

Implementation of Agile Methods in Production Planning and Control: The Role of Quality as Mediation towards Customer Satisfaction at Be Adab Coffee Shop Malang

Anton Ferry Ananda^{1*}, Dedi Sukariyono², M Mastotok Illah³, Lianita Widyaratna Kristanti⁴, Handik Purwantoro⁵

^{1 2 3 4 5} Management Department, Kertanegara College of Economic, Malang, 65141

*Corresponding Author: anton_ferry@stiekma.ac.id

Abstract

In the context of the coffee shop industry, it is important to understand how effective management methods can be applied to improve product and service quality. One approach that is gaining popularity is the Agile method, which was originally used in software development. These methods are now starting to be adapted in coffee shop production planning and control, enabling faster response to changing customer needs. Agile methods emphasize collaboration and iterative development, which is expected to improve product quality.

However, the implementation of Agile methods is not easy. The process requires a deep understanding of the integration of various variables to achieve the desired goal. In this study, quality improvement serves as an important mediating variable, bridging the relationship between Agile methods and customer satisfaction. This research uses descriptive and associative approaches, where descriptive research describes the characteristics of respondents, while associative research tests the relationship between independent, mediating, and dependent variables.

The research population includes all Be Adab Coffee Shop customers, with a sample size of 80 respondents. The data was analyzed using Smart PLS (Partial Least Squares) software. The results showed that the Agile method in planning has a positive effect on customer satisfaction, which means that the application of this method can make a good contribution. However, the effect of Agile methods on quality is insignificant, indicating that quality improvement cannot be relied upon as a direct result of applying these methods. In contrast, production control was shown to have a significant influence on quality. In addition, quality also has a positive impact on customer satisfaction. However, analysis of the effect of Agile methods in planning on customer satisfaction through quality showed no significant effect.

Keywords: Agile Method; Production Control; Quality; Customer Satisfaction; Coffee Shop

Article Info

Received : 2025-08-04
Revised : 2025-09-22
Accepted : 2025-09-26
Published : 2025-09-28

DOI

[10.26905/jp.v22i1.16001](https://doi.org/10.26905/jp.v22i1.16001)

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How to cite

Anton Ferry Ananda, Dedi Sukariyono, M Mastotok Illah, Lianita Widyaratna Kristanti, & Handik Purwantoro. (2025). Implementation of Agile Methods in Production Planning and Control: The Role of Quality as Mediation towards Customer Satisfaction at Be Adab Coffee Shop Malang. *Jurnal Penelitian*, 22(1). <https://doi.org/10.26905/jp.v22i1.16001>

INTRODUCTION

Malang City, which is famous for its cool temperature and comfortable atmosphere, has become one of the growth centers of the coffee shop industry in Indonesia. In recent years, the development of coffee shops in this city has shown a significant trend. The number of new coffee shops that have sprung

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up has created intense competition. Recent data shows that the number of coffee shops in Malang is increasing rapidly, with a variety of unique concepts and offerings trying to attract customers. The table below illustrates the development of the number of coffee shops in Malang over the past three years:

Table 1: Development of coffee shops in Malang City

Year	Number of Coffee Shops	Growth (%)
2021	150	-
2022	210	40
2023	300	42,86

Source: Various Articles, processed, 2025

Table 1 indicates that the growth of coffee shops in Malang is not just a number, but also reflects changes in consumer behavior that increasingly make coffee shops a place to gather, work, and socialize. With more choices, customers have higher expectations of the quality of products and services offered.

In this context, it is important to understand how effective management methods can be applied to improve the quality of products and services. One approach that is gaining popularity in this industry is the Agile method. These methods, which were originally used in software development, are now starting to be adapted in various fields, including production planning and control in coffee shops. According to ([Highsmith, 2009](#)), "Agile methods are a set of principles for software development under which requirements and solutions evolve through the collaborative efforts of self-organizing and cross-functional teams." By applying Agile methods, coffee shops can quickly adapt to changing customer and market needs, so that product quality can be maintained and improved.

However, implementing Agile methods is no easy feat. The process requires a deep understanding of how to integrate various variables to achieve the desired goals. This is where the role of improving quality as a mediating variable becomes very important. According to ([Hair et al. 2010](#)), "Mediation occurs when a variable acts as a mechanism through which an independent variable influences a dependent variable." This variable helps bridge the relationship between the Agile method applied and the expected customer satisfaction.

