
The Effect of Organizational Capabilities on Customer Satisfaction in Indonesian Private Hospitals

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Abstract

Customer satisfaction is an important indicator for assessing the success of private hospital services, particularly in an increasingly competitive and digitalized healthcare environment. Private hospitals are required not only to provide good clinical services but also to deliver accurate information, responsive communication, an understanding of customer needs, and adequate technological support. This study aims to analyze the effect of organizational capabilities on Customer Satisfaction in Indonesian private hospitals. Organizational capabilities in this study include Health Information Technology, Market Linking, Social Media, and Technology Infrastructure. This study employed a quantitative approach with an explanatory design. Data were collected using questionnaires from a purposive sample of 180 directors of private hospitals in Indonesia and were analyzed using multiple linear regression. The results show that organizational capabilities simultaneously have a significant effect on Customer Satisfaction. The R-square value of 0.974 indicates that 97.4% of the variation in customer satisfaction can be explained by the four organizational capability variables. Partially, Health Information Technology was found to be the most dominant predictor, with a positive and significant effect on Customer Satisfaction, followed by Social Media, which also had a positive and significant effect. Meanwhile, Market Linking did not show a significant direct effect on Customer Satisfaction. Technology Infrastructure showed a significant but negative effect; therefore, this result should be interpreted cautiously due to the strong relationships among the organizational capability variables. These findings emphasize that improving customer satisfaction in Indonesian private hospitals should primarily focus on strengthening health information technology and professional social media management, while ensuring that market understanding and technology infrastructure are effectively integrated into service innovation and customer-centered service processes.

Keywords: customer satisfaction, health information technology, social media, technology infrastructure, Indonesian private hospitals

1. Introduction

Customer satisfaction is an important indicator for assessing hospital success, particularly for private hospitals facing increasingly intense competition in healthcare services. Indonesia had 1,927 private hospitals as of 2022, and private facilities accounted for a substantial proportion of the national hospital sector; therefore, customer satisfaction in private hospitals has become an important managerial and policy issue in Indonesia's healthcare market (Orissa International & Intralink Limited, 2025). In healthcare, customer satisfaction is not determined solely by clinical outcomes but also by communication quality, ease of access to services, administrative speed, clarity of information, trust, perceived value, facility comfort, and the overall patient experience. Patient satisfaction is viewed as a multidimensional construct influenced by service quality, patient interactions with healthcare professionals, service processes, infrastructure, hospital image, trust, and the effectiveness of services received by patients (Alibrandi et al., 2023; Ferreira et al., 2023; Perneger et al., 2020; Prakoeswa et al., 2022). In the context of private hospitals, customer satisfaction is becoming increasingly strategic because patients have wider service choices and tend to compare service experiences across healthcare providers. Therefore, hospitals need to build service systems that are fast, responsive, transparent, accessible, and aligned with customer needs. Patient experience, service quality, hospital image, trust, and perceived value have been shown to be closely associated with patient satisfaction and loyalty (Ubery & Ernawaty, 2024).

One relevant approach to explaining improvements in customer satisfaction is the organizational capability perspective. Organizational capability describes the ability of hospitals to manage resources, technology, information, customer relationships, and internal processes to deliver superior services, which is consistent with the resource-based view and dynamic capability perspective (Barney, 1991; Teece et al., 1997). In a rapidly changing healthcare environment, organizational capabilities are important because hospitals are required to adapt to digital technology development, changing patient needs, increasing service expectations, and operational efficiency pressures (Lee & Yoon, 2020; Stoumpos et al., 2023). One important dimension is Health Information Technology, namely the ability of hospitals to use health information technology to improve the accuracy, completeness, timeliness, security, availability, and integration of service information. Hospital digitalization can improve data access, support clinical workflows, enhance service coordination, and strengthen the experiences of healthcare professionals and patients (Canfell et al., 2024; van de Wetering & Versendaal, 2021).

Digital transformation in healthcare is not only related to the use of software or information systems, but also includes organizational strategy, data governance, technology acceptance, information security, interoperability, telemedicine, patient service applications, and data utilization for decision-making. Successful digitalization is strongly influenced by organizational readiness, user acceptance, system integration, management support, human-centered design, and the ability of technology to improve service quality (Dodson et al., 2024; Mauro et al., 2024; Stoumpos et al., 2023; Wang et al., 2024). In addition, Technology Infrastructure is an essential foundation in modern hospital services because it includes hardware, software, networks, data storage, system security, digital platforms, and technical support. Hospital digital maturity is

associated with patient experience, service quality, patient safety, and organizational ability to manage data in real time (Aytekin et al., 2025; Cresswell et al., 2025; Livieri et al., 2025; Snowdon et al., 2024).

Another dimension of organizational capability is Market Linking, namely the ability of hospitals to understand customer needs, read market changes, build relationships with patients, and adjust services to customer expectations. In private hospitals, Market Linking is important because patients are not only recipients of clinical services but also customers who demand access, convenience, communication, transparency, and a positive service experience. Responsive and proactive market orientation can encourage service program innovation and improve hospital performance (Dąbrowski et al., 2025). Customer orientation and service innovation also play a role in improving patient satisfaction because patient needs must be translated into concrete improvements in services, processes, and customer experience (Yeboah & Amponsah, 2025; Dąbrowski et al., 2025).

