared ideals and goals (Dimiyati et al., 2021; Yuhertiana et al., 2022).

Today, cooperatives are essential to economic development (Stoyanova, 2020), especially in emerging economies like Indonesia. Cooperatives in Indonesia should be the backbone of the economy. However, cooperatives in Indonesia have obstacles and are not developing well (Yuhertiana et al., 2022). In Indonesia's savings and loan cooperatives (SLC), 60% of loan and savings service practices are inefficient (Purmiyati et al., 2022). The average operating revenues of SLC in Indonesia from 2013 to 2020 showed continuous fluctuations during that period. From 2017 to 2020, there was even a decrease in average operating revenues, as shown in Figure 1. The decline revealed that SLC's financial performance has not been able to achieve good financial performance. The decline in average operating revenues from 2013 to 2020 also shows that SLC instruments have not been able to compete with other lending financial institutions in Indonesia (Juswadi & Sumarna, 2023; Saifulah & Widyaningrum, 2015; Widyaningrum et al., 2017, 2019; Widyaningrum & Bethagustav, 2021).



Source: Savings and Loan Cooperatives Statistics 2013-2020 (BPS-Statistics Indonesia)

Fig.1: Average Development of SLC Indonesia's Operating Revenues for the 2013-2020 Period

Cooperatives have not yet fully become the primary choice of people's economic institutions. Successively, cooperatives, including SLC, were deactivated because they operated inefficiently. The

number of decommissioned cooperatives in 2016, 2017, 2018, and 2019 was 45,629, 32,778, 2,830, and 449, respectively (Cahyono et al., 2023). Cooperatives in Indonesia have many problems, including capital, funding, product quality, management, human resources, and facilities and infrastructure (Mulyani et al., 2019). The main obstacles are the quality and quantity of potential human expertise, low product competitiveness, and lack of innovation and development (Cahyono et al., 2023). Thus, cooperatives still find it difficult to create member welfare, and it is still difficult to become the main pillar of the Indonesian economy (Chan & Raharja, 2023; Zhang et al., 2023).

Regarding such a phenomenon, cooperatives' development must be improved (Harisudin et al., 2020). In facing competition in the market, cooperatives must implement digitalization, and the quality of their products will continue to be improved to compete in the market (Tick et al., 2022; Yuana et al., 2019). As described above, digitalization can overcome SLC inefficiencies because digitalization creates efficiency (Ribeiro-Navarrete et al., 2023). Based on TQM, product quality can generate and improve financial performance and customer satisfaction. In cooperatives, customer satisfaction can represent the welfare of SLC members (Dahlgaard-Park et al., 2018).

SLC's financial performance in Indonesia from 2013 to 2021 declined (see Figure 1). Since SLC in Indonesia has such problems, research to improve SLC's financial performance needs to be carried out. SLC's Financial performance is not the ultimate goal of SLC but rather an intermediate goal. The primary end goal of SLC is the welfare of SLC members. Therefore, this study uses SLC's financial performance as a mediator. Research conducted by Mansyur et al. (2020) shows that financial performance is used as a mediating variable to increase stock prices in the banking sector in Indonesia. In corporate companies, stock prices are a measure of shareholders' welfare. Shareholder welfare is the ultimate goal of the corporation (Hart & Zingales, 2017).

In line with the abovementioned explanations, this study examines improving cooperative members' welfare through digitalization, product quality, and financial performance as mediation. Digitalization and product quality can improve SLC's financial performance and the welfare of SLC members. Research in companies shows that both variables enhance financial performance and shareholder welfare. In addition, financial performance also improves the welfare of its shareholders (Kanungo & Gupta, 2021). Research on the welfare of corporate members through digitalization and product quality, with financial performance as a mediator, is still very limited. This research must be conducted to be a reference for developing cooperatives, especially savings and loan cooperatives (SLC) in Indonesia and other emerging market economies. SLC is almost like a bank, which has an essential role in the financial sector as an engine to grow the economy (Doğan & Ekşi, 2020).

This research focuses on SLC. Such cooperatives are often called credit unions (Schneiberg & Parmentier, 2022). The cooperative operates in the financial system, such as financial institutions that provide loan and savings services (Sumarwan et al., 2022). SLCs are essential in various countries (McKillop et al., 2020). Prominent problems in the cooperative include the following. First, innovation and digitalization are minimal (Cahyono et al., 2023). Second, the product is not yet of high quality (Mulyani et al., 2019), reflected in loan interest is still higher than commercial bank interest (Rijn et al., 2021; Sumiyati et al., 2021), and the number of savers in cooperatives is still relatively low. Third, the financial performance of cooperatives is inadequate (Harisudin et al., 2020). There are still many who have suffered losses. Fourth, the welfare of cooperative members is also insufficient.

This study took samples of SLCs in Indonesia. With the background mentioned above, this research problem is formulated as follows: 1) whether digitalization and product quality affect the welfare of SLC members, 2) whether SLC's financial performance affects the welfare of SLC members, 3) whether SLC's financial performance mediates the effect of digitalization and product quality on the welfare of SLC members. Based on previous theories and research, if SLC does not digitize and does not improve the quality of its products, it will not be easy to obtain SLC's financial performance and the welfare of SLC members. Therefore, this study aims to test whether digitalization and product quality improve the

welfare of SLC members, with SLC's financial performance as a mediator.

This study is expected to find that digitalization and product quality can be implemented in cooperative businesses. Then, the welfare of SLC members can be improved with SLC's financial performance as a mediator. In line with these expectations, this finding is expected to be a reference to reduce the problems mentioned above and become a reference to advance SLC so that it has a significant contribution to economic progress and community welfare. The following descriptions below are 1) literature review and hypothesis development, 2) results analysis and discussion, and 3) conclusions.