This research is very important because it provides insight into how coffee shops like Be Adab Coffee Shop can utilize Agile methods not only to improve operational efficiency, but also to provide a better experience for customers. In a competitive industry such as coffee shops, customer satisfaction is key to maintaining loyalty and creating a competitive advantage. According to ([Kotler and Keller, 2016](#)), "Customer satisfaction is the result of a comparison between customer expectations and the actual performance of the product or service received." Therefore, understanding and improving the quality of products and services is a must.

Furthermore, this research can serve as a reference for other coffee shop owners in developing more effective strategies to compete in an increasingly saturated market. According to Gupta and ([Zeithaml, 2006](#)), "Better service quality will result in higher customer satisfaction, which in turn will increase customer loyalty." By understanding the relationship between Agile methods, quality improvement, and customer satisfaction, coffee shop owners can formulate more targeted strategies to achieve their business goals.

Overall, this study aims to explore how the application of Agile methods in production planning and control can positively impact customer satisfaction, with improving quality as a mediating variable. This research is expected to make a meaningful contribution to the development of the coffee shop industry in Malang City and provide a better understanding of the importance of quality in creating a satisfying customer experience. As stated by ([Zeithaml et al., 1996](#)), "Quality is one of the main drivers of customer satisfaction."

In addition, with the increasing number of coffee shops, there is a pressing need to create differentiation in the market. Coffee shops that are able to offer high quality and unique customer experiences have a greater chance of surviving and thriving. Thus, it is important for this study to provide data and analysis that can help coffee shop owners in formulating the right strategy. According to ([Prahalad and Ramaswamy, 2004](#)), "Customer experience is the result of interactions between customers and companies, and is strongly influenced by the quality of products and services offered."

In the face of these challenges, this research is not only important for Be Adab Coffee Shop, but also for the entire coffee shop industry in Malang. The results of this study are expected to make a positive contribution in creating a healthier and more sustainable business environment, where customers are satisfied and keep coming back to enjoy the services offered.

Based on the background of the problems that have been described, the authors make a problem formulation:

- a. How does the Agile Method influence Planning on Customer Satisfaction at Be Adab Coffee Shop Malang?
- b. How does Production Control affect Customer Satisfaction at Be Adab Coffee Shop Malang?
- c. How does the influence of the Agile Method in Planning on Quality at Be Adab Coffee Shop Malang?
- d. How does Production Control affect Quality at Be Adab Coffee Shop Malang?
- e. How does the Agile Method in Planning affect Customer Satisfaction through Quality at Be Adab Coffee Shop Malang?
- f. How does Production Control affect Customer Satisfaction through Quality at Be Adab Coffee Shop Malang?

HYPOTHESES DEVELOPMENT

Based on this research, the hypothesis is described as follows:

- a. Agile Method in Planning to Customer Satisfaction at Be Adab Coffee Shop Malang?
- b. Production Control on Customer Satisfaction at Be Adab Coffee Shop Malang?
- c. Agile method in planning on quality at Be Adab Coffee Shop Malang?
- d. Production Control on Quality at Be Adab Coffee Shop Malang?
- e. Agile Methods in Planning on Customer Satisfaction via Quality at Be Adab Coffee Shop Malang?
- f. Production Control on Customer Satisfaction via Quality at Be Adab Coffee Shop Malang?

METHOD, DATA, AND ANALYSIS

The approach used in this study is a quantitative approach, which focuses on collecting and analyzing numerical data to test hypotheses and measure relationships between variables. As stated by (Muijs, 2010), the quantitative approach emphasizes objective measurement and statistical analysis of data collected through various instruments. In this context, this study focuses on the role of quality improvement as a mediating variable between Agile methods in production planning and control and customer satisfaction at Be Adab Coffee Shop.

The type of research applied is descriptive and associative research. Descriptive research aims to provide a clear picture of the state and characteristics of respondents, while associative research focuses on the relationship between independent, mediating, and dependent variables. According to (Creswell, 2014), descriptive research describes the characteristics of a population or phenomenon, while associative research tests the relationship between two or more variables. In this case, the Agile method as the independent variable is expected to improve service quality which will affect customer satisfaction as the dependent variable. Quality improvement serves as a mediating variable that bridges the relationship.