Digital development has also made Social Media an important organizational capability in healthcare services. Social media can be used by hospitals to disseminate service information, communicate with patients, strengthen institutional image, receive feedback, respond to complaints, and monitor public perceptions of service quality. Social media is widely used in health communication, education, health promotion, social support, and information dissemination (Chen & Wang, 2021). Social media-based social support can increase patient empowerment, while patient empowerment is positively associated with patient satisfaction (Khan et al., 2022). Web-based patient reviews and complaints can also provide real-time information for hospital managers to understand service problems and patient experience (Rahim et al., 2021; Sulaiman et al., 2025). Therefore, examining Health Information Technology, Market Linking, Social Media, and Technology Infrastructure in relation to Customer Satisfaction is important for understanding the role of organizational capabilities in improving customer satisfaction in Indonesian private hospitals.

1.1. Research Significance, Previous Empirical Studies, and Contribution

This study is significant because Indonesian private hospitals operate in a healthcare environment characterized by digital transformation, stronger patient choice, and increasing demand for transparent and responsive services. Previous studies have examined patient satisfaction, service quality, hospital digitalization, social media use, patient reviews, and customer orientation in healthcare, but these studies generally focus on one service or technology dimension rather than examining several organizational capabilities simultaneously (Alibrandi et al., 2023; Canfell et al., 2024; Khan et al., 2022; Rahim et al., 2021; Snowdon et al., 2024; Yeboah & Amponsah, 2025). Therefore, a study that integrates Health Information Technology, Market Linking, Social Media, and Technology Infrastructure is needed to explain how organizational capabilities shape customer satisfaction in private hospitals.

The theoretical contribution of this study is the development of an integrated organizational capability perspective in the context of Indonesian private hospitals. This study links the

resource-based view and dynamic capability perspective with customer satisfaction by showing that hospitals need not only clinical resources but also digital, market, communication, and infrastructure capabilities to create better customer value (Barney, 1991; Teece et al., 1997). The empirical contribution is the use of data from 180 private hospital directors, which provides an organizational-level perspective on how managerial capabilities influence customer satisfaction. The managerial contribution is that the findings can help private hospital leaders prioritize health information technology, social media management, market responsiveness, and technology infrastructure as strategic tools for improving patient-centered service performance.

2. Literature Review and Hypothesis Development

2.1. Customer Satisfaction in Hospital Services

Customer Satisfaction is one of the key indicators for assessing the success of hospital services. In healthcare, customer satisfaction is not only determined by clinical success but also by the patient experience during service delivery, including ease of access, service speed, staff communication, clarity of information, facility comfort, sense of safety, trust, and perceived value. Patient satisfaction is also understood as a multidimensional construct because it is influenced by technical service aspects, interpersonal aspects, administrative processes, the physical environment, and patient perceptions of the quality of services received (Alibrandi et al., 2023; Ferreira et al., 2023; Perneger et al., 2020).

In private hospitals, customer satisfaction is increasingly strategic because patients have broader service choices and can compare service experiences across hospitals. Private hospitals are not only required to provide high-quality clinical services but also to deliver service experiences that are fast, accessible, informative, responsive, and customer-oriented. Recent studies show that patient satisfaction is closely related to loyalty, trust, recommendations, and perceptions of hospital quality (Yeboah & Amponsah, 2025).

Thus, Customer Satisfaction in this study is understood as customers' perceptions of the extent to which hospitals are able to meet or exceed customer expectations through information quality, interactions, service processes, service access, and the overall service experience. In the context of Indonesian private hospitals, customer satisfaction is an important measure because it is related to competitiveness, hospital image, and the sustainability of relationships between hospitals and customers.

2.2. Organizational Capabilities

Organizational capability refers to an organization's ability to manage, integrate, and utilize resources to achieve better performance. The resource-based view explains that valuable, rare, inimitable, and non-substitutable resources and capabilities can become sources of organizational competitive advantage (Barney, 1991). In the hospital context, resources include not only physical assets and human resources but also information systems, technology, data, customer relationships, reputation, managerial processes, and the organization's ability to respond to patient needs.

Furthermore, the dynamic capabilities perspective emphasizes that organizations need the ability to integrate, build, and reconfigure internal and external resources to adapt to environmental changes. Private hospitals operate in a dynamic environment characterized by digital technology development, changing patient expectations, increasing service competition, and the need for operational efficiency. Therefore, organizational capabilities are important because they help hospitals adapt and create better service value for customers (Teece et al., 1997).

In this study, the organizational capabilities of private hospitals are represented by four main dimensions: Health Information Technology, Market Linking, Social Media, and Technology Infrastructure. These dimensions were selected because they reflect the hospital's ability to manage health information, understand market needs, build digital communication with customers, and provide a technological foundation to support modern hospital services.

2.3. Health Information Technology and Customer Satisfaction

Health Information Technology is the hospital's ability to use information technology to support health data management, service processes, information security, clinical coordination, and service communication more effectively. This technology includes hospital information systems, electronic medical records, patient data integration, digital administration, telemedicine, patient service applications, and other digital platforms that help hospitals provide faster, more accurate, secure, and integrated services. In modern healthcare, hospital digitalization can improve data access and support clinical processes, although its impact on patient experience and satisfaction still requires further empirical strengthening in various hospital contexts (Alotaibi & Federico, 2017; Black et al., 2011; Canfell et al., 2024; Du & Gu, 2024). Successful digital transformation also depends not only on the availability of technology but also on organizational readiness, user acceptance, management support, data interoperability, and information security (Lee & Yoon, 2020; Stoumpos et al., 2023; van de Wetering & Versendaal, 2021). Therefore, Health Information Technology has the potential to improve Customer Satisfaction because it can speed up services, reduce data errors, improve service communication, increase access to medical information, and create a more positive patient experience. Based on this explanation, the following hypothesis is proposed:

H1: Health Information Technology has a positive effect on Customer Satisfaction in Indonesian private hospitals.

