THE INFLUENCE OF SERVICE, PRICE, LOCATION, PROMOTION, AND TRUST ON PATIENT DECISIONS TO CONDUCT EXAMINATIONS AT THE SOLO CITY CLINICAL LABORATORY

Asih Arifah Udiani[1]
Universitas Muhammadiyah Surakarta, Surakarta, Indonesia
udianiarifa@gmail.com

Muzakar Isa[2]
Universitas Muhammadiyah Surakarta, Surakarta, Indonesia
muzakar.isa@ums.ac.id

Yusuf Alam Romadhon[3]
Universitas Muhammadiyah Surakarta, Surakarta, Indonesia
yar245@ums.ac.id

Abstract

This study evaluates the effects of service quality, pricing, location, and promotion on decision-making regarding taking laboratory examinations in a clinical lab clinic in Solo City. Given the rapid pace of development in both technology science and healthcare needs, these factors must be understood to improve the competitiveness and performance of clinical laboratories. SEM data was collected from 100 respondents who were examined at the Solo City Clinical Laboratory using Smart PLS software. The results support the hypothesis that service quality, pricing, and promotion have a significant impact on patient trust, influencing their brand decision-making process. But on trust and judgment, that doesn't appear to be a factor. This study underscores the need for a holistic approach to patient engagement, recognizing the interrelated nature of these elements in constructing trust and decisions. Our study does offer rich perspectives that can help clinical laboratories develop best practices, especially in resource-limited settings that would Strive to provide universal access to high-quality diagnostic services. Generalization to other healthcare contexts and longitudinal studies of the relationships with patient loyalty/retention are warranted in future research.

Keywords: Service Quality, Patient Trust, Pricing, Promotion, Decision-Making

INTRODUCTION

Healthcare services have rapidly evolved due to technological advancements, heightened global health awareness, and extensive regulatory reforms (Lubin et al., 2021). Clinical labs, crucial for disease diagnosis and patient management, have seen significant changes (Lieberman et al., 2005; Whitehead Jr. et al., 2019). The increasing complexity of diseases necessitates precise diagnostics for effective treatment (Jan et al., 2019). WHO highlights that timely, accurate diagnostics are critical, especially in regions with limited healthcare resources (WHO, 2020; Akhtar et al., 2023; Wajdi et al., 2016). Technological innovations like molecular diagnostics, point-of-care tests, and robotics have enhanced lab operations, while AI and next-generation sequencing advance personalized medicine (Nguyen et al., 2020; Greaves et al., 2019; Vassy et al., 2018). The clinical laboratory market is set to grow with these advancements, although continuous personnel training and regulation remain challenges (Plebani et al., 2019; Beer and Mulder, 2020).

Despite advancements, the diagnostic industry faces significant challenges in providing top-tier services. A major issue is the unequal access to sophisticated diagnostics, particularly in low- and middle-income countries (LMICs), where budget constraints, poor infrastructure, and lack of expertise prevail (Martin et al., 2022; Woltering et al., 2019). This lack of access exacerbates health disparities, particularly for complex conditions like cancer and heart disease (Assari, 2018). Additionally, the high costs of advanced diagnostic tests, such as genome sequencing, place a financial burden on patients, even in wealthier countries, leading to delays or abandonment of care (Godman et al., 2018; Hays, 2021; Albahri et al., 2018). The clinical lab industry also faces pressure to enhance operational efficiency while maintaining accuracy, requiring costly investments in automation (Lippi and Da Rin, 2019). The COVID-19 pandemic has further exposed deficiencies in lab preparedness and capacity, underscoring the need for better infrastructure, workforce planning, and investment to handle both routine and emergencies (Babyar, 2020; Schønning et al., 2021; Raftery et al., 2021; Bedford et al., 2019).

This study explores the competitive advantage of clinical labs using the Resource-Based View (RBV), highlighting that investing in advanced diagnostic tools, skilled staff, and efficient processes enhances service quality, precision, and patient satisfaction (El Nemar

et al., 2023; Zaman et al., n.d.). Rogers' Diffusion of Innovations theory elucidates how factors like perceived benefits, compatibility, trialability, observability, and complexity influence the adoption of new diagnostic technologies (Warty et al., 2021; Liu, Son, and Cao, 2023). The research addresses gaps in understanding clinical labs' performance and competitiveness, focusing on organizational and strategic aspects often overlooked in current literature, which primarily addresses technical dimensions (Greaves et al., 2019; Müller-Stewens et al., 2020). It also examines the impact of socioeconomic factors on diagnostic services, especially in LMICs (Falkowski et al., 2023). The study aims to analyze how innovation, human resource management, and strategic planning influence lab performance amid internal and external competition (Cerchione et al., 2023; Leone et al., 2021; De Massis et al., 2018; Tajeddini, Martin, and Altinay, 2020).

This study aims to investigate the factors affecting improved performance and competition of clinical laboratories in a new era defined by rapid technological advancement and changing healthcare demands. The research will explore the effect of innovation, HR, and strategic planning on lab performance to identify best practices that could improve diagnostics quality and access. This work is anticipated to inform approaches that should be taken by clinical laboratories for developing competitive practices, thus guaranteeing equitable delivery of high-quality diagnostics services, especially in resource-limited environments.

REVIEW OF LITERATURE

Theoretical Framework

Organizations may accurately ascertain their purchasing and selling patterns by comprehending client behavior, which encompasses the dynamic interplay of emotions, thoughts, actions, and external influences in commercial transactions (Faulds et al. 2018). Marketers may use this expertise to package items, determine suitable pricing, efficiently distribute them, and strategically implement targeted promotional efforts (Zhang and Chang 2021). Positive customer attitudes or emotions may elicit a preference for a product, which may differ depending on geographical locations and temporal circumstances. A purchase

decision entails selecting several alternatives and takes place in five distinct phases (Cairns 2021).

Service Quality

Service quality refers to the subjective evaluation made by consumers on the extent to which a service fulfills their expectations, ultimately leading to their satisfaction. Customer satisfaction is of utmost importance as it plays a critical role in acquiring new consumers and retaining current ones (Visnjic, Neely, and Jovanovic 2018). Quality service encompasses factors such as convenient accessibility, promptness, responsiveness, and politeness. The after-sales service is a significant connection between manufacturers and customers, which has a direct impact on customer happiness and loyalty. In general, the quality of service is crucial for ensuring client happiness and maintaining customer loyalty (Ali et al., 2020).