The population in this study includes all customers of Be Adab Coffee Shop. Although the population size is not known with certainty, this research can still be done using the right sampling technique. To determine the sample size, the method described by (Hair et al. 2010), where the sample size is calculated by multiplying the number of indicators used in the study by 10. In this study, eight indicators were identified, so the required sample size was 80 respondents.

Data analysis in this study was carried out using Smart PLS (Partial Least Squares) software. Smart PLS is a statistical analysis tool suitable for testing structural models and measuring relationships

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between variables. According to (Hair et al., 2017), Smart PLS is very useful in exploratory research and theory development because of its ability to handle complex and non-normally distributed data. By using Smart PLS, researchers can analyze the relationship between Agile methods, quality improvement, and customer satisfaction simultaneously. This method is expected to provide a clear picture of how much influence each variable has on customer satisfaction at Be Adab Coffee Shop. The research model is described as follows:

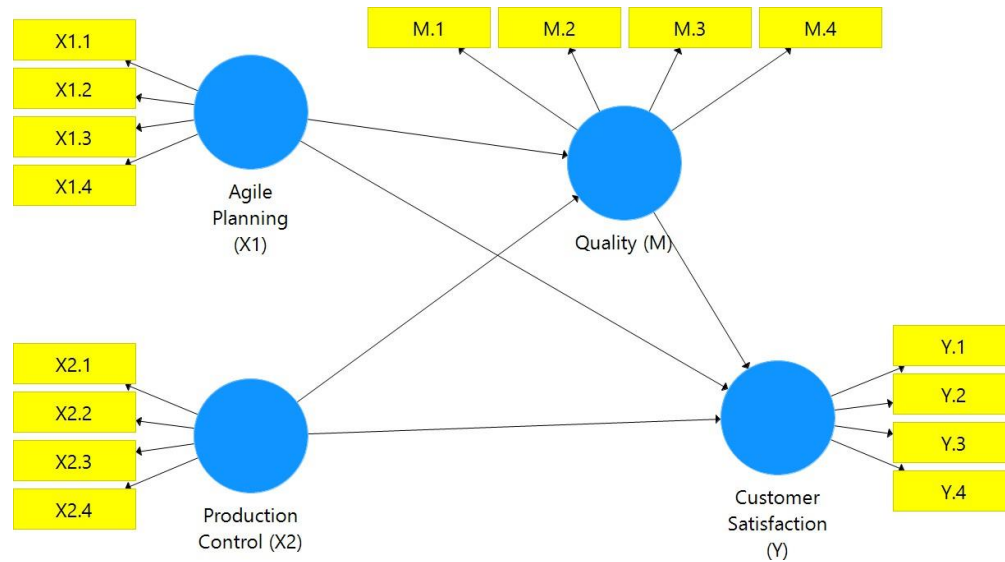


Figure 1: Conceptual Framework
Source: Author's Study (2025)

This research requires a research instrument as a tool to obtain valid data. Data is obtained from a questionnaire or questionnaire developed through the following indicators:

Table 2: Research Instrument

Variable	Indicator	Statement
Agile Method in Planning (X1)	Plan Flexibility R. S. Kaplan and D. P. Norton (2001)	1. Coffee Be Adab is able to change the production plan according to customer demand.
		2. Plan changes at Coffee Be Adab are made quickly to respond to market trends.
	Team Collaboration S. J. Haeckel (1999)	3. Teams at Coffee Be Adab work together in planning production strategies for efficiency.
		4. Collaboration between departments at Coffee Be Adab improves planning effectiveness.
Production Control (X2)	Timeliness J. B. McCarthy (2001)	1. Coffee Be Adab completes production according to a predetermined schedule.
		2. The timeliness of product delivery at Coffee Be Adab contributes to customer satisfaction.
	Use of Technology R. J. Kauffman (2008)	3. Coffee Be Adab utilizes technology to monitor the production process in real-time.
		4. The technology used at Coffee Be Adab helps in product quality control.
Quality (M)	Quality Standard J. M. Juran (1992)	1. Coffee Be Adab applies high quality standards in all its coffee products.

		2. The implementation of quality standards at Coffee Be Adab ensures that customer satisfaction is maintained.
Customer Feedback C. S. V. R. Grönroos (1990)		3. Coffee Be Adab regularly collects feedback from customers to improve product quality.
		4. Customer feedback at Coffee Be Adab is used to make continuous improvements.
Customer Satisfaction (Y)	Customer Loyalty A. Parasuraman et al. (1988)	1. Coffee Be Adab customers show high loyalty to the products offered.
		2. The level of customer satisfaction at Coffee Be Adab influences their decision to return.
	Value Perception R. L. Oliver (1997)	3. Customers at Coffee Be Adab feel that they get good value from every product purchased.
		4. Customers' perceived value of Coffee Be Adab products increases the desire to recommend.