2.4. Market Linking and Customer Satisfaction

Market Linking is the hospital's ability to understand customer needs, read market changes, build relationships with patients, and adjust services to customer expectations. In the context of private hospitals, this capability includes monitoring patient preferences, managing market information, and developing services that meet customer needs from both clinical and non-clinical perspectives. Hospitals with strong Market Linking are better able to respond to patient needs related to easy service access, clear communication, cost transparency, fast administrative processes, service comfort, and complaint handling. Recent research shows that responsive and

proactive market orientation can encourage service program innovation and contribute to hospital performance (Dąbrowski et al., 2025). In addition, customer orientation can support service innovation and improve patient satisfaction, but its effect depends on the extent to which hospitals translate customer understanding into real improvements in service processes and experiences (Yeboah & Amponsah, 2025). Therefore, Market Linking is expected to improve Customer Satisfaction when market information and customer needs are converted into policies, service innovation, and improvements in patient experience. Based on this explanation, the following hypothesis is proposed:

H2: Market Linking has a positive effect on Customer Satisfaction in Indonesian private hospitals.

2.5. Social Media and Customer Satisfaction

Social Media is an important organizational capability in modern hospital services because it enables hospitals to build two-way communication, disseminate service information, provide health education, respond to complaints, and monitor public perceptions of service quality. In the health sector, social media has become an important part of health communication, public education, health promotion, social support, information dissemination, and patient engagement (Chen & Wang, 2021). Social media can also improve Customer Satisfaction because customers need information that is fast, accessible, clear, and trustworthy. Through social media, hospitals can share service schedules, doctor information, service procedures, registration information, and respond to customer questions and complaints. Responsive communication can strengthen trust, increase the feeling of being cared for, and build positive relationships between hospitals and patients. In addition, social media-based social support can enhance patient empowerment and is associated with patient satisfaction (Khan et al., 2022). Patient reviews on social media can also serve as an additional source of information for hospital management to understand customer experiences and monitor service quality, making social media not only a promotional tool but also an instrument for customer experience management (Rahim et al., 2021). Based on this explanation, the following hypothesis is proposed:

H3: Social Media has a positive effect on Customer Satisfaction in Indonesian private hospitals.

2.6. Technology Infrastructure and Customer Satisfaction

Technology Infrastructure is the technical foundation that supports the implementation of information technology and digital hospital services. This infrastructure includes hardware, software, internet networks, servers, data storage systems, information security, digital platforms, and technical support that enable hospital services to operate in a stable, secure, and integrated manner. In modern hospitals, processes such as patient registration, electronic medical records, queue systems, digital payments, internal communication, reporting, and patient information services rely heavily on adequate technology infrastructure. Research on digital maturity shows that hospital digital maturity can contribute to service quality and safety outcomes because it enables more automated data flows across systems and helps clinicians and leaders monitor

service performance more effectively (Snowdon et al., 2024). However, Technology Infrastructure does not automatically improve Customer Satisfaction. It will affect customer satisfaction when it is translated into service processes that are faster, easier, safer, more responsive, and more valuable to patients. Therefore, Technology Infrastructure is expected to influence Customer Satisfaction because it supports the effectiveness of Health Information Technology, accelerates service processes, and improves the quality of patient experience, although its effect strongly depends on the quality of implementation and integration with customer needs. Based on this explanation, the following hypothesis is proposed:

H4: Technology Infrastructure has a positive effect on Customer Satisfaction in Indonesian private hospitals.

2.7. Simultaneous Relationship between Organizational Capabilities and Customer Satisfaction

Health Information Technology, Market Linking, Social Media, and Technology Infrastructure are interrelated dimensions of organizational capabilities that shape the hospital customer experience. Health Information Technology helps hospitals manage information and service processes digitally. Technology Infrastructure provides the technical foundation for digital systems to operate reliably. Market Linking helps hospitals understand customer needs. Social Media strengthens communication, interaction, and customer feedback. These four capabilities can work simultaneously to improve Customer Satisfaction. Hospitals with strong health information technology but inadequate infrastructure will find it difficult to deliver optimal digital services. Conversely, strong technological infrastructure without customer communication and market understanding may not necessarily produce high customer satisfaction. Therefore, hospital customer satisfaction should be understood as the outcome of a combination of digital capabilities, market capabilities, communication capabilities, and organizational infrastructure capabilities. Studies on digital hospitals show that hospital digital technology has the potential to support data access and service experience, but its success depends on implementation, adaptation, and its impact on service interactions (Canfell et al., 2024). Meanwhile, studies on social media and customer orientation show that customer relationships, communication, and understanding patient needs are also important aspects in shaping patient satisfaction (Khan et al., 2022; Yeboah & Amponsah, 2025). Thus, this study simultaneously examines the effect of the four dimensions of organizational capabilities on Customer Satisfaction in Indonesian private hospitals. This approach is important because hospitals are complex organizations that require not only technology but also mutually supporting market, communication, and infrastructure capabilities. Based on this explanation, the following hypothesis is proposed: H5: Health Information Technology, Market Linking, Social Media, and Technology Infrastructure simultaneously have a significant effect on Customer Satisfaction in Indonesian private hospitals.