2. Literature review and hypothesis development

2.1. TQM and cooperatives

Total Quality Management (TQM) is a crucial phenomenon in any sector, including SLC (Lepistö et al., 2022). TQM is part of a total quality assurance perspective. As a system, TQM is considered a type of managerial philosophy that employs all levels of the organization to continuously improve the quality of goods and services (Ershadi et al., 2019). TQM has principles, dimensions, and objectives. The main principles of TQM are: 1) customer-focused, both internal and external; 2) leadership, which consists of motivating, mobilizing, and organizing the employee experience; 3) employee participation; 4) adopting a process-focused process approach; 5) continuous improvement, 6) making decisions based on reality, and 7) creating mutually beneficial relationships with suppliers and others (Bahia et al., 2023). Lepistö et al. (2022) describe a comprehensive overview of the dimensions of TQM. These dimensions are divided into two: the new and old dimensions. Digitalization and product quality are two of the 61 dimensions in TQM. Digitization is classified as a new dimension, and product quality is an old dimension. The objectives of TQM are 1) to increase the competitiveness and excellence of the organization, 2) to increase customer and employee satisfaction, 3) to increase the productivity of every part of the organization, 4) to increase organizational flexibility in dealing with the environment, 5) ensure comprehensive continuous improvement, 6) improve financial performance, and 7) eliminate unnecessary procedures (Bahia et al., 2023).

The relationship of this research with TQM, digitalization, and quality variables are dimensions of TQM that can be used to achieve SLC objectives. Referring to the explanation of the objectives above, the SLC's financial performance and satisfaction of SLC members are part of the TQM objectives. SLC member satisfaction matches customer and employee satisfaction in non-cooperative business forms. Through his literature review, García-Fernández et al. (2022) stated that TQM has a positive relationship with financial performance. Lepistö et al. (2022) conducted research, and one of the findings is that product quality positively affects customer satisfaction.

TQM is a lean manufacturing tool to ensure that the manufacture of products is not wasteful. Therefore, producing the resulting goods meets design specifications, customer needs, and satisfaction (García-Alcaraz et al., 2019). The value and concept of TQM is that quality needs to be built into every level of the company. TQM becomes part of everything an organization does if the goal is long-term success. The concepts and values in TQM relevant to this research are customer-oriented and continuous improvement. In addition, financial performance must be continuously measured and improved (Dahlgaard-Park et al., 2018). At TQM, Deming introduced 14 principles of quality; two of the 14 principles are adopting new philosophies and improving products and services (Agrawal, 2019). Product quality improvement is intended so that product quality continues to improve. One of adopting a new philosophy is applying contemporary technology in the form of digitalization in cooperative management.

The person who first developed the principles of cooperatives was Robert Owen (Ridley-Duff & Bull, 2019). In line with these principles, the purpose of cooperatives is to prosper cooperative members and the community (Yuliarmi et al., 2020). According to Law No. 25/1992, a cooperative is a business entity consisting of a collection of people. Cooperative legal entities base their activities on the

cooperative principle, and the people's economic movement is based on the principle of kinship (Sumarwan et al., 2022). This study examined savings and loan cooperatives (SLC). An SLC is a cooperative that runs a business to collect funds, especially from members in savings, and redistribute funds to its members through loans or credits. SLCs were established to allow their members to obtain loans quickly. Cooperative members can avoid harmful loan sharking practices. For the community and cooperative members to prevent the practice of loan sharking, SLCs must be able to operate efficiently. Factors that affect the level of efficiency of SLC are interest, loan term, convenience, and type of business (Purmiyati et al., 2022).

Although there have been studies and theories regarding the benefits of digitalization in companies, as outlined above, digitalization in SLC is still low. Cahyono et al. (2023) state that 13 percent of cooperatives are implementing digitalization. The remaining 87 percent have not implemented digitalization. In addition, the quality of products at SLC is also still low. The indication is that the number of savers is still low, and the loan interest in SLC is relatively high (Rijn et al., 2021; Sumiyati et al., 2021).

2.2. Member welfare, financial performance, digitalization, and product quality

The purpose of a cooperative is the welfare of its members (Chan & Raharja, 2023). Members of the cooperative are customers of the cooperative. According to TQM, many ways can be taken to improve the welfare of cooperative members. The method taken in this research is to improve the welfare of savings and loan cooperatives through digitization, product quality, and financial performance as a mediator.

As a business entity, cooperatives are more concerned with members' interests (Pavlovskaya & Eletto, 2021). However, cooperatives must continue progressing and developing by improving their financial performance. Financial performance is one of the motives of people interested in becoming cooperative members (Puusa & Saastamoinen, 2021). Financial performance shows the financial condition of a business during a specific period, which includes the acquisition and use of funds. Financial performance can also be interpreted as the ability of a company to manage and control its resources (Fatihudin et al., 2018). Financial performance can be measured by profitability (Doğan & Ekşi, 2020), liquidity, and solvency (Harisudin et al., 2020). Profitability is a company's ability to profit using existing assets or capital (Miswanto, Fatona, Qorry, et al., 2022). Liquidity is a company's ability to meet current debts (Miswanto, Fatona, Qorry, et al., 2022). Solvency is the ability of shareholders' equity to meet all obligations (Omari, 2020). Higher profitability, liquidity, and solvency indicate higher financial performance.