Source: Author's Study (2023)

RESULTS

Description of respondents

The respondent's description is a description of the respondent's data who filled out the questionnaire in this study and has certain characteristics in obtaining respondents based on gender, age, occupation, and marital status. The descriptions of respondents carried out are based on Gender Based, Respondents Based on Age, Based on Occupation, and Based on Marital Status. With the field results as follows:

Table 3: Respondent Characteristics

No	Gender	Number	Percentage
1	Male	48	60
2	Female	32	40
	Total	80	100
No	Age	Number	Percentage
1	15-25 years old	32	40
2	26-36 years old	23	28,75
3	37-49 years old	19	23,75
4	>50 years old	6	7,5
	Total	80	100
No	Occupation	Number	Percentage
1	Student	41	51,25
2	CIVIL SERVANT	7	8,75
3	Private TNI/Polri	15	18,75
5	Others	1	1,25
	Total	16	20
	Total	80	100
No	Status	Number	Percentage
1	Married	27	33,75
2	Unmarried	52	65
3	Ever Married	1	1,25
	Total	80	100

Source: processed primary data, author, 2023

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The table presented provides an overview of the characteristics of respondents based on gender, age, occupation, and marital status. Out of a total of 80 respondents, there are 60% men and 40% women, indicating male dominance in this sample. In the age category, the majority of respondents were aged 15 to 25 years old, accounting for 40% of the total, followed by the 26 to 36 age group at 28.75%, and 37 to 49 years old comprising 23.75%. Only 7.5% of respondents were above the age of 50.

In terms of occupation, 51.25% of respondents were students, while 8.75% were civil servants and 18.75% worked in the private sector. Only one respondent was from the military/police. In terms of marital status, 65% of respondents were unmarried, while 33.75% were married and 1.25% had been married. This data provides important insights into the demographics and social background of respondents that can be useful for further analysis.

Structural Model Analysis

The structural model in this study can be seen in Figure 3. According to Santoso (2012), the main criterion for testing the overall model fit is the Chi-Square (CMIN) calculation. The test results can be seen in the Smart pls output as in Table 3.