2.8. Empirical Review and Research Gap

Empirical studies on hospital customer satisfaction show that satisfaction is shaped by service quality, patient experience, perceived value, trust, and the quality of interactions between

patients and healthcare providers. Alibrandi et al. (2023) showed that hospital care quality is closely related to patient satisfaction, while Ferreira et al. (2023) confirmed that patient satisfaction assessment in healthcare is multidimensional and depends on technical, interpersonal, and organizational service attributes. In the Indonesian context, Prakoeswa et al. (2022) also showed that satisfaction and loyalty are influenced by hospital service quality and patient experience. These studies support the argument that customer satisfaction is an important outcome of hospital management capability, not merely a clinical outcome.

Empirical research on digital hospitals and health information technology indicates that digital transformation can improve service coordination, information access, patient experience, and organizational performance when it is supported by readiness, integration, user acceptance, and data governance. Canfell et al. (2024) found that digital hospitals can influence patient and clinician experience, while van de Wetering and Versendaal (2021) emphasized the importance of digital dynamic capability and knowledge processes in improving patient agility. Snowdon et al. (2024) also reported that hospital digital maturity is associated with quality and safety outcomes. These findings provide empirical support for examining Health Information Technology and Technology Infrastructure as organizational capabilities that may influence Customer Satisfaction.

Previous empirical studies also show the relevance of market and communication capabilities in healthcare. Dąbrowski et al. (2025) found that responsive and proactive market orientation can stimulate service program innovativeness and hospital performance, while Yeboah and Amponsah (2025) showed that customer orientation can improve patient satisfaction through service innovation. In relation to Social Media, Khan et al. (2022) demonstrated that social media and social support can contribute to patient satisfaction, and Rahim et al. (2021) showed that Facebook reviews can be used as a supplemental tool for monitoring hospital patient satisfaction. Sulaiman et al. (2025) further showed that web-based complaints provide useful information about patient experience in private hospitals. However, limited empirical research has examined Health Information Technology, Market Linking, Social Media, and Technology Infrastructure simultaneously in Indonesian private hospitals. This gap provides the basis for the present study.

3. Method

3.1. Research Design

This study used a quantitative approach with an explanatory design because it aimed to analyze the effect of organizational capabilities on Customer Satisfaction in Indonesian private hospitals. Organizational capabilities in this study consist of Health Information Technology, Market Linking, Social Media, and Technology Infrastructure as independent variables, while Customer Satisfaction serves as the dependent variable. The explanatory design was chosen because this study not only describes the condition of organizational capabilities in private hospitals but also tests the effect of each independent variable on customer satisfaction. Data analysis was

conducted using multiple linear regression because the research model involves more than one independent variable tested simultaneously to explain variations in Customer Satisfaction.

3.2. Population and Sample

The population of this study consisted of private hospitals in Indonesia, with the organizational unit of analysis being private hospitals. Based on the HealthTech trade report prepared for the Ministry of Foreign Affairs of the Republic of Estonia, Indonesia had 1,927 private hospitals as of 2022 (Orissa International & Intralink Limited, 2025). From this population, the study analyzed 180 directors of private hospitals as respondents; therefore, 180 observations were used in the statistical analysis. The sampling technique used was non-probability purposive sampling, because the study required respondents who had strategic authority and knowledge about hospital management, digital technology, market relationships, social media, technological infrastructure, and customer service orientation. The inclusion criteria were: being a director of a private hospital in Indonesia, having authority or strategic knowledge of hospital organizational management, understanding the use of health information technology, social media, customer relationships, and hospital technology infrastructure, and being willing to complete the research questionnaire. The final sample consisted only of complete and valid questionnaires that met these inclusion criteria. The selection of hospital directors was considered appropriate because directors have a comprehensive view of organizational policies and internal hospital capabilities, so their responses can represent the organizational capabilities of private hospitals at the institutional level.

3.3. Types and Sources of Data

This study used primary data. Primary data were obtained directly from respondents through questionnaires distributed to directors of private hospitals in Indonesia. The questionnaire was used to measure respondents' perceptions of hospital organizational capabilities and Customer Satisfaction. The research instrument used a five-point Likert scale: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. The score for each variable was calculated as a composite score based on the average of its indicators.

3.4. Research Variables

This study consists of one dependent variable and four independent variables. The dependent variable is Customer Satisfaction, while the independent variables are Health Information Technology, Market Linking, Social Media, and Technology Infrastructure.

Table 1. Research variables

Variable	Symbol	Role in the Model	Operational Definition
Customer Satisfaction	CS	Dependent	The level of customer satisfaction with private hospital services, reflected in ease of service, clarity of information, responsiveness, comfort, and overall service experience.
Health Information Technology	HIT	Independent	The hospital's ability to use health information technology to support the accuracy, completeness, security, timeliness, and availability of healthcare service information.
Market Linking	ML	Independent	The hospital's ability to understand customer needs, read market changes, build relationships with patients, and adjust services to customer expectations.
Social Media	SM	Independent	The hospital's ability to use social media to deliver information, build communication, receive feedback, respond to complaints, and increase customer engagement.
Technology Infrastructure	TI	Independent	The availability and quality of hardware, software, networks, data storage systems, information security, and digital platforms that support hospital service processes.

3.5. Data Analysis Technique

Data were analyzed using multiple linear regression. The analysis was conducted to determine the effect of Health Information Technology, Market Linking, Social Media, and Technology Infrastructure on Customer Satisfaction in Indonesian private hospitals. The stages of data analysis are presented in Table 2.