In tight business competition, a business must be creative and innovative (Jaya et al., 2020). One form of creativity and innovation is digitalization. Digitalization is a phenomenon that has been popularized since the start of Industry 4.0 (Alieva & Powell, 2023). Digitalization is also called using digital technology and information to transform business operations (Alieva & Powell, 2023). Digitalization is now recognized to benefit companies and cooperatives in a rapidly changing environment (Tick et al., 2022). Digitalization and advanced technologies applied in production and services will minimize the relevance of the comparative advantage represented by unskilled labor. The workforce will be replaced by digital systems (Rymarczyk, 2021). Digitalization will increase efficiency, and efficiency will improve performance (Ribeiro-Navarrete et al., 2023), including financial performance (Purmiyati et al., 2022). This efficiency occurs because digitalization reduces human interaction (Piotrowski, 2022). Digitalization in banking has created various innovations to make it easier for customers (Tanuwijaya & Oktavia, 2023). Therefore, SLC must develop digitalization to facilitate cooperative members, especially as cooperative customers.

To compete, the quality of savings and loan cooperative products must also continue to be improved. Product quality is product performance that benefits consumer needs (Fataya et al., 2023). Product quality can also be interpreted as the ability of a product to demonstrate its function. These include

accuracy, product repair, reliability, durability, attributes, and ease of operation (Kotler et al., 2019). The product quality prototype of savings and loan cooperatives introduced by the World Council of Credit Unions became a guiding feature to compete in the market (Tulus & Nerang, 2020). Credit unions must provide quality products and technology for their members. Savings and loan cooperatives can also maintain a significant physical presence and raise the capital necessary to deal with the risk of funding shortages (Losier, 2022). Products from savings and loan cooperatives include savings and loan products (Du, 2018). The main characteristics of quality savings products are relatively high and safe savings interest. The main features of quality loan products are low loan interest, and the loan disbursement process is relatively easy.

2.3. Hypothesis development

Roman & Rusu (2022) examined the impact of digitalization on the performance of SMEs in European Union countries. Its findings show that the digitalization of SMEs can improve their performance. Waal et al. (2019) examine the characteristics of high-level financial performance functions. His findings were one of the high levels of financial performance caused by digitization. Roman & Rusu (2022) examined the effect of digital technologies on the financial performance of SMEs in European countries. His findings show that digital technology can grow small businesses' financial performance. Finally, these efforts drive countries' development and economic growth.

Hypothesis 1 (H1): Digitalization has a positive impact on the financial performance of SLC

Agrawal (2019) examined the effect of Deming's 14 quality principles on performance with MICMAC analysis models and interpretive structural modeling. His findings were that Deming's principles positively affected performance. Anil & Satish (2019) tested the effect of TQM practices on performance. His research was conducted in India. The finding is that TQM practices positively affect performance. Roest et al. (2018) examined the development of agricultural enterprises with a new paradigm. Their research states that high product quality can further increase profitability. Candoğan et al. (2021) stated that food safety was getting more and more attention. This concern is due to their consumer awareness, industry competition, and regulations to offer the best quality products. Technology is needed so that the best quality of meat is maintained. Maintaining product quality can increase financial performance in the meat supply chain. Profitability is one of the indicators of financial performance (Harisudin et al., 2020; Unda et al., 2019)

Hypothesis 2 (H2): Product quality has a positive impact on the financial performance of SLC

Purnamawati et al. (2023) examined digitalization as a sustainable village economic development dimension in Bali Province, Indonesia. The program of Digital Village improves the welfare and capabilities of local businesses. Yang et al. (2021) researched farmers who joined cooperatives. The finding is that farmers who adopt agricultural technology and join farmer cooperatives can increase their income and ultimately improve the welfare of these farmers. Digitalization can increase the value of cooperative businesses (Ribeiro-Navarrete et al., 2023), and this value means enhancing the welfare of cooperative members.

Hypothesis 3 (H3): Digitalization has a positive impact on the welfare of SLC members.

One dimension of product quality is product performance. According to Jaya et al. (2020), product performance affects SMEs' welfare in Denpasar, Bali, Indonesia. The findings indicate that product quality affects the welfare of SMEs. Comanor & Baker (2022) stated that the dimensions of product quality are essential to customers. The statement indicates that customers like a quality product. Sen & Sinha (2023) have researched mergers. Companies that merge are companies that produce better-quality products. Before the merger, companies made lower-quality products. After the merger, the welfare of its shareholders improved. Agrawal (2019) examined the effect of Deming's 14 quality principles on customer welfare with interpretive structural modeling and MICMAC analysis models. His findings are that Deming's principles positively affect customer satisfaction.

Hypothesis 4 (H4): Product quality positively impacts the welfare of SLC members.

Parani et al. (2017) researched cooperatives in Central Sulawesi, Indonesia. One of the findings is that cooperative performance positively affects the welfare of cooperative members. The financial performance of the cooperative is increasing, causing these households' welfare to increase (McKillop et al., 2020). The performance of cooperative organizations consists of financial and non-financial. The organization's performance is very much for the welfare of its cooperative members (Rabialdy et al., 2023).

Hypothesis (H5): SLC's financial performance positively affects the welfare of SLC members.

Based on the research findings used for hypotheses H1, H2, and H5, the performance of cooperative finance can mediate the impact of digitalization and product quality on member welfare. Research conducted by Mansyur et al. (2020) also shows that financial performance is used as a mediating variable to increase stock prices as a measure of shareholder welfare. The hypothetical statement of financial performance as a mediator is as follows.

Hypothesis 6 (H6): Digitalization positively affects the welfare of SLC members, with SLC's financial performance as a mediator.

Hypothesis 7 (H7): Product quality positively affects the welfare of SLC members, with SLC's financial performance as a mediator.

Based on the description of hypotheses based on previous theories and studies, The model in this study can be illustrated in Figure 2 below. The Figure consists of elliptical, continuous arrows and broken breaks. The oval circle shows variables. Continuous arrows show the direct influence from one variable to another. Intermittent arrows indicate mediating or indirect effects from one variable to another.