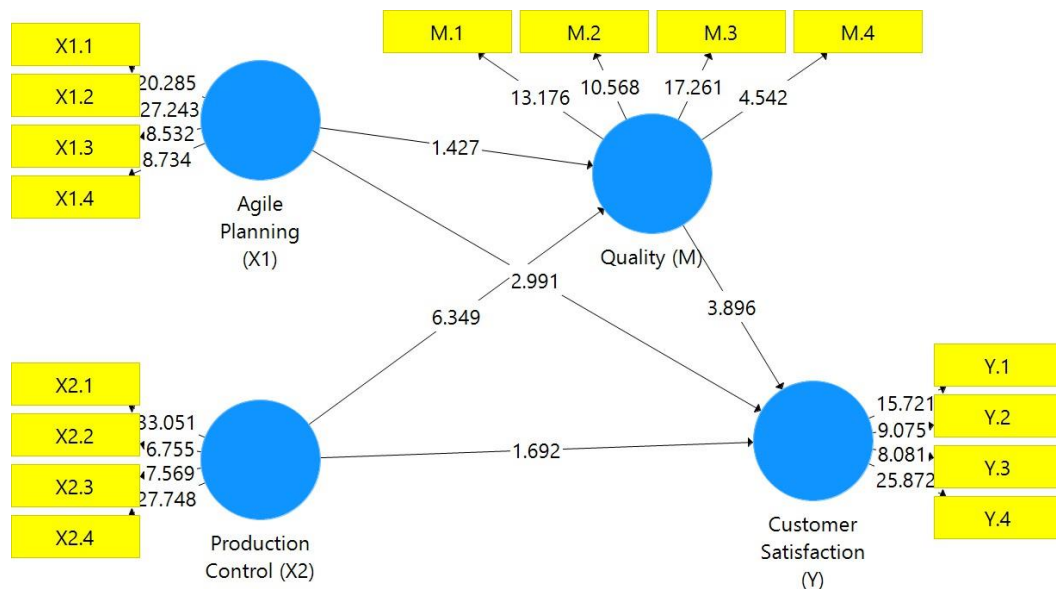


Figure 2: Path Analysis Results

Table 4: Path Analysis Results

Direct and indirect effect	T Statistics (O/STDEV)	P Values	Sig
Agile Planning (X1) -> Customer Satisfaction (Y)	2,991	0,003	Sig
Agile Planning (X1) -> Quality (M)	1,427	0,154	No Sig
Production Control (X2) -> Customer Satisfaction (Y)	1,692	0,091	No Sig
Production Control (X2) -> Quality (M)	6,349	0,000	Sig
Quality (M) -> Customer Satisfaction (Y)	3,896	0,000	Sig
Agile Planning (X1) -> Quality (M) -> Customer Satisfaction (Y)	1,289	0,198	No Sig
Production Control (X2) -> Quality (M) -> Customer Satisfaction (Y)	3,012	0,003	Sig

Source: Primary data, processed (2025) Table 3: Analysis Output using Smart PLS

DISCUSSION

Hypothesis Test

In the Classical Assumption Test, the normality test results show that the regression model is normally distributed because it follows the diagonal line. In the multicollinearity test, there is no multicollinearity if the tolerance value > 0.100 and the VIF value < 10.00 . The results of the test show that the tolerance value > 0.100 and the VIF value < 10.00 so that there is no multicollinearity. Meanwhile, in the heteroskedasticity test, no symptoms of heteroskedasticity were found because the data had spread and were above the number 0 on the Y axis. In the Hypothesis Test, it can be seen in the P Value, the results can be known as follows:

Hypothesis 1: Agile Method in Planning affects Customer Satisfaction

The results show that the effect of the Agile method in planning on customer satisfaction has a T Statistics value of 2.991 with P Values of 0.003, which means significant. This shows that the application of Agile methods in planning can contribute positively to customer satisfaction at Be Adab Coffee Shop. This states that the first hypothesis is accepted.

Hypothesis 2: Agile method in planning has an effect on quality

The results show that the effect of the Agile method in planning on customer satisfaction has a T Statistics value of 1.427 with P Values of 0.154, which means significant. This shows that the application of Agile methods in planning can contribute positively to customer satisfaction at Be Adab Coffee Shop. This states that the second hypothesis is rejected.

Hypothesis 3: Production Control affects Customer Satisfaction

The results for this hypothesis show T Statistics of 1.692 and P Values of 0.091, which are not significant. This indicates that production control does not have a significant influence on customer satisfaction at Be Adab Coffee Shop. Nonetheless, this may suggest that other factors in production control need to be explored further to understand their impact. This states that the second hypothesis is rejected.

Hypothesis 4: Production Control has an effect on Quality

The results for this hypothesis show T Statistics of 6.349 and P Values of 0.000, which is not significant. This indicates that production control has a significant influence on quality at Be Adab Coffee Shop. Nonetheless, this may suggest that other factors in production control need to be explored further to understand their impact. This states that the third hypothesis is accepted.

Hypothesis 5: Quality has an effect on Satisfaction

For this hypothesis, the T Statistics value of 3.896 and P Values of 0.000 indicate that the relationship between quality and satisfaction is significant. This indicates that although quality methods can improve quality, the results are strong enough to prove a significant relationship at Be Adab Coffee Shop. This states that the fifth hypothesis is accepted.

Hypothesis 6: Agile Method in Planning has an effect on Customer Satisfaction through Quality

The T Statistics value of 1.289 and P Values of 0.198 indicate that there is no significant effect of Agile methods in planning on customer satisfaction through quality. This indicates that although quality is important, Agile methods do not directly contribute to customer satisfaction through quality improvement. This states that the fifth hypothesis is rejected.

Hypothesis 7: Production Control has an effect on Customer Satisfaction through Quality

The results show that production control has a significant effect on customer satisfaction through quality with T Statistics 3.012 and P Values 0.003. This shows that the quality resulting from effective production control can increase customer satisfaction at Be Adab Coffee Shop. This states that the sixth hypothesis is accepted.

Discussion of Research Results

1) Agile Method in Planning affects Customer Satisfaction

The results showed that the effect of the Agile method in planning on customer satisfaction at Be Adab Coffee Shop has a T Statistics value of 2.991 with P Values of 0.003, which means significant. This shows that the application of Agile methods in planning can contribute positively to customer satisfaction, so the first hypothesis is accepted. The application of Agile methods at Be Adab Coffee Shop can be seen in several key indicators. First, Be Adab Coffee has the ability to change the production plan according to customer demand. This flexibility is very important in a dynamic industry, where customer needs can change quickly. With this ability, Be Adab can ensure that the products offered are always relevant and in line with customer expectations.