The Influence of Service Quality on Patient Trust

The choice of healthcare services by organizations is significantly influenced by the trust they have in their providers. High-quality service is marked by exceeding or meeting patient expectations, which is crucial for instilling confidence in healthcare professionals. If the standard of service falls short, patients may hesitate to continue using those services (Allen et al., 2019). Iskandar et al. (2023) found that patient trust in healthcare providers is linked to their confidence in the treatment being provided (Drossman et al., 2021). Trust is cultivated when healthcare workers deliver consistent, high-quality service. Transparency, efficiency, and attentiveness are key factors in building trust, which in turn enhances patient satisfaction and loyalty, leading to increased appointment frequency (Collier et al., 2018; Shanafelt et al., 2019).

H1: Service quality positively influences patients' decisions to undergo examinations.

The Influence of Price on Patient Trust

Price encompasses the total amount customers pay to receive a product or service (Ramadani et al., 2022). It reflects the perceived value and quality of a product, with higher prices generally suggesting greater value and lower prices indicating lesser value. Pricing must correspond to the product's quality, as cost-conscious consumers are sensitive to price changes. An affordable price can boost consumer confidence and positively impact trust during the purchasing process. Research shows that price significantly affects customer trust,

and a well-structured pricing strategy can notably enhance it (Boyle, Kim, & Lathrop, 2018). Effective pricing strategies influence customer perception and buying behavior, playing a crucial role in shaping industry trust and consumer confidence (Ali & Bhasin, 2019; Zietsman, Mostert, & Svensson, 2019).

H2: Price positively influences patient trust in undergoing examinations.

The Influence of Promotion on Patient Trust

Promotion is a crucial marketing strategy for short-term sales and aims to increase sales by targeting new customers. Studies have shown that promotion positively influences consumer trust, and any marketing efforts, whether internal or public, should result in increased trust. However, a lack of promotion awareness can be costly for consumer confidence. In the context of e-commerce, studies have found that marketing positively affects client trust, and promotion via official media positively impacts the efficacy of e-commerce platforms. Consumers feel safer using online services when they know about promoted benefits.

H3: Promotion has a positive effect on the decision to screen.

The Influence of Location on Patient Trust

Location plays a crucial role in ensuring goods and services are accessible to customers, particularly in online healthcare where professionals must meet patient needs efficiently. Effective service delivery requires overcoming information constraints and ensuring quality, supported by prompt order processing (Maulana et al., 2021). As highlighted by Kholifah et al. (2023), the accessibility and visibility of e-commerce platforms enhance their appeal over traditional methods, especially in healthcare where reliable, convenient access to medical services is essential. This suggests a potential shift towards online treatments as a preferred alternative. From these findings, one might helplessly suggest this hypothesis:

H4: The location of medical exams positively influences patients' trust to undergo them

The Influence of Service Quality on Patient Decisions to Undergo Examinations

Service quality is essential in meeting or exceeding customer expectations, particularly in healthcare, where it significantly impacts patient satisfaction and testing utilization (Novrianda et al., 2024). High service quality fosters customer loyalty, which in

turn drives economic success for companies (Suryawirawan et al., 2021). Key factors like empathy, dependability, and responsiveness play a crucial role in influencing purchase behavior and consumer advocacy (Ali et al., 2021). Studies confirm that superior service quality positively affects purchase decisions, underscoring its importance in fostering client loyalty and business growth (Dinanti, 2016; Buchori & Harwani, 2021). Based on the research provided above, we propose that:

H5: Service quality has a positive relationship with patient uptake of exams.

The Influence of Price on Patient Decisions to Undergo Examinations

The cost of healthcare services is a critical factor influencing consumer decisions, with affordability and budget alignment being key determinants (Farachiyah et al., 2020). Pricing strategies that consider affordability, quality-price ratios, and competition significantly impact consumer choices. While higher-quality services often come at a higher cost, some consumers may opt for lower-priced options if they deem more expensive ones unnecessary (Ali et al., 2021). Research by Pramushinta & Sulistiadi (2019) shows that customer perceptions of pricing strongly influence patient retention in hospitals. Furthermore, Mandasari et al. (2024) confirmed a significant relationship between pricing and hospital selection, highlighting the crucial role of price in patient decision-making (Firmansyah, 2021; Harahap & Amanah, 2020). This research supports the following hypothesis:

H6: The cost of taking exams has a positive effect on patient satisfaction.

The Influence of Promotion on Patient Decisions to Undergo Examinations

Promotion is vital for generating interest and encouraging purchases of products or services. It's crucial that all promotional content is truthful to maintain trust among consumers (Ayuba et al., 2021). Organizations use promotion as a key tool to attract customers, functioning as a communication channel that informs, influences, and raises awareness about offerings (Lestari et al., 2019; Aji et al., 2018). With the rise of technology, online advertising through digital channels has become more prevalent, reaching a wider audience at a lower cost (Setiawan et al., 2022). Research by Ayuba et al. (2021) and Julianingsih & Mustakim (2020) highlights the significant impact of promotion on patient

decisions to seek medical treatment, emphasizing the role of effective communication and competent service in patient satisfaction and repeat visits.

H7: Patients decide to be tested due in part or exclusively to promotion.

The Influence of Location on Patient Decisions to Undergo Examinations

Strategic geographical positioning is essential for ensuring timely access to services and attracting consumers, thereby influencing their buying behavior. Factors like ease of parking and travel distance significantly impact customer decision-making (Sundari et al., 2021). Novrianda et al. (2024) suggest that proximity to a firm enhances the likelihood of impulse purchases, as a positive business image often leads to spontaneous buying. Conveniently located establishments reduce the time and effort required for customers to access products or services, increasing satisfaction (Fachriyah, 2020). However, research by Ekowati (2022) found no significant effect of location on purchase decisions, reflecting ongoing debates about the role of location in consumer behavior, particularly in healthcare settings (Morin-Crini et al., 2018; Bitner, 1992). Studies indicate that patients prefer labs and healthcare facilities that are conveniently located near their homes or workplaces, emphasizing the importance of strategic placement (Ayuba, 2017; Lujan et al.).

H8: The other study conjectured that the location of medical facilities plays a positive role in realizing patient satisfaction during exams.

