GOLDEN RATIO OF MARKETING AND APPLIED PSYCHOLOGY OF BUSINESS
VOLUME 6, ISSUE. 2 (2026)
Website: https://goldenratio.id/index.php/grmapb/index

GOLDEN RATIO
ISSN [Online]: 2776-6349

MARKETING | RESEARCH ARTICLE

Sales Performance Improvement Strategy Through the Technology Adoption of E -CRM Applications

Dian Widiana Kuswara[1], Vita Ratnasari[2]

[1]Departmentof Technology Management, Institut Teknologi Sepuluh Nopember, Surabaya, Indonesia.
Email: dian.cahasta@gmail.com
[2]Departmentof Technology Management, Institut Teknologi Sepuluh Nopember, Surabaya, Indonesia.
Email: vita_ratna@its.ac.id

ARTICLE HISTORY

Received: April 11, 2026
Revised: May 07, 2026
Accepted: June 25, 2026

DOI
https://doi.org/10.52970/grmapb.v6i2.2212

ABSTRACT
This study aims to analyze the factors that influence the adoption of E-CRM applications in improving sales performance at PT PLN (Persero). This study uses an integrative approach between the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) to identify factors that influence salespeople's intention to use the system. The research method used is quantitative, and data analysis was carried out using the Partial Least Square Structural Equation Modeling (PLS-SEM) method. The results show that all proposed hypotheses are significantly accepted. Variables such as system adaptability, information quality, format quality, and ease of navigation influence the perception of ease and effectiveness of system use, which in turn influence perceived usefulness and behavioral intention. The main findings indicate that effort expectancy is the most dominant factor influencing intention to use, followed by performance expectancy, perceived enjoyment, and perceived usefulness. This study confirms that the success of E-CRM implementation depends not only on system quality but also on user perceptions of ease, usefulness, and user experience. The research results are expected to be the basis for developing strategies to increase E-CRM adoption to encourage more optimal sales performance in the PLN environment.

Keywords: ECRM, Technology Acceptance Model, UTAUT Model, Technology Adoption, Sales Performance.
JEL Code: M31, M15, O14.

I. Introduction

In the current era of globalization, the development of Information and Communication Technology (ICT) has been very rapid in various fields. This is evident in the number of companies that are beginning to require the implementation of Information Technology (IT) for business continuity and to improve their performance capabilities (Sutjipto, T. M. C., 2020). PT PLN (Persero) is a State-Owned Enterprise engaged in the electricity sector. One of its primary tasks is to provide electricity resources for the needs of all Indonesians. PLN has made numerous breakthrough innovations in its service to customers, one of which is the adoption of information technology called PLN E-CRM (Customer Relationship Management), where sales performance in meeting customer needs is recorded in this information technology system (Ariani, P. Y., 2023). This PLN

ISSN [Online]: 2776-6349

CRM innovation aims to facilitate the fulfillment of customer information needs by providing access to digital interaction between customers and PLN anywhere and anytime (Mboeik et al., 2020).

The presence of PLN E-CRM (Customer Relationship Management) has become an integrated tool for developing business and marketing for PLN. This application can serve as a bridge to support and motivate employee performance (Ariani, P. Y., 2023). The process of acceptance and adaptation in the implementation of an information technology system is influenced by many factors. One model frequently used to analyze factors related to technology acceptance is the Technology Acceptance Model (TAM). The TAM concept was initially introduced by Davis (1989), adopting the Theory of Reasoned Action (TRA) and the Theory of Planned Behavior (TPB). These two theories aim to obtain an overview of the level of acceptance of information technology by users and are specifically designed to model adoption for information system users. According to Cendika et al. (2023), the variables that determine the acceptance of information technology using the TAM model are user perceptions of perceived usefulness and perceived ease of use, both of which can influence user behavioral intentions.

Based on the discussion above, this study analyzes strategies for improving sales performance through the adoption of the PLN E-CRM (Electronic Customer Relationship Management) application at the Retail and Commerce Directorate of PT PLN (Persero). The model used in this study is the Technology Acceptance Model, which is employed to analyze interrelated factors influencing PLN salespeople in using the E-CRM application in accordance with the research problems. This study is expected to contribute to understanding the acceptance of the PLN E-CRM application among PLN salespeople in conducting sales activities and customer acquisition. Thus, this study analyzes the factors influencing PLN salespeople's intention to use the E-CRM application using the TAM model and examines the relationships among variables in the adoption of E-CRM technology.