In addition, changes in plans at Coffee Be Adab are made quickly to respond to market trends. This quick response to change not only increases customer satisfaction, but also creates a positive image for the brand. Customers tend to be more satisfied when they feel that the company is able to fulfill their needs efficiently. Teamwork is also an important aspect in the implementation of Agile methods at Be Adab. The team at Coffee Be Adab works together in planning production strategies to achieve efficiency. Good collaboration between team members allows the planning process to be faster and more effective, which in turn contributes to customer satisfaction.

Furthermore, collaboration between departments at Coffee Be Adab increases the effectiveness of planning. Good communication between departments helps in faster and more informed decision-making, ensuring that all aspects of production and customer service go hand in hand. The theory of Agile supports the results of this study, where ([Highsmith, 2009](#)) states that Agile methods encourage adaptive planning, evolutionary development, and continuous improvement. Research by ([Dyer and Eric, 2010](#)) also confirms that Agile practices can increase customer satisfaction by encouraging collaboration and adaptability in teams.

2) Agile Method in Planning affects Quality

The results showed that the effect of Agile methods in planning on customer satisfaction at Be Adab Coffee Shop has a T Statistics value of 1.427 with P Values 0.154. Because this P value is greater than 0.05, the second hypothesis is rejected. This indicates that the application of Agile methods in planning has no significant effect on customer satisfaction. Although Agile methods are often praised for their ability to increase responsiveness and flexibility in planning, this result shows that not all aspects of Agile methods directly contribute to increased customer satisfaction. One possibility is that although there are Agile elements implemented, such as collaboration and adaptation to change, other factors may be more dominant in influencing customer satisfaction at Be Adab Coffee Shop.

Research by ([Cohn, 2005](#)) states that "Agile practices can enhance team performance, but their direct impact on customer satisfaction may vary depending on the context and how well they are implemented." ([Cohn, 2005](#)). This suggests that while Agile has potential, its success in improving customer satisfaction is highly dependent on effective implementation and the specific context of the organization. In addition, a study by ([Toman and Karp, 2015](#)) emphasized that "the connection between Agile methodologies and customer satisfaction is complex and influenced by multiple factors, including the quality of communication within teams and the alignment of business goals." ([Toman & Karp, 2015](#)). This suggests that even if Agile methods are applied, other factors such as communication and clear business goals may need to be considered to truly improve customer satisfaction.

Thus, although Agile methods have advantages in improving efficiency and collaboration, the results of this study show that their contribution to customer satisfaction at Be Adab Coffee Shop is not significant enough. Further research is needed to explore other factors that may play a role in influencing customer satisfaction.

3) Production Control affects Customer Satisfaction

The results showed that the effect of production control on customer satisfaction at Be Adab Coffee Shop has a T Statistics value of 1.692 with P Values of 0.091. Because this P value is greater than 0.05, the second hypothesis is rejected. This indicates that production control does not have a significant effect on customer satisfaction at Be Adab Coffee Shop. Although production control is an important aspect of business operations, this result suggests that other factors may be more dominant in influencing customer satisfaction in the context of Be Adab Coffee Shop. Production control focuses on efficiency, quality, and resource management in the production process ([Evans & Collier, 2007](#); [Stevenson, 2018](#)). However, in the coffee shop industry, factors such as service quality, location, ambience, and specific product quality (taste, aroma, freshness of coffee) often have a more direct impact on customer perception and satisfaction ([Duman, 2020](#); [Lee et al., 2021](#)).

Other research supports these findings. For example, a study on coffee shop customer satisfaction factors at Kopixel Jember found that customer satisfaction is influenced by products, prices, services, facilities, and atmosphere ([Suhud et al., 2019](#)). Other studies also show that service quality and coffee shop location affect visitor satisfaction ([Lee et al., 2021](#)). According to ([Ishikawa, 2016](#)), quality control is about researching, developing, and ensuring customer satisfaction, including providing good service. This emphasizes that quality control (which is part of production control) must focus on meeting customer needs and expectations.