The Influence of Trust on Patient Decisions to Undergo Examinations

Trust between patients and physicians plays a crucial role in shaping patient preferences and decision-making processes. High levels of trust lead to better communication, particularly in joint decision-making, where patients and doctors collaborate on treatment decisions (Whitney et al., 2021). Trust also enhances patient comfort and acceptance of health information, enabling informed decisions about medical treatments. Conversely, a lack of trust can lead to fear, discomfort, and poor comprehension of health education, negatively impacting healthcare choices (Wijaya, Rohendi, & Mulyani, 2014). Research by Rahmiati & Yuannita (2019) further suggests that trust positively influences customer perceptions and purchase intentions, indicating that higher trust levels correlate with more favorable attitudes toward purchasing healthcare services. This forms the basis for hypothesizing that trust is a key driver of positive patient outcomes and consumer behavior.

H9: Trust has a positive effect on patient satisfaction.

RESEARCH METHOD

Population and Sample

The population is the entire collection of people or things to be studied and about which data will be used from their specific attributes or characteristics. The research population is all of the patients who visit the Clinical Laboratory City of Solo. This observational or study-type object is selected from this set of populations. The sample is just a smaller portion of the overall population. The sampling was done with the proportional random sampling method by choosing a sample randomly in slow of its current population.

Participant Characteristics Summary

According to Sugiyono (2012), research variables are a special indicator elected by the researcher for consideration to further information, that useful can be and used as statistical evidence. Independent versus dependent variables (intervening -mediating) The study sample involved 100 people who came to get an examination at the Clinical Laboratory in Solo City. The respondents were profiled based on their demographic characteristics by gender, age, and educational level. Factors examined in the study The scores were categorized into three levels (low [20-46], moderate agreement [47-73], and high agreement = 74–100) after examining the respondent replies with a three-box approach. Each of these is a broad category that was made to sum up how respondents see each characteristic.

Definition of Operational

The dependent variable in this research is the decision of each patient to go through a medical checkup. The dependent variable is observed by the independent variables and, in most research, it is the subject of study. According to Schiffman and Kanuk (as cited in Novriada, 2024), the selection of two or more alternatives implies that one makes a purchase choice by making a decision there must be many alternatives provided before concluding. The process proposed by Kotler and Keller (2009) is the base for this variable, including symptoms such as the recognition of need information searching price framing choice in purchase post-only-purchase.

Variables and Operational Definitions

This study investigates the impact of four independent variables—service quality, pricing, location, and promotion-on a dependent variable, with trust serving as an intervening factor. Service quality measures how well a service meets or exceeds customer expectations (Parasuraman; Kotler & Armstrong, 2013; Ali et al., 2022). Pricing reflects the value exchanged for services, considering affordability and perceived benefits (Firmansyah, 2021). Promotion involves strategic communication to boost consumer awareness and engagement (Al-Shidhani et al., 2019). Location encompasses accessibility and visibility factors (Ali et al., 2022). Trust represents consumer confidence in the service provider (Mahliza, 2019; Gunawan et al., 2019), impacting consumer behavior and decision-making in healthcare.

Types of Data and Origins

This paper uses secondary and primary data. Primary data: Data that are collected by the investigator personally from study participants, including responses obtained in questionnaires on subjects' opinions of variables under scrutiny. Data is usually assembled using tools such as structured questionnaires through which participants provide a direct response on the various trusts of interest concerning the study topic. Secondary data is using the littered experience of other people by conducting a detailed analysis based on journals, books, or any relevant materials that could provide an initial background for the study. This qualification moreover helps the inquiry by giving hypothetical standards and comparing perceptions that are not inferred from the particular interest of study respondents.

Methods for Collecting Data

To gather comprehensive information, researchers employed interviews for in-depth insights from a small group of participants, complemented by questionnaires to collect quantitative data from a larger sample, enabling analysis of perceptions and behaviors (Creswell, 2014). A literature review was also conducted to contextualize the study, identify research gaps, and support the argument within existing knowledge frameworks, as highlighted in related studies.

Data Analysis

This work conducts the data analysis through Smart PLS (Partial Least Squares) software, exploiting Structural Equation Modeling – SEM with multivariate statistical

techniques. SEM is particularly useful for examining complex connections among internal and external structures that are mediated.

In the Model Measurement and Estimation stage (Outer Modeling), the model's reliability and validity are assessed. Reliability is measured through composite reliability, while validity is tested using discriminant and convergent validity. Convergent validity is confirmed if the loading factor of reflected indicators is > 0.7, with a preferable range between 0.6 and 0.7 for exploratory predictions (Hair et al.). The Inner Model test evaluates the relationships between variables, analyzing route coefficients and correlations to ensure model reliability and precision. Gefen, Straub, and Boudreau (2000) guide the assessment of how well the theoretical model aligns with empirical data and reveals both direct and indirect relationships between variables.

RESULTS AND DISCUSSION

In this study involving 100 patients from Solo City Clinical Laboratory, the demographic and perception data provide a comprehensive overview of respondent characteristics and their evaluation of various service aspects. The majority of respondents are male (56%), with females constituting 44%. Age-wise, the largest group falls within the 41-50 years range (27%), while the 31-40 years age bracket follows closely at 25%. The smallest age group consists of individuals under 20 years (7%). Regarding educational background, 56% of respondents have completed Senior High School, 24% hold a Bachelor's Degree, and 5% possess Postgraduate qualifications. The study used index analysis to measure respondents' perceptions of service quality, price, promotion, location, trust, and the decision to undergo testing. The results indicate high satisfaction across all variables. Service quality received an average index score of 85.84, suggesting that respondents perceive the laboratory's service quality as high. Similarly, price and promotion both scored 85.60 and 85.90, respectively, reflecting favorable perceptions. The location received an average score of 85.55, indicating a positive view, while trust scored 85.65, showing strong confidence. Lastly, the decision to undergo testing was positively rated with an average score of 85.36. Overall, these findings highlight a high level of satisfaction and positive perception of the clinical laboratory’s services in Solo City.