II. Literature Review and Hypothesis Development

2.1. Definition

CRM is a systematic approach to utilizing information and communication to build sustainable and mutually beneficial relationships with customers. CRM is a comprehensive company strategy to optimize the customer lifecycle. The customer is king, but a company's service to customers cannot be treated equally, especially for customers who provide maximum profit for the company (Kateman, 2010). This aligns with the 80/20 rule, which states that of 100% of a company's customers, only about 20% have the potential to generate maximum profits. The Technology Acceptance Model (TAM) is a model used to analyze the acceptance factors of a system. The technology system acceptance model is frequently used in the information technology field. TAM is based on redo behavior theory, a theory proposed by Martin Fishbein and Azked. Hypothetical Action Model Theory (TRA) is a theory of action whose premise is that reactions and perceptions of something determine individual behavior. Reactions to the use of information technology (IT) influence the attitudes and behaviors of those who receive it. Usability, ease of use, and user perceptions can influence information technology. Therefore, a person's assessment of the usability and ease of use of information technology influences their attitudes and behaviors regarding technology acceptance.

The Technology Acceptance Model (TAM), developed from psychology, explains computer user behavior, which relates to user beliefs, attitudes, desires, and behavior. The purpose of this model is to illustrate the influence of user behavior on technology use. The attitudes established in this model for each user behavior are ease of use and usefulness (Wibowo, A., & Luhur, U. B., 2017). The Technology Acceptance Model (TAM) contains several variables that actually serve as acceptance variables, namely the intensity of use behavior and system use (Endang, F., 2015). The Unified Theory of Acceptance and Use of Technology (UTAUT) is a theoretical model developed by Venkatesh et al. (2003) to explain individual intentions to use technology and their actual user behavior. This model integrates eight previous theories related to technology adoption, including the Theory of Reasoned Action (TRA), the Technology Acceptance Model (TAM), the Motivational

ISSN [Online]: 2776-6349

Model (MM), and the Theory of Planned Behavior (TPB). UTAUT aims to simplify and strengthen understanding of the key factors influencing user technology acceptance by identifying the most significant core constructs from these previous theories. UTAUT has been shown to explain up to 70% of the variance in technology adoption intentions, significantly higher than previous models (Boomer et al., 2022).

2.2. Literature Review

The topics used in this research refer to previous studies. Journals serving as sources for this research on similar topics were reviewed and analyzed. Based on the results of a systematic literature review, previous research related to sales force automation (SFA) indicates that the primary focus of studies is on aspects of technology acceptance, factors for successful implementation, and its impact on sales performance and service quality. Several studies, such as Buttle et al. (2016), Srinivasan et al. (2014), Lee and Park (2008), and Mahlamäki et al. (2020), consistently use the Technology Acceptance Model (TAM) framework to explain user behavior towards SFA systems. The results of these studies indicate that perceived ease of use, usefulness, and system adaptability are key determinants in increasing the level of technology adoption by salespeople. Therefore, the success of SFA implementation depends heavily on the extent to which the system delivers functional value directly perceived by users.

Other literature also emphasizes that the success or failure of SFA implementation is influenced not only by technological aspects but also by organizational factors and individual behavior. Barker et al. (2009) identified that SFA failures are often caused by incompatibility with salespeople's work routines, differing expectations between management and users, and low organizational commitment. These findings are supported by Faulds et al. (2015), who noted user resistance due to the perception that SFA is used as an excessive management control tool. Furthermore, Ranjan and Puri (2018) highlighted the importance of an organization's ability to manage customer knowledge as a key factor in the success of CRM and SFA implementation. This indicates that integration between technological, human, and organizational aspects is a key prerequisite for achieving effective system implementation.

Several empirical studies have shown that SFA implementation has a positive impact on organizational performance. Domfeh et al. (2018) found that SFA adoption significantly improved service quality and sales reporting, particularly in the micro and small business sector. Giovannetti et al. (2022) also demonstrated that customer-driven transformation drives increased technology use, integration of marketing and sales functions, and changes in sales organizational processes. This study confirms that SFA not only plays a role as an operational tool but also as a strategic instrument in increasing the efficiency, effectiveness, and competitiveness of an organization, provided that its implementation is supported by adequate organizational readiness and user acceptance.

2.3. Conceptual Framework and Hypothesis Development

This study aims to identify several factors that can influence strategies for improving sales performance through the use of Customer Relationship Management (CRM) applications. The approach used in this study refers to the Technology Acceptance Model (TAM) framework. In the proposed conceptual model, the researcher examines several key variables, such as system adaptability, information quality, format quality, ease of navigation, perceived effectiveness, perceived usefulness, perceived ease of use, and perceived enjoyment. Overall, this research is expected to enrich the understanding of CRM implementation in the context of improving sales performance within the Retail and Commerce Directorate of PT PLN (Persero).

To strengthen the analysis of technology acceptance, this study also integrates elements of the Unified Theory of Acceptance and Use of Technology (UTAUT), focusing on two key constructs: performance expectancy and effort expectancy. Performance expectancy reflects an individual's belief that using CRM can support the achievement of better work results, while effort expectancy relates to the perceived ease of use of the system. These two dimensions synergistically complement the TAM model and are believed to provide

a more comprehensive understanding of behavioral intentions in adopting CRM technology as an integral part of a sales effectiveness improvement strategy. A schematic of the proposed conceptual framework for this study is presented in Figure 1.