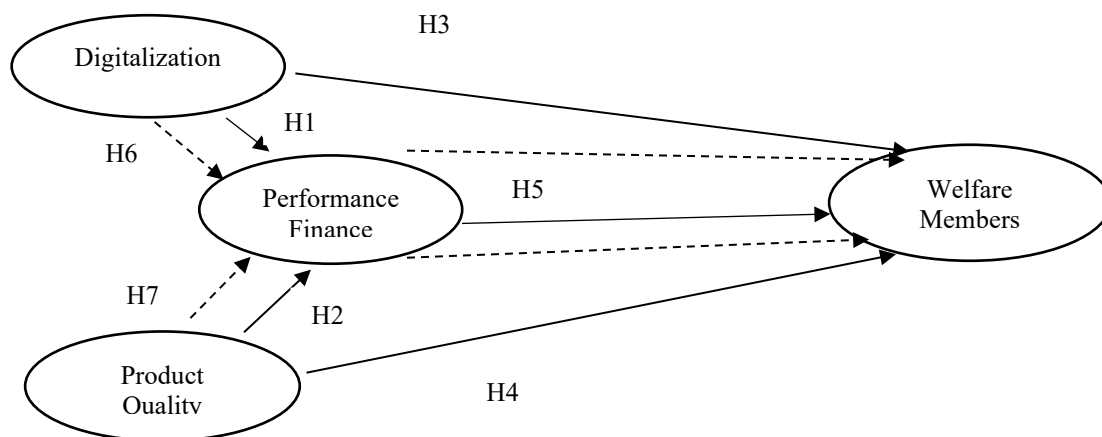


Fig.2: Research model

3. Methodology

This explanatory study aims to test and describe causal relationships between research variables. The relationship between variables stated in the hypothesis will be tested. This relationship can be seen in Figure 2 above about research models. Testing of hypotheses is done statistically. The object of this research is savings and loan cooperatives in Indonesia. Data were collected from respondents consisting

of members, administrators, supervisors, managers, employees, and customers of savings and loan cooperatives. The collection of references in articles and books to make research proposals begins in the middle of 2022. The distribution of questionnaires will be carried out from the beginning of 2023. March 2023 will process the data. Finish making the research report by the end of June 2023. The purposive sampling method was chosen as a sample selection technique. This technique considers population characteristics, research purpose, and researchers' considerations for selecting people (Berndt, 2020; Cash et al., 2022; Sukmawati et al., 2023).

Research instruments are made to obtain data and collect data. The data consists of the characteristics of the respondents and the data related to the measurement of variables. The medium for getting data is a questionnaire. The questionnaire that has been created is distributed to respondents through Google Forms—distribution of questionnaires using the Kudata application. The application can be reached via the Internet by everyone throughout Indonesia. Data is obtained from respondents in the administration until the final data is ready to be processed with statistical applications. Data processing of depositor characteristics and descriptive data analysis is sufficient using the Excel application.

This study used a questionnaire with 71 questions that respondents must fill out. The questionnaire in this study had 55 questions to measure variables, so the minimum sample is five times the number of questions, or $55 \times 5 = 275$. Thus, the sample needed in this study is at least 275 respondents (Hair et al., 2019). Primary data were collected in this study directly by filling out online questionnaires through Google Forms. The questionnaire uses a five-point Likert scale from 1 to 5, with choices from 'strongly disagree' to 'strongly agree' (Anisah & Miswanto, 2021; Miswanto & Sirait, 2022).

Because the primary data were used, the study conducted validity and reliability tests (Anisah & Miswanto, 2021; Miswanto & Sirait, 2022). The test used SPSS 15. The validity test uses the value of the loading factor on each item of that statement to measure the variable. For a sample of more than 300 respondents, the question or statement is declared valid to measure the variable if the minimum loading factor value is 0.3 (Hair et al., 2019). Reliability tests using Cronbach's Alpha values. The statement is reliable if the resulting Cronbach's Alpha value is ≥ 0.6 (Hair et al., 2019).

Variable measurement refers to indicators. The indicators on each variable are developed into several statements or questions. The measurement of variables in this study is as follows. Indicators to measure digitalization variables are digitalization in cooperative profiles, marketing, payment, cooperative partners, and cooperative member services (Puspitasari et al., 2021). Indicators to measure product quality are performance, features, reliability, conformity to specifications, and durability (Tjiptono, 2019). Indicators for measuring financial performance are liquidity, solvency, and profitability (Harisudin et al., 2020). Indicators to measure the welfare of SLC members are opportunities to participate in education on cooperative development, member business development, and business profitability development (Ruslan, 2017). The statements or questions written down in the questionnaire to measure variables are based on the indicators in each variable. These statements are used to obtain data from respondents through the distribution of questionnaires. The questionnaire contains questions to get data on respondent characteristics and, simultaneously, to obtain data on variables used in this study. The statements or questions to measure the variables contained in the questionnaire are 26 for the digitalization variable, 7 for variable of product quality, 14 for variable of financial performance, and 8 for variable of cooperative members welfare. The number of questions on each variable can also be seen in Table 3 and Figure 3, the total questions to measure the variability are 55 questions.

The characteristics of respondent points are presented in Table 1. The total number of questionnaires that respondents have filled out is 414, and the total number of questionnaires that do not meet the criteria is 25. Therefore, the number of respondents who met the criteria was 389. This number exceeds the minimum sample size of 275 respondents (Hair et al., 2019). The gender

composition is balanced between males and females, with males at 51.93 percent and females at 48.07 percent. The highest age of respondents was those over 36 years old (46.27 percent), and the second order is the age of 21-28 years old (30.59 percent). The last education of most respondents was undergraduate (41.39 percent), and the second place was a maximum of high school (36.76). The type of cooperative is divided into two: the first type is SLC, and the second is SLC and non-SLC. The first type of cooperative is more than the second, respectively, by 58.35 percent and 41.65 percent. The highest monthly income of respondents is those with an income greater than 4,500.00 IDR, and the second order is those with an income of less than 1,500.00 IDR. The most jobs respondents outside cooperatives are private employees (46.27 percent), and the least respondents' jobs are respondents who do not have jobs (4.12 percent). Those who do not have jobs are retirees, homemakers, and those who do not. The domicile of respondents is spread across all provinces in Indonesia. The most significant number of respondents was in the Special Region of Yogyakarta (27.25 percent). The second, third, and fourth places are Central Java (26.22 percent), West Java (16.97 percent), and East Java (10.80 percent). With the distribution ranging from gender type to respondent domicile, as presented in Table 1, it is expected to represent the respondent population in SLC research in Indonesia. Those who are respondents are those who have involvement with SLC. They are members, customers, employees/managers, administrators, and supervisors of SLC in Indonesia.