4) Production Control affects Quality

The results showed that the effect of production control on quality at Be Adab Coffee Shop had a T Statistics value of 6.349 with a P Values of 0.000. Because this P value is smaller than 0.05, the third hypothesis is accepted. This indicates that production control has a significant effect on quality at Be Adab Coffee Shop. Production control is a process designed to ensure that the production activities of an organization run in accordance with predetermined plans and standards (Acer Indonesia, 2024). Production control needs to be carried out to achieve efficiency, consistency, and effectiveness in the production process, so that the products or services produced meet the quality standards desired by the company and according to consumer demand (Acer Indonesia, 2024).

According to ([Sofjan Assauri, 2004](#)), production control is a company management activity to maintain and direct that the quality of the company's products and services can be maintained as planned, so that the products or services produced can meet consumer satisfaction. In the context of coffee shops, production control can cover various aspects, including controlling the quality of raw materials, the coffee-making process, and serving standards. Controlling the quality of raw materials is important to ensure that the coffee used is of good and consistent quality ([Ramadhan, 2019](#)). A controlled coffee-making process is also important to ensure that each cup of coffee served has a taste and aroma that conforms to the standard ([Ishikawa, 2016](#)).

Other studies also support these findings. For example, research on the effect of production processes and quality control on the quality of spun pile products at PT Kunango Jantan Rimbo Panjang shows that quality control has a positive and significant effect on product quality ([Purnomo et al., 2023](#)). Research on the analysis of production process control to improve product quality at CV.CO also shows that good production process control can improve product quality ([Budiartami & Wijaya, 2019](#)).

5) Quality affects satisfaction

The results show that the T Statistics value of 3.896 and P Values of 0.000 indicate that the relationship between quality and satisfaction is significant. Since this P value is smaller than 0.05, the fifth hypothesis is accepted. This indicates that although quality methods can improve quality, the results are strong enough to prove a significant relationship at Be Adab Coffee Shop.

Product and service quality plays a crucial role in shaping customer satisfaction. Customers tend to feel satisfied if the products or services they receive meet or exceed their expectations ([Kotler & Armstrong, 2012](#)). In the context of coffee shops, quality can include

various aspects, such as coffee flavor, quality of raw materials, cleanliness, atmosphere, and service ([Duman, 2020](#); [Lee et al., 2021](#)). According to the Expectation-Confirmation Theory (ECT) theory, customer satisfaction is the result of a comparison between customers' expectations before purchase and their perceptions of product or service performance after purchase ([Oliver, 1980](#)). If performance matches or exceeds expectations, customers will feel satisfied. Conversely, if performance is below expectations, customers will feel dissatisfied.

Empirical research also supports the positive relationship between quality and customer satisfaction. For example, research conducted by ([Devi, 2021](#)) at Massa Coffee Shop Bandung shows that service quality has a significant influence on customer satisfaction. Another study at Drop Coffee Medan also found a strong and significant positive relationship between service quality and customer satisfaction ([Ariga, 2023](#)).

6) Agile Method in Planning has an effect on Customer Satisfaction through Quality

The results show a T Statistics value of 1.289 and P Values of 0.198, which means that there is no significant effect of Agile methods in planning on customer satisfaction through quality. Since this P value is greater than 0.05, the fifth hypothesis is rejected. This indicates that although quality is important, Agile methods do not directly contribute to customer satisfaction through quality improvement in the studied context.

The Agile method is a software development approach that emphasizes flexibility, collaboration, and response to change ([Fittechinova, 2024](#); [ION Network Blog, 2025](#)). In project planning, Agile allows teams to adapt quickly to changing needs and priorities ([IURTIKOM, 2024](#)). The goal is to deliver high-quality products that meet customer needs by maximizing business value and reducing risk ([ION Network Blog, 2025](#)). Although Agile is often associated with improved product quality ([IURTIKOM, 2024](#)), the results of this study show that in certain contexts, Agile implementation in planning does not automatically improve customer satisfaction through quality improvement. This may be due to several factors. First, quality may be affected by other factors beyond Agile planning, such as the skills of the team, the technology used, or the testing process ([IURTIKOM, 2024](#)). Second, customers may pay more attention to other aspects besides quality, such as price, delivery speed, or service ([Duman, 2020](#); [Lee et al., 2021](#)).

Expectation-Confirmation Theory (ECT) explains that customer satisfaction is influenced by the comparison between customer expectations and their perceptions of product or service performance ([Oliver, 1980](#)). If the Agile implementation in planning does not meet customer expectations regarding quality, then customer satisfaction will not increase, even though the product quality objectively increases.