Table 2. Stages of data analysis

Stage	Analysis Technique	Purpose
1	Descriptive statistics	To describe the mean, standard deviation, minimum, maximum, skewness, and kurtosis values of each variable.
2	Pearson correlation	To identify the initial relationships among the research variables.
3	Regression assumption testing	To ensure the feasibility of the regression model through normality, heteroscedasticity, autocorrelation, multicollinearity, and outlier tests.
4	Multiple linear regression	To test the simultaneous and partial effects of the independent variables on Customer Satisfaction.
5	F-test	To test the simultaneous effect of HIT, ML, SM, and TI on CS.
6	t-test	To test the partial effect of each independent variable on CS.
7	Coefficient of determination	To determine the contribution of the independent variables in explaining the variation in CS.

3.6. Regression Model

The multiple linear regression model in this study is formulated as follows:

$$CS = \beta_0 + \beta_1HIT + \beta_2ML + \beta_3SM + \beta_4TI + \varepsilon$$

where CS = Customer Satisfaction; β_0 = constant; β_1 – β_4 = regression coefficients; HIT = Health Information Technology; ML = Market Linking; SM = Social Media; TI = Technology Infrastructure; and ε = error term. This model was used to examine the extent to which organizational capabilities consisting of Health Information Technology, Market Linking, Social Media, and Technology Infrastructure affect Customer Satisfaction in Indonesian private hospitals.

3.7. Hypothesis Testing

Hypothesis testing was conducted by examining regression coefficients, t-values, F-values, and significance values. The F-test was used to assess the simultaneous effect of all independent variables on Customer Satisfaction, while the t-test was used to assess the partial effect of each independent variable. The research hypotheses are presented in Table 3.

Table 3. Research hypotheses

Code	Hypothesis
H1	Health Information Technology has a positive effect on Customer Satisfaction in Indonesian private hospitals.
H2	Market Linking has a positive effect on Customer Satisfaction in Indonesian private hospitals.
H3	Social Media has a positive effect on Customer Satisfaction in Indonesian private hospitals.
H4	Technology Infrastructure has a positive effect on Customer Satisfaction in Indonesian private hospitals.
H5	Health Information Technology, Market Linking, Social Media, and Technology Infrastructure simultaneously have a significant effect on Customer Satisfaction in Indonesian private hospitals.

4. Results

4.1. Descriptive Statistics

Descriptive statistics were used to describe the general tendency of each research variable. The data consisted of 180 observations with composite scores ranging from 1 to 5.

Table 4. Descriptive statistics of research variables

Variable	N	Mean	SD	Min	Max	Skewness	Kurtosis
Technology Infrastructure	180	3.98	0.623	2.200	5.000	-0.499	0.325
Health Information Technology	180	4.04	0.571	1.500	5.000	-0.343	1.286
Market Linking	180	3.73	0.577	2.200	5.000	0.055	-0.346
Social Media	180	3.73	0.648	1.333	5.000	-0.769	1.565
Customer Satisfaction	180	4.01	0.528	1.857	5.000	-0.339	1.187

The descriptive results show that all variables had relatively high mean values. Thus, respondents generally gave high assessments of private hospital organizational capabilities and Customer Satisfaction. The variable with the highest mean value was Health Information Technology (4.04), while the lowest values were Market Linking and Social Media (3.73).

4.2. Pearson Correlation among Variables

All organizational capability variables showed strong positive relationships with Customer Satisfaction. The highest correlation with Customer Satisfaction was shown by Social Media (0.974), followed by Health Information Technology (0.972), Technology Infrastructure (0.962), and Market Linking (0.891). However, correlations among the independent variables were also very high, particularly Technology Infrastructure with Social Media (0.976), Technology Infrastructure with Health Information Technology (0.967), and Health Information Technology with Social Media (0.964). This condition indicates potential multicollinearity.

Table 5. Pearson correlation matrix among variables

Variable	TI	HIT	ML	SM	CS
Technology Infrastructure	1.000	0.967	0.894	0.976	0.962
Health Information Technology	0.967	1.000	0.898	0.964	0.972
Market Linking	0.894	0.898	1.000	0.897	0.891
Social Media	0.976	0.964	0.897	1.000	0.974
Customer Satisfaction	0.962	0.972	0.891	0.974	1.000

4.3. Regression Assumption Testing

Assumption testing was conducted to ensure that the regression model was appropriate for interpretation. The tests included residual normality, heteroscedasticity, autocorrelation, outlier/influential cases, and model specification.

Table 6. Summary of regression assumption tests

Assumption	Test	Statistic	p-value	Decision
Residual normality	Shapiro-Wilk	0.990	0.271	Normal
Residual normality	Kolmogorov-Smirnov	0.068	0.354	Normal
Heteroscedasticity	Breusch-Pagan	9.217	0.056	No strong heteroscedasticity
Heteroscedasticity	White Test	18.532	0.184	No heteroscedasticity
Autocorrelation	Durbin-Watson	1.897	-	No serious autocorrelation
Outlier/influential case	Maximum Cook's Distance	0.145	-	No extreme influential cases
Outlier residual	Maximum studentized residual	2.871	-	No extreme outliers
Model specification	Ramsey RESET	7.284	0.008	Caution is required regarding potential model specification issues

Overall, the residuals were normally distributed, no serious heteroscedasticity was found, no disturbing autocorrelation was detected, and no extreme influential cases were identified. However, the significant Ramsey RESET result indicates that the model should be interpreted with caution, especially because the relationships among the organizational capability variables are very strong.