Descriptive statistical analysis is carried out to analyze data by describing the data that has been collected into more precise and easier-to-understand information that provides a descriptive picture of this research. Variable descriptive data uses descriptive analysis of statistical data in the form of minimum, maximum, average, median, and standard deviation values for each variable. Testing the goodness of the Fit model, coefficient of determination, and hypothesis used Structure Equation Modeling (SEM.) with WarpPLS 7.0. SEM is a multivariate analysis technique that can test relatively complex and simultaneous relationships, allowing researchers to test models of mediated effects simultaneously in one test. In addition, this study conducted a path analysis test. The path analysis test aims to test the research path/model. Then, to test the model's fit, this study uses the goodness-of-fit index by looking at the average path coefficient (APC) criteria to assess the magnitude of the relationship between variables.

Table 1. Characteristics of Respondents (Gender, Age, Education, Types Cooperative, Involvement in Cooperatives, Income, Job, and Domicile)

Item	Total	%	Item	Total	%
Gender			Income per Month (IDR)		
Male	202	51.93	< 1,500,000	98	25.19
Female	187	48.07	1,500.00 – 3,000, 000	81	20.82
Age (years old)			3,000,000 - 4,500,000	67	17.22
< 21	32	8.23	> 4,500,000	143	36.76
21-28	119	30.59	Jobs (outside the Cooperative)		
29-36	58	14.91	No Job	16	4.12
> 36	180	46.27	Student	45	11.57
Recent Education			Educators	9	2.31
≤ High School	143	36.76	Government employees	45	11.57
Diploma 3	30	7.71	Private employees	180	46.27
Bachelor	161	41.39	Self-employed	94	24.16
Postgraduate	55	14.14	Domicile (province)		
Types of Cooperatives			S.R.Yogyakarta	106	27.25
SLC	227	58.35	Central Java	102	26.22
SLC and non-SLC	162	41.65	West Java	66	16.97
Involvement in Cooperatives			East Java	42	10.80
Cooperative Members	172	44.22	S.C.R. Jakarta	19	4.88
Employees and managers of cooperatives	53	13.62	South Sulawesi	9	2.31
Supervisor or Administrator	44	11.31	Riau Islands	5	1.29
Cooperative Customers	120	30.85	Miscellaneous Provinces	40	10.28

4. Results and discussion

4.1. Descriptive statistical analysis

Statistical analysis in this study used the average of answers from all respondents on each indicator with a score range of 1 to 5. Based on Table 2, the results of descriptive statistical analysis state that the mean and median values in each variable range from 4, the minimum value is 1, and the maximum is 5. The Table shows that respondents agree with all statements to measure the variables in the questionnaire.

Table 2. Descriptive statistical analysis

Variable	N	Median	Mean	Min.	Max.	Std. Deviation
X1	389	4.0385	4.0473	1	5	0.76706
X2	389	4.1429	4.1465	1	5	0.72044
M	389	4.0000	4.0525	1	5	0.62873
Y	389	4.0000	4.0238	1	5	0.70870

Description: X1 = digitalization, X2 = product quality, M = Financial Performance, Y = Welfare of Cooperative Members, Std. Deviation = standard deviation, N = number of data, min. = minimum, and max. = maximum.

The descriptive analysis of respondent characteristic data (see Table 1) is as follows. The number of male and female genders is relatively balanced. The age of respondents under 21 years old was 8.23 percent. This age represents the Generation Z respondents, and the number is relatively small. A minimum of high school and a bachelor dominate the educational characteristics of respondents. The income level of respondents is relatively evenly distributed from low to high income. Private employees and self-employed dominate the employment of respondents. The domicile of respondents is more concentrated on the Island of Java, namely in the Provinces of the Special Region of Yogyakarta, Central Java, West Java, East Java, and the Special Capital Region of Jakarta.

4.2. Testing validity and reliability

Validity and reliability testing used SPSS. Confirmatory Factor Analysis (CFA) is used for validity testing by searching at the value of the Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO MSA) results. KMO MSA is used to test the validity of each variable (Anisah & Miswanto, 2021). KMO MSA values above 0.5 indicate that the factor analysis process can be carried out. KMO MSA on digitalization, product quality, financial performance, and welfare of SLC members, respectively: 0.970, 0.925, 0.937, and 0.912 (see Table 3). Therefore, each variable is valid because each variable has a KMO MSA value greater than 0.5 (Anisah & Miswanto, 2021; Raharjanti et al., 2023). Testing the validity of each question item on each variable uses a loading factor (Anisah & Miswanto, 2021). The test results are presented in Table 3. Based on the validity test, it can be seen that each question item on the questionnaire has a loading factor value greater than 0.30 so that each question on the questionnaire can be declared valid (Hair et al., 2019). The reliability test in Table 4 shows that all questions in the variables used have a Cronbach's Alpha value greater than 0.6. This explanation indicates that all questions in the questionnaire are reliable (Raharjanti et al., 2023).