Data Analysis

Hypothesis testing in this study was carried out using the Partial Least Square (PLS) method, Partial Least Square is an alternative analysis method of analysis with Structural Equation Modeling (SEM), which is variance-based. The analytical tool used in this study is the SmartPLS Version 3.0 program. Testing using the Partial Least Square (PLS) method requires 2 stages to assess the Fit Model of a research model. These stages are:

Outer Model Testing

The outer model is a model that specifies the relationship between latent variables and their indicators or it can be said that the outer model defines how each indicator relates to its latent variable. Outer model testing in this study uses convergent validity, discriminant validity, and composite reliability tests. The results of testing the outer model can be seen as follows:

Convergent Validity

Testing in assessing convergent validity is based on the correlation between item score/ component score. An individual reflexive measure is said to be high if it correlates more than 0.70 with the measured construct. Research uses (constructs) that do not have indicators. The loading factor value limit used in the study is 0.60. This means that if the variable has a loading factor value of more than 0.6, the variable has met convergent validity and vice versa. The loading factor value of each variable (construct) can be seen in the following figure:

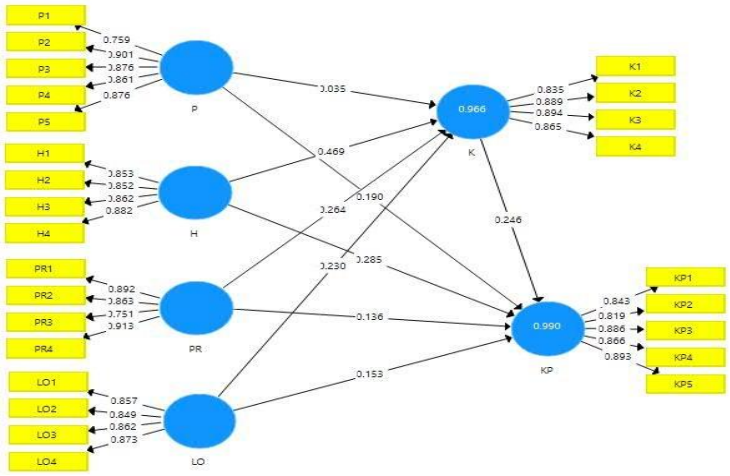

Figure 1
Outer Model Results

Convergent Validity

The analysis reveals that all constructs of service, price, promotion, location, trust, and decision to check exhibit outer loading values greater than 0.7. This indicates that each construct is valid and meets the convergent validity criterion. The high outer loading values suggest that the indicators used to measure each construct are highly correlated with their respective constructs, ensuring that the measurement model is robust. Consequently, these indicators are suitable for hypothesis testing, as they effectively reflect the constructs they are intended to measure.

Discriminant Validity

Discriminant validity is assessed to ensure that each construct is distinct from the others. The analysis shows that each indicator loads highest on its intended construct rather than on other constructs. This demonstrates that the constructs are well-differentiated from each other. Additionally, the Average Variance Extracted (AVE) values for all constructs exceed the threshold of 0.5, confirming that the constructs possess good discriminant validity. This indicates that the model successfully distinguishes between different constructs, reinforcing the validity of the measurement model.

Composite Reliability

Composite reliability evaluates the internal consistency of the indicators within each construct. The results indicate that all constructs—service, price, promotion, location, trust, and decision to check-have composite reliability values above 0.70. This suggests that each construct shows strong internal consistency, meaning that the indicators within each construct reliably measure the same underlying concept.

Inner Model Testing

Inner model testing involves examining the relationships between constructs, focusing on the significance and strength of these relationships. This is done through R-square values and significance tests of the structural path coefficients. This analysis is essential for understanding how well the structural model explains the variance in the dependent constructs and validating the theoretical framework of the research model.

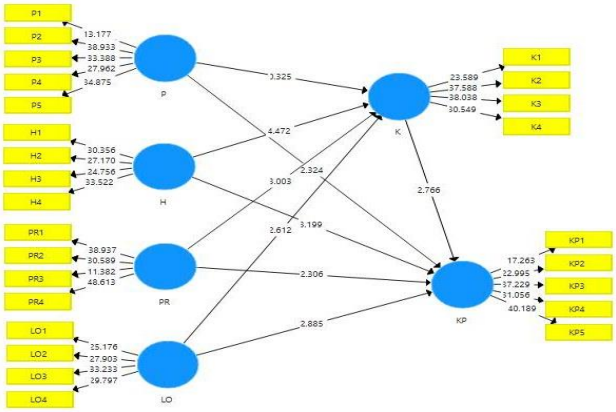

Figure 2
Inner Model

Assessing the model with PLS starts by looking at the R-square for each dependent latent variable. The R-square estimate can be shown in the following table:

Table 1
R-square Value Model

	R Square	R Square Adjusted
K	0.966	0.964
KP	0.990	0.990

From Table 1, it can be seen that the Adjusted R-square value of model 1 is 0.964, which means that trust can be explained by the service, price, promotion, and location variables by 96.4% and the remaining 3.6% can be explained by other factors. The Adjusted R-square value of model 2 is 0.990, which means that turnover intention can be explained by the variables of service, price, promotion, location, and trust by 99% and the remaining 1% can be explained by other factors.

Hypothesis Testing

This test is intended to see the effect between the independent variable and the dependent variable by examining the path coefficients which show the parameter coefficient and the significance value of the T statistic. Parameter significance is estimated to give an idea of the correlation between research variables. The standard for rejecting and accepting the proposed hypothesis is to use a probability of 0.05. The results of hypothesis testing can be seen in the following table:

Table 2
Hypothesis Test Results Based on Path Coefficient

	OS (O)	SM (M)	(STDEV)	T Statistics	P Values
H -> K	0.469	0.472	0.105	4.472	0.000
H -> KP	0.285	0.282	0.089	3.199	0.001
K -> KP	0.246	0.244	0.089	2.766	0.006
LO -> K	0.230	0.237	0.088	2.612	0.009
LO -> KP	0.153	0.148	0.053	2.885	0.004
P -> K	0.035	0.027	0.108	0.325	0.745
P -> KP	0.190	0.204	0.082	2.324	0.021
PR -> K	0.264	0.262	0.088	3.003	0.003
PR -> KP	0.136	0.133	0.059	2.306	0.022

Analysis of the Impact of Various Factors on Patient Trust and Decision-Making in Clinical Laboratory Services: An Empirical Study in Solo City.