4.4. Multicollinearity Test

The multicollinearity test results show that several independent variables had VIF values above 10, particularly Technology Infrastructure, Social Media, and Health Information Technology. This indicates high multicollinearity. Therefore, the interpretation of partial coefficients should be carried out cautiously. This multicollinearity can explain why Technology Infrastructure had a very strong positive correlation with Customer Satisfaction, but its coefficient became negative in the multiple regression model. This means that when other variables, such as Health Information Technology and Social Media, are controlled simultaneously, the unique contribution of Technology Infrastructure changes direction.

Table 7. Multicollinearity test results

Variable	VIF	Tolerance	Decision
Health Information Technology	18.661	0.054	High multicollinearity
Market Linking	5.596	0.179	Moderate multicollinearity
Social Media	25.083	0.040	High multicollinearity
Technology Infrastructure	27.202	0.037	High multicollinearity

4.5. Multiple Linear Regression Results

Multiple linear regression analysis was conducted to examine the effect of Technology Infrastructure, Health Information Technology, Market Linking, and Social Media on Customer Satisfaction. The R value of 0.987 indicates that the relationship between organizational capabilities and Customer Satisfaction was very strong. The R-square value of 0.974 indicates that 97.4% of the variation in Customer Satisfaction can be explained by Technology Infrastructure, Health Information Technology, Market Linking, and Social Media. Meanwhile, the remaining 2.6% is explained by other factors outside the research model. The Adjusted R-square value of 0.973 indicates that, after adjustment for the number of predictors in the model, the explanatory power of the model remained very high (Table 8).

Table 8. Model summary

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate
1	0.987	0.974	0.973		0.08360

The ANOVA test results show $F = 1611.881$ with a significance value of $0.000 < 0.05$. Therefore, the regression model is significant. This means that Technology Infrastructure, Health Information Technology, Market Linking, and Social Media simultaneously have a significant effect on Customer Satisfaction in private hospitals.

Table 9. ANOVA/F-test

Model	Sum Squares	of df	Mean Square	F	Sig.
Regression	45.064	4	11.266	1611.881	0.000
Residual	1.223	175	0.007		
Total	46.287	179			

Based on the partial test results in Table 10, the multiple linear regression equation formed between private hospital organizational capabilities and customer satisfaction is:

$$CS = 0.645 - 0.118TI + 0.592HIT + 0.008ML + 0.368SM$$

where CS = Customer Satisfaction; TI = Technology Infrastructure; HIT = Health Information Technology; ML = Market Linking; and SM = Social Media.

Table 10. Regression coefficients and partial tests

Variable	B	Std. Error	Beta	t	Sig.	Decision
Constant	0.645	0.050	-	12.813	0.000	-
Technology Infrastructure	-0.118	0.053	-0.145	-2.219	0.028	Significant, negative direction
Health Information Technology	0.592	0.050	0.661	11.917	0.000	Significant, positive direction
Market Linking	0.008	0.026	0.009	0.311	0.756	Not significant
Social Media	0.368	0.048	0.469	7.667	0.000	Significant, positive direction

The results show that Health Information Technology had a positive and significant effect on Customer Satisfaction, with B = 0.592, Beta = 0.661, t = 11.917, and p = 0.000. This result indicates that better implementation of health information technology in private hospitals leads to higher customer satisfaction. This variable was also the most dominant predictor in the model because it had the largest standardized beta value. Social Media also had a positive and significant effect on Customer Satisfaction, with B = 0.368, Beta = 0.469, t = 7.667, and p = 0.000. This finding indicates that the use of social media for communication, service information dissemination, patient interaction, and strengthening relationships with customers can improve customer satisfaction in private hospitals.

Technology Infrastructure had a significant effect on Customer Satisfaction but with a negative direction, with B = -0.118, Beta = -0.145, t = -2.219, and p = 0.028. Statistically, this variable was significant, but the negative direction should be interpreted cautiously because the correlation results show a very strong positive relationship between Technology Infrastructure and Customer Satisfaction. This difference in direction may be due to the high multicollinearity among organizational capability variables, particularly among Technology Infrastructure, Health Information Technology, and Social Media. Market Linking did not have a significant effect on Customer Satisfaction, with B = 0.008, Beta = 0.009, t = 0.311, and p = 0.756. This finding indicates that the hospital's ability to understand the market, manage market relationships, and

respond to customer needs has not provided a significant direct effect on customer satisfaction in this research model.

4.6. Hypothesis Testing Decisions

The results of hypothesis testing are summarized based on the direction of the regression coefficient and the significance value. H1 is supported because Health Information Technology has a positive and significant effect on Customer Satisfaction. H2 is not supported because Market Linking has a positive but non-significant effect. H3 is supported because Social Media has a positive and significant effect on Customer Satisfaction. H4 is not supported because Technology Infrastructure is significant but has a negative coefficient, which contradicts the proposed positive direction. H5 is supported because the F-test shows that the four organizational capability variables simultaneously have a significant effect on Customer Satisfaction.