Table 3. Validity test results

Variable	Code	Kaiser - Mayer - Olkin Measure of Sampling Adequacy	Value of loading factor	Variable	Code	Kaiser - Mayer - Olkin Measure of Sampling Adequacy	Value of loading factor
Digitalization	X11	0.970	0.758	Financial	M1	0.937	0.733
	X12		0.785	Performance	M2		0.763
	X13		0.804		M3		0.742
	X14		0.830		M4		0.692
	X15		0.818		M5		0.772
	X16		0.761		M6		0.622
	X17		0.817		M7		0.727
	X18		0.812		M8		0.680
	X19		0.789		M9		0.755
	X110		0.839		M10		0.757
	X111		0.783		M11		0.757
	X112		0.811		M12		0.722
	X113		0.757		M13		0.770
	X114		0.702		M14		0.744
	X115	0.912	0.579	The Welfare	Y1	0.912	0.799
	X116		0.745	of Cooperative	Y2		0.801
	X117		0.723	Members	Y3		0.815
	X118		0.816		Y4		0.819
	X119		0.792		Y5		0.830
	X120		0.769		Y6		0.810
	X121		0.798		Y7		0.813
	X122		0.811		Y8		0.834
	X123		0.814				
	X124		0.743				
	X125		0.582				
	X126		0.702				
Product Quality	X21	0.925	0.829				
	X22		0.848				
	X23		0.876				
	X24		0.868				
	X25		0.869				
	X26		0.749				
	X27		0.863				

Table 4. Reliability test results with Cronbach's Alpha

Variable	Cronbach's Alpha	N of Items	Information
Digitalization	0.972	26	Reliable
Product Quality	0.932	7	
Financial Performance	0.931	14	
The Welfare of Cooperative Members	0.925	8	

4.3. Testing inner models and hypotheses

Testing inner models and hypotheses using WarpPLS. In this study, inner model testing is goodness fit model testing and determination coefficient analysis. Hypothesis testing is testing path coefficients on each hypothesis. Table 5 represents the results of testing the goodness of fit model. The significance level used is 0.05 (5 percent). The fit index model is an essential measure in data

analysis using WarpPLS. The fit index shows the model's suitability to the data and describes the quality of the model being studied. APC is said to be good if the p-value < 0.05 . ARS is said to be good when the p-value < 0.05 . AVIF is said to be good if the AVIF value < 5 . Based on the results in Table 5, this research model can be used to test hypotheses.

Table 5. The Results of testing the goodness of the Fit model

Indicator	P-Value	Condition	Information
APC=0,335	P<0.001	P<0.05	Accepted Models
ARS=0,613	P<0.001	P<0.05	
AVIF=2,963		P≤5	

Figure 3 below describes the number of questions, the coefficient of determination, and the results of hypothesis testing. The number of questions or statements to measure variables is in the oval circle. The Figure shows that the value of the coefficient of determination (R-Square) on Financial Performance as a dependent variable is 0.58. This Figure shows that digitalization and product quality affect financial performance by 58 percent. The remaining 42 percent indicated that other independent variables not in the model affected financial performance by 42 percent. The member welfare of SLC has an R-Square of 0.65. The R-square shows that digitalization and product quality together affect the welfare of SLC members by 65 percent. The remaining 35 percent revealed that independent variables outside this model affected the welfare of SLC members by 35 percent. R-squares of 0.58 and 0.65 indicate the moderate category because they are greater than 0.5 (Hair et al., 2019).

The results of testing hypotheses 1 to 7 are presented in Figure 3. The notation in Figure 3, X1 is digitalization, X2 is quality products, M is financial performance, and Y is the welfare of cooperative members. X1 and X2 are independent variables, M is the mediating variable, and Y is the dependent variable. The significance rate in this study was 0.05 (5 percent). Process this data using the WarpPLS application. The results of the analysis to test the hypotheses are as follows. The path coefficient from H1 to H7 is positive, as hypothesized. The probability value (p-value) on the t-test from H1 to H7 is less than 5 percent. In the H1 test, the path coefficient is 0.35 and shows that H1 (digitalization positively affects financial performance) is supported. In the H2 test, the path coefficient is 0.44 and shows that H2 (product quality has a positive effect on financial performance) is supported. The H3 test's path coefficient is 0.12, indicating that H3 (digitalization positively affects the welfare of SLC members) is supported. In the H4 test, the path coefficient of 0.40 shows that H4 (product quality positively affects the welfare of SLC members) is supported. In the H5 test, the path coefficient of 0.36 indicates that H5 (financial performance positively affects the welfare of SLC members) is supported. In the H6 test, the path coefficient is 0.127 and shows that H6 (digitalization positively affects the welfare of SLC members, with financial performance as a mediator) is supported. In the H7 test, the path coefficient is 0.160 and shows that H6 (product quality positively affects the welfare of SLC members, with financial performance as a mediator) is supported.