Intervening or Mediation Test

The intervening or mediation test is intended to see the high coefficient of influence both direct and indirect. This study uses trust as an intervening variable. Testing through mediation to dig deeper into whether the mediating variable has successfully mediated the effect of the independent variable on the dependent or not can be seen in the specific indirect effect output, if the p-value number < 0.05 then the independent variable affects the dependent variable through the mediating variable or can mediate and vice versa. The results of the indirect effect test can be found as follows:

Table 3
Mediation Test Results

	Original (O)	Sample (M)	Mean	Standard Deviation	T Statistics	P Values
H -> K -> KP	0.115	0.114	0.048	2.412	0.016	
LO -> K -> KP	0.057	0.058	0.032	1.744	0.082	
P -> K -> KP	0.009	0.007	0.029	0.292	0.770	
PR -> K -> KP	0.065	0.064	0.032	2.021	0.044	

The study further explores the mediating role of trust in the relationship between service, price, promotion, and location on patients' decisions to undergo medical examinations at clinical laboratories in Solo City. The analysis reveals that trust does not mediate the influence of service quality on patient decisions, as indicated by an indirect effect

t-statistic of 0.292 and a p-value of 0.770. This result suggests that service quality does not significantly affect patient decisions through trust, implying that trust does not mediate the relationship between service quality and decision-making.

On the other hand, price exhibits a significant and positive indirect effect on patient decisions through trust, with a t-statistic of 2.412 and a p-value of 0.016. This finding indicates that trust effectively mediates the influence of pricing on the decision-making process, affirming the importance of trust in this relationship. Similarly, promotion shows a positive and significant indirect effect on patient decisions via trust, supported by a t-statistic of 2.021 and a p-value of 0.044. This result suggests that trust mediates the effect of promotional activities on patient decision-making. Conversely, the mediating effect of trust between location and patient decisions is not significant, as evidenced by a t-statistic of 1.744 and a p-value of 0.082. Therefore, it can be concluded that location does not significantly influence patient decisions through trust, indicating that trust does not mediate the relationship between location and the decision to undergo medical examinations.

Discussion

The study examines the impact of various factors, including service, price, promotion, and location, on patient trust and decision-making within clinical laboratories in Solo City. The findings provide valuable insights into the relationships between these variables, highlighting the nuances of patient behavior and preferences. The results offer practical implications for clinical laboratories aiming to enhance patient trust and encourage decisions that align with organizational goals.

The study revealed that the service provided by clinical laboratories does not have a significant impact on patient trust. This finding is particularly intriguing, as it challenges the commonly held belief that high-quality service is a primary driver of trust in healthcare settings. Previous studies have shown that service quality is often directly correlated with trust, particularly in healthcare contexts where patient satisfaction is paramount (Parasuraman, Zeithaml, & Berry, 1988; Donabedian, 1988). However, the findings suggest that other factors may play a more critical role in shaping trust within the specific context of clinical laboratories in Solo City. This could be due to the standardized nature of services

offered across different laboratories, leading patients to base their trust on other attributes such as pricing or promotions.

The study found a positive and significant relationship between price and patient trust. This result indicates that pricing strategies are crucial in shaping patient perceptions and trust in clinical laboratories. Affordable pricing can be perceived as a signal of fairness and transparency, which are essential components of trust (Anderson & Narus, 1990). Moreover, in a price-sensitive market like healthcare, patients may equate lower prices with accessibility and value, thereby enhancing their trust in the service provider. This finding aligns with the broader literature that suggests pricing is not just an economic factor but also a psychological one that influences consumer trust (Rao & Bergen, 1992). Laboratories that adopt transparent and competitive pricing strategies are more likely to cultivate trust among patients, which could lead to increased patient loyalty and retention.

Promotional activities were also found to have a positive and significant effect on patient trust. This finding underscores the importance of effective communication and promotional strategies in building trust. Promotional efforts that emphasize the quality, reliability, and benefits of services can reassure patients and strengthen their trust in the laboratory. The effectiveness of promotions in enhancing trust is well-documented in marketing literature, where trust is often a mediator between promotional efforts and consumer decision-making (Morgan & Hunt, 1994). Clinical laboratories can leverage promotions to highlight their commitment to patient care, thereby reinforcing trust and encouraging positive patient outcomes.

The study's findings also indicate that location positively influences patient trust. This is consistent with the notion that convenience and accessibility are critical factors in healthcare decision-making. Patients are more likely to trust laboratories that are easily accessible and conveniently located, as these attributes reduce the effort and cost associated with obtaining healthcare services (Berry, Seiders, & Grewal, 2002). The importance of location is particularly pronounced in healthcare, where proximity to service providers can significantly impact patient perceptions of quality and trustworthiness (Sutherland et al. 2022). Laboratories located in strategic areas with high accessibility are likely to be perceived

as more reliable and trustworthy, leading to increased patient trust (Church and Naugler 2022).

The study also explored the impact of service on patient decision-making and found that service quality significantly influences patients' decisions to utilize laboratory services. This finding aligns with the broader literature that emphasizes the role of service quality in healthcare decision-making (Zeithaml, Berry, & Parasuraman, 1996). High-quality service can enhance patient satisfaction, leading to repeat visits and positive word-of-mouth, both of which are critical for the long-term success of healthcare providers. In the context of clinical laboratories, providing excellent service can differentiate one laboratory from another, giving it a competitive edge in attracting and retaining patients.

The study's results confirm that price is a significant factor influencing patient decision-making. This aligns with previous research that suggests pricing is a critical determinant of consumer choice in healthcare (Monroe, 1990). Patients are likely to choose laboratories that offer competitive pricing, particularly in markets where price sensitivity is high. However, it is essential to balance affordability with quality to ensure that lower prices do not lead to perceptions of inferior service quality. Laboratories that manage to strike this balance are more likely to attract a larger patient base and maintain high patient satisfaction (Vahdat, Griffin, and Stahl 2018).

Promotional efforts were also found to significantly influence patient decision-making. This finding highlights the role of marketing communications in shaping patient choices. Effective promotional strategies can raise awareness, educate patients about the benefits of laboratory services, and ultimately influence their decision to choose one provider over another (Kotler & Keller, 2012). In a competitive market, where patients have multiple options, targeted promotions can differentiate a laboratory's offerings and persuade patients to choose its services (Fareed et al. 2016; Hailu, Workneh, and Kahissay 2021).

The influence of location on patient decision-making was also confirmed in the study. This finding supports the idea that geographical accessibility is a critical factor in healthcare service utilization (Joseph & Phillips, 1984). Patients are more likely to choose laboratories that are conveniently located, reducing travel time and associated costs. For clinical

laboratories, being situated in areas with high foot traffic or near residential neighborhoods can significantly impact patient choice and service utilization.