Research by ([IURTIKOM, 2024](#)) showed that the adoption of Agile methods significantly increased the responsiveness of project teams to change and improved the quality of the final product. However, this study also emphasized that the success of Agile implementation is highly dependent on team readiness and organizational culture. Another study by ([Fadli, 2024](#)) highlights the main challenges in implementing Agile, including organizational culture, stakeholder involvement, and risk management.

7) Production Control has an effect on Customer Satisfaction through Quality

The results show that production control has a significant effect on customer satisfaction through quality with T Statistics 3.012 and P Values 0.003. Since this P value is smaller than 0.05, the sixth hypothesis is accepted. This shows that the quality resulting from effective production control can increase customer satisfaction at Be Adab Coffee Shop.

Production control is a process designed to ensure that the production activities of an organization run in accordance with predetermined plans and standards ([Acer Indonesia, 2024](#)). Effective production control includes production planning, production monitoring, quality control, inventory management, and setting production schedules ([Acer Indonesia, 2024](#)). The purpose of production control is to achieve efficiency, consistency, and effectiveness in the production process, so that the products or services produced meet the quality standards desired

by the company and according to consumer demand (Acer Indonesia, 2024; [Stevenson, 2018](#)).

Product quality, as a result of good production control, has an important role in creating customer satisfaction ([Kotler & Armstrong, 2012](#); [Duman, 2020](#)). Customers will feel satisfied if the products or services they receive meet or exceed their expectations ([Kotler & Armstrong, 2012](#); [Lee et al., 2021](#)). In the context of coffee shops, quality can include various aspects, such as coffee flavor, quality of raw materials, cleanliness, ambience, and service ([Duman, 2020](#)). Good production control will ensure that all these aspects are maintained and consistent, thus increasing customer satisfaction. According to Total Quality Management (TQM) theory, quality control is an integral part of production control ([Ishikawa, 2016](#)). TQM emphasizes the importance of involving all members of the organization in efforts to improve quality on an ongoing basis ([Ishikawa, 2016](#)). By implementing TQM, companies can ensure that every production process is well supervised and controlled, resulting in high-quality products that meet customer expectations ([Ishikawa, 2016](#)).

Other studies also support these findings. For example, research on the relationship between production planning and quality control to customer satisfaction at Makassar Branch Theory Coffee shows that quality control has a positive and significant effect on customer satisfaction (Sulaiman et al., 2023). Research on the effect of product quality control on customer satisfaction at UD. Wery Bakery Miga Gunung Sitoli City also shows that product quality has a positive and significant effect on customer satisfaction ([Duman, 2020](#)).

CONCLUSION

The results show that the application of Agile methods and production control at Be Adab Coffee Shop has a significant impact on customer satisfaction, although with different nuances. In the context of Agile, the method is proven to increase customer satisfaction with flexibility in planning that allows Be Adab to customize products and services according to customer needs and expectations. The ability to respond to changes quickly creates a positive image and improves customer perception of the brand. Strong collaboration between teams also plays an important role, as it enables more efficient and effective planning, which in turn contributes to customer satisfaction. In contrast, production control, while not having a significant direct influence on customer satisfaction, demonstrates the importance of quality as a key element. Good production control ensures that the products offered meet the quality standards that customers expect. Product quality, which includes taste, raw materials, and service, is a critical factor that affects satisfaction. In this case, production control serves as a guarantee that all aspects related to quality are maintained.

Although the results show that not all elements of Agile methods and production control directly increase customer satisfaction, the importance of quality remains a common thread that links the two aspects. Total Quality Management (TQM) theory supports this view, emphasizing that the involvement of all members of the organization in quality control contributes to higher customer satisfaction.

ACKNOWLEDGEMENT

With gratitude, we would like to thank the Institute for Research and Community Service (LPPM) STIEKMA Malang for providing support and facilities in the implementation of this research. We also thank the owners and consumers of Be Adab Coffee Shop Malang, who have participated and provided valuable insights during the research process.

We appreciate our fellow lecturers who have provided us with valuable guidance, advice and encouragement. In addition, we would also like to express our gratitude to all those who we cannot mention one by one, who have helped and supported this research in various ways. Without the help and support of all parties, this research would not have been realized. Thank you for all your contributions and cooperation.

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