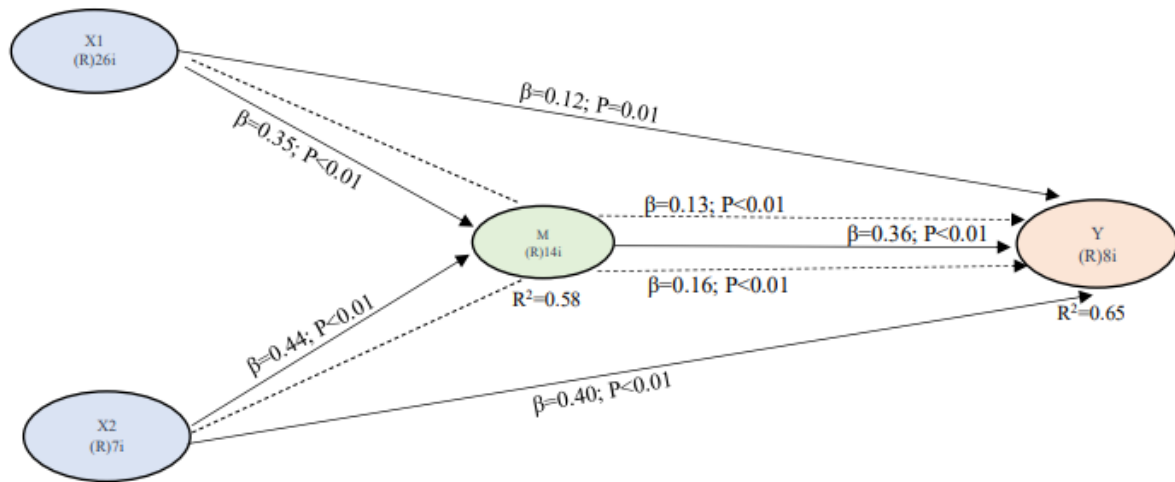


Fig.3: Hypothesis test results

Table 6 below summarizes the results of hypothesis testing from H1 to H7. The test results showed that all hypotheses were supported.

Table 6. Summary of Test Results from H1 to H7

No.	Hypothesis	Direction	Path Coefficient	P Value	Information
H1	Digitalization → Financial Performance	+	0.35	P<0.01	Supported
H2	Product Quality → Financial Performance	+	0.44	P<0.01	Supported
H3	Digitalization → Welfare of Cooperative Members	+	0.12	P=0.01	Supported
H4	Product Quality → Welfare of SLC members	+	0.40	P<0.01	Supported
H5	Financial Performance → Welfare of SLC members	+	0.36	P<0.01	Supported
H6	Digitalization → Financial Performance → Welfare of SLC members	+	0.127	P<0.01	Supported
H7	Product Quality → Financial Performance → Welfare of SLC members	+	0.160	P<0.01	Supported

4.4. Discussion

As already presented above, H1 and H2 are proven. Digitalization and product quality positively affect the financial performance of SLC. The variable can be improved by digitization, and the quality of products is improved. This finding aligns with Roman & Rusu's findings (2022). They examined the level of digitization of SMEs in EU countries. With the object of research in these SMEs, they found that digitalization positively impacts financial performance. Digitalization reduces human contact and increases efficiency. Digitalization innovations in cooperative profiles, marketing, administration, and member meetings improve SLC's financial performance. Product quality findings have a positive effect on financial performance in this study, which is also supported by the findings of Roest et al. (2018). They examined the development of agricultural enterprises with a new paradigm in the European Union and Israel. They found that high-quality products significantly contributed to improving overall profitability. The quality of cooperative products is increasingly improved, causing the financial

performance of cooperatives to increase as well.

Hypothesis 3 (H3) that digitalization in cooperatives positively impacts SLC members' welfare is also supported. This finding is supported by the results of Purnamawati et al. (2023). They conducted a digital village program in Bali, Indonesia. The digital village program will improve 1) the knowledge and competence of rural communities in developing businesses, 2) the welfare of rural communities, and 3) the capabilities of their local rural businesses. With reference from the research of Purnamawati et al. (2023), if SLC digitizes, it can have a positive impact not only on SLC's financial performance and the welfare of SC members but it can have a positive effect on both the environment and the communities in which SLC is located.

Hypothesis 4 (H4), that product quality positively affects the welfare of SLC members, is also supported. This finding aligns with the findings of Jaya et al. (2020). They surveyed 126 small and medium-sized enterprises in Denpasar, Bali. Bali is one of the islands in Indonesia. The coverage of their research area is lower than that of this study. They examined the effect of product performance on the competitiveness and welfare of small and medium enterprises. Their findings are that product performance (one of which is quality products) has a positive influence on competitiveness and the welfare of small and medium enterprises in Denpasar Bali. Concerning the testing results, this hypothesis is supported: the quality of cooperative products is getting higher and can improve the welfare of SLC members.

Hypothesis 5 (H5): Financial performance positively affects the welfare of SLC members supported. This finding is in line with the findings of Rabialdy et al. (2023). Their research was conducted in several cooperatives and MSMEs in Indonesia. They found that financial and non-financial performance greatly prospered the cooperative's members. In connection with that, the higher financial performance of SLC can improve the welfare of SLC members. Because digitalization and quality products positively affect performance (financial and non-financial) and the welfare of SLC members, H6 and H7 are supported. Thus, the financial performance of SLC can mediate the influence of digitalization and quality products on the welfare of SLC members. Only different research objects, the findings of financial performance as a mediator, align with the findings of Mansyur et al. (2020). On their findings, financial performance is used as a mediating variable to increase stock prices in the banking sector in Indonesia. They examined 43 banks listed on the Indonesia Stock Exchange, using secondary data on financial statements from 2014 to 2017.

This finding is significant in providing solutions to the problems written in this study. As explained in the introduction, cooperatives in Indonesia, classified as emerging market economies, have not succeeded in prospering their cooperative members. In addition, the financial performance of cooperatives in Indonesia is also inadequate; even many cooperatives' financial performance in Indonesia is poor, for example, still losing money, low liquidity, and being in debt to banks. The unethical behavior of SLC employees can also be reduced because digitalization reduces SLC employees' interaction with members and customers (Piotrowski, 2022).

The number of respondents from Generation Z is 8.23 percent (see Table 1). The number of responses from that generation is relatively small. The older generation dominates the number of respondents. The meaning of the data is that the number of Generation Z who are members of SLC is relatively tiny. This finding aligns with the result that SLCs in Indonesia are still few who implement digitalization (Cahyono et al., 2023). With inadequate digitization in SLC, Generation Z is very little interested in becoming a member of SLC. This statement aligns with the findings of Tanuwijaya & Oktavia (2023), which show that digitalization in the bank makes millennials and Z generations like to become bank customers. Therefore, if SLC implements sustainable digitalization, SLC members from Generation Z will increase. With cooperatives innovating with digitalization and product quality that continues to be improved, the problems of cooperatives in Indonesia can be reduced. Cooperatives in emerging market economies generally have the same problems as cooperatives in Indonesia. Therefore,

the findings of this study are expected to be a reference for developing cooperatives in emerging market economies.