The study also investigated the mediating role of patient trust in the relationship between the independent variables (service, price, promotion, location) and patient decision-making. The findings suggest that patient trust mediates the relationship between price, promotion, and patient decision-making, but not between service, location, and decision-making. This partial mediation indicates that while trust is essential, other factors also directly influence patient decisions. Trust enhances the positive impact of price and promotion on decision-making, reinforcing the idea that patients are more likely to choose services they trust. However, the direct impact of service quality and location on decision-making suggests that these factors are sufficiently strong to influence decisions independently of trust (Mayer, Davis, & Schoorman, 1995).

This study highlights key practical implications for clinical laboratories in Solo City. Laboratories should emphasize competitive pricing and transparent promotions to foster patient trust, which can improve retention and satisfaction. Although service quality is important, factors like convenience and accessibility also play a role in building trust. Additionally, strategic location is vital for both establishing trust and influencing patient decisions, making it a crucial element of business strategy.

CONCLUSION

In conclusion, this study contributes to the understanding of the complex dynamics between service, price, promotion, location, patient trust, and decision-making in the healthcare sector. The findings underscore the importance of a multi-faceted approach to patient engagement, where various factors collectively influence trust and decision-making. Future research could explore these relationships in different healthcare contexts or regions to validate and expand upon these findings. Furthermore, understanding the long-term impact of these factors on patient loyalty and retention would be valuable for both academic research and practical application.

REFERENCES

Akdere, Mesut, and Toby Egan. 2020. “Transformational Leadership and Human Resource

Development: Linking Employee Learning, Job Satisfaction, and Organizational Performance." *Human Resource Development Quarterly* 31(4):393–421. doi: https://doi.org/10.1002/hrdq.21404.

Akhtar, Md Nahid, Abid Haleem, and Mohd Javaid. 2023. "Scope of Health Care System in Rural Areas under Medical 4.0 Environment." *Intelligent Pharmacy* 1(4):217–23. doi: https://doi.org/10.1016/j.ipha.2023.07.003.

Albahri, O. S., A. A. Zaidan, B. B. Zaidan, M. Hashim, A. S. Albahri, and M. A. Alsalem. 2018. "Real-Time Remote Health-Monitoring Systems in a Medical Centre: A Review of the Provision of Healthcare Services-Based Body Sensor Information, Open Challenges and Methodological Aspects." *Journal of Medical Systems* 42(9):164. doi: 10.1007/s10916-018-1006-6.

Ali, Asif, and Jaya Bhasin. 2019. "Understanding Customer Repurchase Intention in E-Commerce: Role of Perceived Price, Delivery Quality, and Perceived Value." *Jindal Journal of Business Research* 8(2):142–57. doi: 10.1177/2278682119850275.

Allen, Jaime, Laura Eboli, Carmen Forciniti, Gabriella Mazzulla, and Juan de Dios Ortúzar. 2019. "The Role of Critical Incidents and Involvement in Transit Satisfaction and Loyalty." *Transport Policy* 75:57–69. doi: https://doi.org/10.1016/j.tranpol.2019.01.005.

Assari, Shervin. 2018. "Health Disparities Due to Diminished Return among Black Americans: Public Policy Solutions." *Social Issues and Policy Review* 12(1):112–45. doi: https://doi.org/10.1111/sipr.12042.

Babyar, Julie. 2020. "Laboratory Science and a Glimpse into the Future." *International Journal of Healthcare Management* 13(sup1):456–63. doi: 10.1080/20479700.2019.1603276.

Back, Jessica B., Cora H. Chadick, Juan J. Garcia Vallejo, Eva Orlowski-Oliver, Radhika Patel, Caroline E. Roe, Jane Srivastava, and Rachael V Walker. 2021. "Shared Resource Laboratory Operations: Changes Made During Initial Global COVID-19 Lockdown of 2020." *Cytometry Part A* 99(1):22–32. doi: https://doi.org/10.1002/cyto.a.24261.

Bedford, Juliet, Jeremy Farrar, Chikwe Ihekweazu, Gagandeep Kang, Marion Koopmans, and John Nkengasong. 2019. "A New Twenty-First Century Science for Effective Epidemic Response." *Nature* 575(7781):130–36. doi: 10.1038/s41586-019-1717-y.

Beer, Patrick, and Regina H. Mulder. 2020. "The Effects of Technological Developments on Work and Their Implications for Continuous Vocational Education and Training: A Systematic Review." *Frontiers in Psychology* 11(May). doi: 10.3389/fpsyg.2020.00918.

Boyle, Peter J., Hyoshin Kim, and E. Scott Lathrop. 2018. "The Relationship between Price and Quality in Durable Product Categories with Private Label Brands." *Journal of Product & Brand Management* 27(6):647–60. doi: 10.1108/JPBM-09-2017-1590.

Cairns, Alex. 2021. "B2B Marketing Strategy: Finding the Needle in the Haystack BT - B2B Marketing: A Guidebook for the Classroom to the Boardroom." Pp. 121–56 in, edited by U. G. Seebacher. Cham: Springer International Publishing.

Cerchione, Roberto, Piera Centobelli, Emanuela Riccio, Stefano Abbate, and Eugenio Oropallo. 2023. "Blockchain's Coming to Hospital to Digitalize Healthcare Services: Designing a Distributed Electronic Health Record Ecosystem." *Technovation* 120:102480. doi: https://doi.org/10.1016/j.technovation.2022.102480.

Choi, Michael, Anovia Yifan Dai, and Kyungmin Kim. 2018. "Consumer Search and Price Competition." *Econometrica* 86(4):1257–81. doi: https://doi.org/10.3982/ECTA14837.

Church, Deirdre L., and Christopher Naugler. 2022. "Using a Systematic Approach to Strategic Innovation in Laboratory Medicine to Bring about Change." *Critical Reviews in Clinical Laboratory Sciences* 59(3):178–202. doi: 10.1080/10408363.2021.1997899.

Collier, Joel E., Donald C. Barnes, Alexandra K. Abney, and Mark J. Pelletier. 2018. "Idiosyncratic Service Experiences: When Customers Desire the Extraordinary in a Service Encounter." *Journal of Business Research* 84:150–61. doi: https://doi.org/10.1016/j.jbusres.2017.11.016.