Table 11. Summary of hypothesis testing decisions

Hypothesis	Statistical Basis	Decision
H1	B = 0.592; t = 11.917; p = 0.000; positive direction	Supported / research hypothesis accepted
H2	B = 0.008; t = 0.311; p = 0.756; non-significant	Not supported / research hypothesis rejected
H3	B = 0.368; t = 7.667; p = 0.000; positive direction	Supported / research hypothesis accepted
H4	B = -0.118; t = -2.219; p = 0.028; negative direction	Not supported because direction differs from hypothesis
H5	F = 1611.881; p = 0.000; simultaneous model significant	Supported / research hypothesis accepted

5. Discussion

This study shows that organizational capabilities consisting of Health Information Technology, Market Linking, Social Media, and Technology Infrastructure simultaneously have a significant effect on Customer Satisfaction in Indonesian private hospitals. Therefore, H5 is accepted because the F-test result indicates that the regression model is statistically significant. The R-square value of 0.974 indicates that 97.4% of the variation in customer satisfaction can be explained by the four dimensions of organizational capabilities, while the remaining 2.6% is explained by other factors outside the research model. This finding demonstrates that customer satisfaction in private hospitals is not only influenced by clinical service quality but is also strongly related to the organization’s ability to manage health information, digital communication, customer needs, and technological infrastructure support. In modern healthcare services, customer satisfaction is understood as a multidimensional construct influenced by

service quality, communication, accessibility, trust, service experience, and the organization's ability to meet patient needs (Ferreira et al., 2023). Based on data involving 180 directors of private hospitals, the regression model indicates that organizational capabilities are strategic factors in explaining customer satisfaction in Indonesian private hospitals.

Partially, Health Information Technology was found to have a positive and significant effect on Customer Satisfaction. This variable was also the most dominant predictor in the model, with a regression coefficient of 0.592, a t-value of 11.917, and a significance value of 0.000. This finding indicates that better implementation of health information technology leads to higher customer satisfaction in private hospitals; therefore, H1 is accepted. Health Information Technology enables hospitals to provide more accurate, complete, timely, secure, and accessible information. In service practice, health information technology can accelerate registration processes, improve patient data management, facilitate access to medical information, reduce administrative errors, and improve coordination across service units. This result is consistent with Canfell et al. (2024), who showed that hospital digitalization can improve data access, support clinical workflows, enhance service coordination, and potentially strengthen patient experience. This finding is also in line with Stoumpos et al. (2023), who emphasized that digital transformation in healthcare is not only related to the use of technology but also to organizational readiness, user acceptance, system integration, data governance, and the ability of technology to improve service quality.

This study suggests that private hospitals should view Health Information Technology not merely as an administrative tool but as a strategic capability for creating better service experiences. Patients and hospital customers increasingly demand services that are fast, transparent, secure, and easily accessible. When hospitals are able to provide information systems that support data completeness, information accuracy, patient data security, and service speed, customers will experience more efficient and trustworthy services. Therefore, strengthening hospital information systems, electronic medical records, patient data integration, information security, and digital patient services should be directed toward improving customer experience, not only internal organizational efficiency.

In addition to Health Information Technology, Social Media was also found to have a positive and significant effect on Customer Satisfaction, with a regression coefficient of 0.368, a t-value of 7.667, and a significance value of 0.000. This finding indicates that effective use of social media can improve customer satisfaction in private hospitals; therefore, H3 is accepted. Social media enables hospitals to build two-way communication with customers, disseminate service information, provide health education, respond to questions, handle complaints, and strengthen relationships between hospitals and patients. In an increasingly digital healthcare environment, customers often seek information about doctor schedules, types of services, facilities, registration procedures, and hospital reputation through digital channels. Therefore, active, informative, and responsive social media can create positive perceptions of hospital service quality.

This finding is supported by Khan et al. (2022), who stated that social media and digital social support can enhance patient empowerment and are associated with patient satisfaction in healthcare services. Chen and Wang (2021) also showed that social media has been widely used in health contexts for communication, education, health promotion, information dissemination, and social support. In addition, Rahim et al. (2021) and Sulaiman et al. (2025) showed that patient reviews and web-based complaints can be useful tools for understanding patient satisfaction and monitoring hospital service quality. Thus, social media does not only function as a promotional medium but also as an instrument for customer experience management. Private hospitals need to manage social media professionally through content strategies, response standards, complaint follow-up systems, and the use of digital feedback to improve services.

In contrast to the two previous variables, Market Linking had a positive coefficient but did not significantly affect Customer Satisfaction. The regression coefficient of 0.008, t-value of 0.311, and significance value of 0.756 indicate that the hospital's ability to understand markets, read customer needs, and build relationships with patients has not been proven to have a significant direct effect on customer satisfaction in this research model; therefore, H2 is rejected or not supported. Theoretically, Market Linking should be important because private hospitals need to understand patient expectations, customer preferences, changing market needs, and service competition dynamics. However, this non-significant result indicates that market understanding does not necessarily improve customer satisfaction directly if it is not translated into concrete improvements in service processes.

This finding can be explained by the view that market orientation and customer understanding often work indirectly through service innovation, process quality improvement, or changes in service experience. Dąbrowski et al. (2025) showed that hospital market orientation can encourage service program innovation and contribute to hospital performance. This means that the ability to read the market does not necessarily directly affect final outcomes if it is not accompanied by a strong service implementation mechanism. Similarly, Yeboah and Amponsah (2025) showed that the relationship between customer orientation, service innovation, and patient satisfaction can be complex. Thus, the results of this study indicate that private hospitals in Indonesia need to strengthen Market Linking so that it does not stop at understanding customers but is realized through service innovation, service flow improvement, complaint response, patient needs segmentation, and the development of service experiences that better align with customer expectations.