As described above, digitalization and quality products improve cooperative members' welfare with financial performance as a mediator. In line with these findings, management at SLC must improve digitalization and product quality so that the financial performance and welfare of SLC members can also continue to be improved. In Indonesia, cooperatives are generally classified as SMEs. With the development of cooperatives, SMEs absorb a lot of labor and contribute to the community's welfare and the progress of the nation and state.

This study chose to use the non-probability sampling method. The main characteristic of this method is that the sample selection is not random and subjective (Berndt, 2020; Sukmawati et al., 2023). In addition to having advantages, this method has limitations. The main limitation of this method is that the selected sample is sometimes not representative of the population (Berndt, 2020). The techniques in the non-probability sampling method are purposive sampling, quota sampling, self-selection sampling, and snowball sampling (Berndt, 2020; Cash et al., 2022; Sukmawati et al., 2023). The technique used in the study was purposive sampling. In addition to having advantages, this technique has limitations. A limitation of this technique is that it can be susceptible to researcher bias, especially if the rules or assessment criteria are not well documented or explained (Berndt, 2020; Cash et al., 2022; Sukmawati et al., 2023).

This study examined cooperatives across Indonesia. However, the number of respondents to this study as many as 86.12 percent who filled out the questionnaire, resided on the Island of Java, namely in Yogyakarta, Central Java, East Java, West Java, and Jakarta (see Table 1). Based on data from BPS-Statistics Indonesia, the number of cooperative members from Java Island is 55.13 percent of all cooperative members in Indonesia (Indonesia, 2021). Based on these data, the percentage of respondents domiciled in Java Island exceeds the rate of cooperative members who are domiciled in Java Island. Distribution of questionnaires to respondents via the Internet using Google Forms. The distribution of respondents who dominate domiciled on the Island of Java is suspected because residents who live on the Island of Java have the most accessible access to the Internet and most often access the Internet. The tendency of the distribution of respondents is also suspected because this study chose a non-probability sampling method with a purpose sampling technique for sample selection (Berndt, 2020; Cash et al., 2022; Sukmawati et al., 2023).

5. Conclusion

This study examines SLC in Indonesia, classified as emerging market economies. The conclusion of this study is as follows. Digitalization and quality products positively affect SLC's financial performance and the welfare of SLC members. Financial performance has a positive influence on the welfare of SLC members. Therefore. Improving the welfare of SLC members can be done through digitalization and quality products, with financial performance as a mediator. The primary goal of SLC is the welfare of SLC members. SLC's financial performance is one of SLC's goals. This research found that both goals can be achieved through digitalization and quality products. The study findings also show that SLC's financial performance improved, and the welfare of SLC members also improved.

The findings in this study are expected to contribute to improving SLC's financial performance and improving the welfare of SLC members through digitalization and quality products. Most companies in Indonesia are SMEs. Some of these businesses are in the form of cooperatives. Therefore, the results of this research have contributed to advancing and developing cooperatives in Indonesia. Members of the cooperative are customers. According to TQM theory, cooperative members must be satisfied with needs so that the cooperative continues to develop, progress, and be able to compete with competitors (Bahia et al., 2023; Ershadi et al., 2019; Lepistö et al., 2022). The Implications of the practice of this research to the administration and management of SLC is that this finding provides research-based information to develop and advance SLC that has not implemented digitalization and does not have

product quality should immediately implement digitalization and improve the quality of its products. SLC, which has implemented digitalization and has product quality, is expected to maintain and enhance digitalization and product quality. By supporting and improving digitalization and product quality, SLC's financial performance and the welfare of SLC members can continue to be improved.

The limitations of this study are as follows. First, this study only examines efforts to improve the welfare of SLC members through digitalization and quality products, with financial performance as mediation. Based on the results of previous research, many factors affect the welfare of SLC members. Second, this study only examined SLC and has not yet explored types of cooperatives other than SLC. Third, this study examined cooperatives throughout Indonesia. However, respondents who filled out the questionnaire were centrally residing on the Island of Java, namely in the provinces: Special Region of Yogyakarta, Central Java, East Java, West Java, and Special Capital Region of Jakarta. Java Island is only one of the islands in Indonesia.

Types of cooperatives other than SLC include transportation, retailer, multi-purpose, handicraft, agricultural, and animal husbandry cooperatives. The first suggestion for the following study is that the model on the study is used for cooperative research other than SLC to determine whether the study results are the same as this study. The second suggestion is SLC research on SLC financial performance and welfare of SLC members, which is influenced by other variables outside this research model. These variables include the loyalty of cooperative employees, the integrity of the cooperative management, cooperative leadership, and cooperative services. The dimensions contained in TQM can be used as independent variables to replace the independent variables in this research model (Lepistö et al., 2022). The third or last suggestion for the following study, sample selection, uses the probability sampling method with stratified random sampling techniques. If you select samples using these methods and techniques, respondents' domiciles are more able to spread throughout the island or province in Indonesia (Kassegn & Endris, 2022; Panda & Reddy, 2020; Purohit et al., 2022; Sukmawati et al., 2023). With these methods and techniques, the selected sample is expected to represent the population spread throughout Indonesia (Berndt, 2020; Cash et al., 2022; Sukmawati et al., 2023).

Acknowledgment

The National Competitive Basic Research Grant Scheme from the Ministry of Education, Culture, Research and Technology, Republic of Indonesia, supports this research work.

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