Drossman, Douglas A., Lin Chang, Jill K. Deutsch, Alexander C. Ford, Albena Halpert, Kurt Kroenke, Samuel Nurko, Johannah Ruddy, Julie Snyder, and Ami Sperber. 2021. "A Review of the Evidence and Recommendations on Communication Skills and the Patient–Provider Relationship: A Rome Foundation Working Team Report." *Gastroenterology* 161(5):1670-1688.e7. doi: https://doi.org/10.1053/j.gastro.2021.07.037.

Falkowski, Anna, Giorgio Ciminata, Francesco Manca, Janet Bouttell, Nishant Jaiswal, Hanin Farhana Binti Kamaruzaman, Samantha Hollingworth, Mariana Al-Adwan, Robert Heggie, Septiara Putri, Dikshyanta Rana, Warren Mukelabai Simangolwa, and Eleanor Grieve. 2023. "How Least Developed to Lower-Middle Income Countries Use Health Technology Assessment: A Scoping Review." *Pathogens and Global Health* 117(2):104–19. doi: 10.1080/20477724.2022.2106108.

Fareed, Muhammad, Wan S. W. M. Noor, Mohd F. M. Isa, and S. S. M. M. Salleh. 2016. "Developing Human Capital for Sustainable Competitive Advantage: The Roles of Organizational Culture and High Performance Work System." *International Journal of Economic Perspectives* 10(4):655–73.

Faulds, David J., W. Glynn Mangold, P. S. Raju, and Sarath Valsalan. 2018. "The Mobile Shopping Revolution: Redefining the Consumer Decision Process." *Business Horizons* 61(2):323–38. doi: https://doi.org/10.1016/j.bushor.2017.11.012.

Godman, Brian, Anna Bucsics, Patricia Vella Bonanno, Wija Oortwijn, Celia C. Rothe, Alessandra Ferrario, Simone Bosselli, Andrew Hill, Antony P. Martin, Steven Simoens, Amanj Kurdi, Mohamed Gad, Jolanta Gulbinovič, Angela Timoney,

Tomasz Bochenek, Ahmed Salem, Iris Hoxha, Robert Sauermann, Amos Massele, Augusto Alfonso Guerra, Guenka Petrova, Zornitsa Mitkova, Gnosia Achniotou, Ott Laius, Catherine Sermet, Gisbert Selke, Vasileios Kourafalos, John Yfantopoulos, Einar Magnusson, Roberta Joppi, Margaret Oluka, Hye Young Kwon, Arianit Jakupi, Francis Kalemeera, Joseph O. Fadare, Oyvind Melien, Maciej Pomorski, Magdalene Wladysiuk, Vanda Markovic-Pekovic, Ileana Mardare, Dmitry Meshkov, Tanja Novakovic, Jurij Fürst, Dominik Tomek, Corrine Zara, Eduardo Diogene, Johanna C. Meyer, Rickard Malmström, Björn Wettermark, Zinhle Matsebula, Stephen Campbell, and Alan Haycox. 2018. "Barriers for Access to New Medicines: Searching for the Balance between Rising Costs and Limited Budgets." *Frontiers in Public Health* 6(DEC):1–21. doi: 10.3389/fpubh.2018.00328.

Greaves, Ronda F., Sergio Bernardini, Maurizio Ferrari, Paolo Fortina, Bernard Gouget, Damien Gruson, Tim Lang, Tze Ping Loh, Howard A. Morris, Jason Y. Park, Markus Roessler, Peng Yin, and Larry J. Kricka. 2019. "Key Questions about the Future of Laboratory Medicine in the next Decade of the 21st Century: A Report from the IFCC-Emerging Technologies Division." *Clinica Chimica Acta* 495:570–89. doi: https://doi.org/10.1016/j.cca.2019.05.021.

Hailu, Abel Demerew, Birhanu Demeke Workneh, and Mesfin Haile Kahissay. 2021. "Influence of Pharmaceutical Marketing Mix Strategies on Physicians' Prescribing Behaviors in Public and Private Hospitals, Dessie, Ethiopia: A Mixed Study Design." *BMC Public Health* 21(1):65. doi: 10.1186/s12889-020-10063-2.

Hays, Priya. 2021. "The Health Economics of Personalized Precision Medicine BT - Advancing Healthcare Through Personalized Medicine." Pp. 655–87 in, edited by P. Hays. Cham: Springer International Publishing.

Jan, Amin, Maran Marimuthu, and Muhammad Pisol bin Mohd bin Mohd @ Mat Isa. 2019. "The Nexus of Sustainability Practices and Financial Performance: From the Perspective of Islamic Banking." *Journal of Cleaner Production* 228:703–17. doi: 10.1016/j.jclepro.2019.04.208.

Kabia, Evelyn, Rahab Mbau, Robinson Oyando, Clement Oduor, Godfrey Bigogo, Sammy Khagayi, and Edwine Barasa. 2019. "'We Are Called the et Cetera': Experiences of the Poor with Health Financing Reforms That Target Them in Kenya." *International Journal for Equity in Health* 18(1):98. doi: 10.1186/s12939-019-1006-2.

Leone, Daniele, Francesco Schiavone, Francesco Paolo Appio, and Benjamin Chiao. 2021. "How Does Artificial Intelligence Enable and Enhance Value Co-Creation in Industrial Markets? An Exploratory Case Study in the Healthcare Ecosystem." *Journal of Business Research* 129:849–59. doi: https://doi.org/10.1016/j.jbusres.2020.11.008.

Lieberman, Phillip, Stephen F. Kemp, John Oppenheimer, David M. Lang, I. Leonard Bernstein, Richard A. Nicklas, John A. Anderson, David I. Bernstein, Jonathan A. Bernstein, Jordan N. Fink, Paul A. Greenberger, Dennis K. Ledford, James Li, Albert L. Sheffer, Roland Solensky, Bruce L. Wolf, Joann Blessing-Moore, David A. Khan,

Rufus E. Lee, Jay M. Portnoy, Diane E. Schuller, Sheldon L. Spector, and Stephen A. Tilles. 2005. "The Diagnosis and Management of Anaphylaxis: An Updated Practice Parameter." *Journal of Allergy and Clinical Immunology* 115(3, Supplement 2):S483–523. doi: https://doi.org/10.1016/j.jaci.2005.01.010.

Lippi, Giuseppe, and Giorgio Da Rin. 2019. "Advantages and Limitations of Total Laboratory Automation: A Personal Overview." 57(6):802–11. doi: doi:10.1515/cclm-2018-1323.