An interesting finding was observed for Technology Infrastructure, which statistically had a significant effect on Customer Satisfaction but had a negative coefficient. The regression coefficient of -0.118, t-value of -2.219, and significance value of 0.028 indicate that Technology Infrastructure was significant in the model, but its direction contradicted the initial expectation; therefore, H4 is rejected or not supported. This finding should be interpreted cautiously because the correlation results show that Technology Infrastructure had a very strong positive relationship with Customer Satisfaction. The change in coefficient direction in the multiple regression model is most likely related to high multicollinearity among the independent

variables, particularly among Technology Infrastructure, Health Information Technology, and Social Media.

Conceptually, Technology Infrastructure remains an important foundation for modern hospital services. Technological infrastructure such as networks, hardware, software, servers, data security systems, digital platforms, and technical support is needed for health information systems and digital services to operate reliably. Snowdon et al. (2024) showed that hospital digital maturity is related to the organization's ability to manage data, support service quality, improve patient safety, and strengthen information-based decision-making. However, in this regression model, the unique contribution of Technology Infrastructure is difficult to separate from other digital variables because the relationships among variables are very high. Kim (2019) explained that multicollinearity in multiple regression can make regression coefficients unstable and produce misleading statistical interpretations. Kalnins (2018) also emphasized that highly correlated independent variables can produce coefficient signs that contradict their bivariate relationships.

Therefore, the negative coefficient of Technology Infrastructure should not be interpreted as indicating that technological infrastructure reduces customer satisfaction. A more appropriate interpretation is that after the effects of Health Information Technology and Social Media are controlled in the model, Technology Infrastructure no longer shows a positive standalone contribution and even changes direction due to overlapping information among variables. In managerial practice, this indicates that technological infrastructure is not sufficient if it is only technically available. It must be translated into services directly experienced by customers, such as faster queues, easier registration systems, clearer service information, guaranteed data security, better service integration, and responsive digital communication. If technological infrastructure is not connected to customer-oriented service processes, its benefits for customer satisfaction may be limited.

Overall, the results of this study confirm that customer satisfaction in Indonesian private hospitals is shaped by a combination of organizational capabilities. Health Information Technology contributes the most because it is directly related to information quality, process efficiency, and customer trust in hospital digital services. Social Media is also an important capability because it strengthens communication, interaction, education, and hospital responses to customer needs. Meanwhile, Market Linking was not proven to have a direct effect, possibly because it still requires intermediary mechanisms such as service innovation, process improvement, or enhancement of patient experience. Technology Infrastructure remains important as a digital foundation, but its effect on customer satisfaction should be viewed as part of a broader capability system rather than a standalone capability.

These findings provide theoretical contributions by showing that organizational capabilities in private hospitals should be understood multidimensionally. Customer satisfaction is not only influenced by the existence of technology but also by how technology, information, communication, markets, and infrastructure are integrated into service processes. This study also

shows that digital capabilities directly related to customer experience, such as Health Information Technology and Social Media, have stronger effects than supporting or indirect capabilities, such as Technology Infrastructure and Market Linking. Therefore, future research may test a more complex model by including mediating variables such as service quality, service innovation, patient experience, or trust to explain the mechanisms through which organizational capabilities influence customer satisfaction.

From a managerial perspective, private hospitals in Indonesia need to prioritize strengthening health information technology and social media as key strategies for improving customer satisfaction. Hospital information systems must support services that are fast, secure, accurate, and accessible. Social media should be managed not merely as a promotional tool but as a service communication channel, complaint management tool, patient education medium, and mechanism for monitoring customer perceptions. Market Linking needs to be strengthened through customer feedback systems, patient needs analysis, and data-driven service innovation. Meanwhile, technological infrastructure should be directed not only to serve as a technical asset but also to generate service value that customers can experience. Through integrated management, organizational capabilities can become a source of competitive advantage for private hospitals in improving Customer Satisfaction and strengthening competitiveness in Indonesia's healthcare sector.

6. Conclusions

The results show that organizational capabilities simultaneously have a significant effect on Customer Satisfaction in Indonesian private hospitals; therefore, the simultaneous hypothesis is accepted. The regression model has very strong explanatory power, indicating that organizational capabilities can be understood as strategic factors in shaping customer satisfaction. Partially, Health Information Technology was found to be the most dominant predictor in improving Customer Satisfaction, so H1 is accepted. This finding indicates that the ability of hospitals to provide accurate, complete, secure, timely, and accessible health information plays an important role in creating better service experiences. In addition, Social Media also has a positive and significant effect on Customer Satisfaction, meaning that H3 is accepted because digital communication, service information dissemination, patient engagement, and hospital responsiveness through social media can strengthen relationships between hospitals and customers and improve customer satisfaction.

In contrast, Market Linking does not show a significant direct effect on Customer Satisfaction; therefore, H2 is not supported. This indicates that the hospital's ability to understand market needs and customer expectations does not automatically improve satisfaction unless it is translated into concrete service improvements, such as service innovation, service flow improvement, enhanced patient experience, and systematic complaint management. Meanwhile, Technology Infrastructure shows a significant but negative effect, and therefore H4 is not supported because the direction is inconsistent with the proposed positive hypothesis. The negative coefficient should not be interpreted as indicating that technological infrastructure reduces customer satisfaction; rather, it suggests that the unique contribution of Technology

Infrastructure becomes less stable when analyzed together with Health Information Technology and Social Media. Overall, this study concludes that Customer Satisfaction in Indonesian private hospitals is primarily driven by strengthening Health Information Technology and Social Media. Therefore, private hospital management should prioritize the development of health information systems and professional social media management, while ensuring that market understanding and technological infrastructure are directed toward service innovation and customer-centered service processes.

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