Liu, Dong, Sangbum Son, and Junwei Cao. 2023. "The Determinants of Public Acceptance of Telemedicine Apps: An Innovation Diffusion Perspective." *Frontiers in Public Health* 11(December):1–15. doi: 10.3389/fpubh.2023.1325031.

Lubin, Ira M., J. Rex Astles, Shahram Shahangian, Bereneice Madison, Ritchard Parry, Robert L. Schmidt, and Matthew L. Rubinstein. 2021. "Bringing the Clinical Laboratory into the Strategy to Advance Diagnostic Excellence." 8(3):281–94. doi: doi:10.1515/dx-2020-0119.

Martin, Kevin, Rhys Wenlock, Tom Roper, Ceri Butler, and Jaime H. Vera. 2022. "Facilitators and Barriers to Point-of-Care Testing for Sexually Transmitted Infections in Low- and Middle-Income Countries: A Scoping Review." *BMC Infectious Diseases* 22(1):561. doi: 10.1186/s12879-022-07534-9.

De Massis, Alfredo, David Audretsch, Lorraine Uhlaner, and Nadine Kammerlander. 2018. "Innovation with Limited Resources: Management Lessons from the German Mittelstand." *Journal of Product Innovation Management* 35(1):125–46. doi: https://doi.org/10.1111/jpim.12373.

Müller-Stewens, Benedikt, Sally K. Widener, Klaus Möller, and Jan-Christoph Steinmann. 2020. "The Role of Diagnostic and Interactive Control Uses in Innovation." *Accounting, Organizations and Society* 80:101078. doi: https://doi.org/10.1016/j.aos.2019.101078.

El Nemar, Sam, Hani El-Chaarani, Ibtihaj Dandachi, and Sylvaine Castellano. 2023. "Resource-Based View and Sustainable Advantage: A Framework for SMEs." *Journal of Strategic Marketing* 1–24. doi: 10.1080/0965254X.2022.2160486.

Nguyen, Trieu, Vinayaka Aaydha Chidambara, Sune Zoëga Andreasen, Mohsen Golabi, Van Ngoc Huynh, Quyen Than Linh, Dang Duong Bang, and Anders Wolff. 2020. "Point-of-Care Devices for Pathogen Detections: The Three Most Important Factors to Realise towards Commercialization." *TrAC Trends in Analytical Chemistry* 131:116004. doi: https://doi.org/10.1016/j.trac.2020.116004.

Oghazi, Pejvak, Stefan Karlsson, Daniel Hellström, and Klas Hjort. 2018. "Online Purchase Return Policy Leniency and Purchase Decision: Mediating Role of Consumer Trust." *Journal of Retailing and Consumer Services* 41:190–200. doi: https://doi.org/10.1016/j.jretconser.2017.12.007.

Plebani, Mario, Michael Laposata, and Giuseppe Lippi. 2019. "A Manifesto for the Future

of Laboratory Medicine Professionals." *Clinica Chimica Acta* 489:49–52. doi: https://doi.org/10.1016/j.cca.2018.11.021.

Pramesh, C. S., Rajendra A. Badwe, Nirmala Bhoo-Pathy, Christopher M. Booth, Girish Chinnaswamy, Anna J. Dare, Victor Piana de Andrade, David J. Hunter, Satish Gopal, Mary Gospodarowicz, Sanjeeva Gunasekera, Andre Ilbawi, Sharon Kapambwe, Peter Kingham, Tezer Kutluk, Nirmal Lamichhane, Miriam Mutebi, Jackson Orem, Groesbeck Parham, Priya Ranganathan, Manju Sengar, Richard Sullivan, Soumya Swaminathan, Ian F. Tannock, Vivek Tomar, Verna Vanderpuye, Cherian Varghese, and Elisabete Weiderpass. 2022. "Priorities for Cancer Research in Low- and Middle-Income Countries: A Global Perspective." *Nature Medicine* 28(4):649–57. doi: 10.1038/s41591-022-01738-x.

Raftery, Philomena, Mazeda Hossain, and Jennifer Palmer. 2021. "An Innovative and Integrated Model for Global Outbreak Response and Research - a Case Study of the UK Public Health Rapid Support Team (UK-PHRST)." *BMC Public Health* 21(1):1378. doi: 10.1186/s12889-021-11433-0.

Schønning, Kristian, Ram Benny Dessau, Thøger Gorm Jensen, Nicklas Myrthue Thorsen, Camilla Wiuff, Lene Nielsen, Sophie Gubbels, Matt Denwood, Uffe Høgsbro Thygesen, Lasse Engbo Christensen, Camilla Holten Møller, Jens Kjølseth Møller, Svend Ellermann-Eriksen, Christian Østergaard, Janni Uyen Hoa Lam, Nour Abushalleeh, Marianna Meaidi, Stefan Olsen, Kåre Mølbak, and Marianne Voldstedlund. 2021. "Electronic Reporting of Diagnostic Laboratory Test Results from All Healthcare Sectors Is a Cornerstone of National Preparedness and Control of COVID-19 in Denmark." *APMIS* 129(7):438–51. doi: https://doi.org/10.1111/apm.13140.

Shanafelt, Tait D., Edgar Schein, Lloyd B. Minor, Mickey Trockel, Peter Schein, and Darrell Kirch. 2019. "Healing the Professional Culture of Medicine." *Mayo Clinic Proceedings* 94(8):1556–66. doi: https://doi.org/10.1016/j.mayocp.2019.03.026.

Sutherland, Bryn L., Kristin Pecanac, Taylor M. LaBorde, Christie M. Bartels, and Meghan B. Brennan. 2022. "Good Working Relationships: How Healthcare System Proximity Influences Trust between Healthcare Workers." *Journal of Interprofessional Care* 36(3):331–39. doi: 10.1080/13561820.2021.1920897.

Tajeddini, Kayhan, Emma Martin, and Levent Altinay. 2020. "The Importance of Human-Related Factors on Service Innovation and Performance." *International Journal of Hospitality Management* 85:102431. doi: https://doi.org/10.1016/j.ijhm.2019.102431.

Vahdat, Vahab, Jacqueline Griffin, and James E. Stahl. 2018. "Decreasing Patient Length of Stay via New Flexible Exam Room Allocation Policies in Ambulatory Care Clinics." *Health Care Management Science* 21(4):492–516. doi: 10.1007/s10729-017-9407-5.