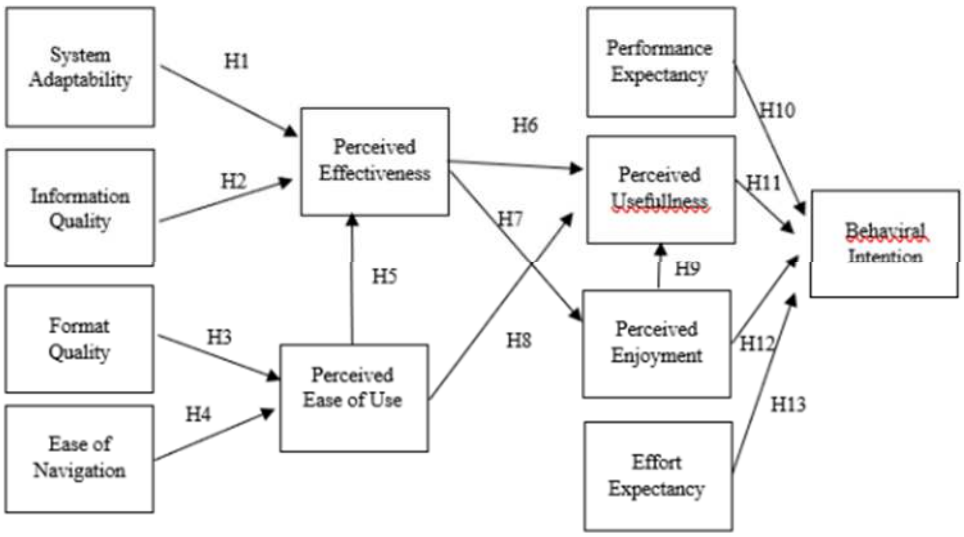

Figure 1. Conceptual Framework for TAM and UTAUT Method Research

Based on Figure 1, the hypotheses in this study can be identified as follows:

H1: System Adaptability has a positive and significant effect on Perceived Effectiveness.
H2: Information Quality has a positive and significant effect on Perceived Effectiveness.
H3: Format Quality has a positive and significant effect on Perceived Ease of Use.
H4: Ease of Navigation has a positive and significant effect on Perceived Ease of Use.
H5: Perceived Ease of Use has a positive and significant effect on Perceived Effectiveness.
H6: Perceived Effectiveness has a positive and significant effect on Perceived Usefulness.
H7: Perceived Effectiveness has a positive and significant effect on Perceived Enjoyment.
H8: Perceived Ease of Use has a positive and significant effect on Perceived Usefulness.
H9: Perceived Enjoyment has a positive and significant effect on Perceived Usefulness.
H10: Performance Expectancy has a positive and significant effect on Behavioral Intention.
H11: Perceived Usefulness has a positive and significant effect on Behavioral Intention.
H12: Perceived Enjoyment has a positive and significant effect on Behavioral Intention.
H13: Effort Expectancy has a positive and significant effect on Behavioral Intention.

III. Research Method

To determine the factors contributing to a sales performance improvement strategy through the adoption of a Customer Relationship Management (CRM) application at PT PLN (Persero), this study utilized conceptual models from previous studies and empirically tested findings. This study utilized primary and secondary data sources. Primary data was obtained by researchers from distributing questionnaires containing systematic questions and pre-filled responses from respondents based on field facts. The questionnaires were tailored to the target respondents based on the data and information available to the researchers. Secondary data, on the other hand, was obtained from journals, articles, theses, scientific papers, and various other relevant literature.

ISSN [Online]: 2776-6349

The questionnaire used multiple-choice questions and a rating scale. The scale used was an ordinal rating scale. An ordinal scale is a scale that describes ranking (Sumarwan, 2017). The research variables were measured using a Likert scale. The Likert scale ranges from 1 to 5. The weights assigned were: 1 = strongly disagree, 2 = disagree, 3 = neutral, 4 = agree, and 5 = strongly agree. Answers written based on a Likert scale were used for data processing using Structural Equation Modeling (SEM). SEM (Structural Equation Modeling) is a statistical analysis tool capable of directly analyzing the relationship between latent variables and indicator variables (Puspitawati, 2013). This model was chosen because it can explain the causal influence of a variable in the model both directly and indirectly, link the latent variable with the indicator variable, and explain the extent of the correlation between the indicator variable and the latent variable.

IV. Result and Discussion

4.1. Analysis Result

This research was conducted by distributing questionnaires to PT PLN (Persero) sales representatives in the Retail and Commerce Directorate who have actively used the E-CRM application for at least three months. A total of 325 questionnaires were collected. After data cleaning to eliminate outliers and respondents who did not meet the criteria, 300 valid data were obtained for further analysis. Data processing was carried out using SmartPLS 4.0 software with the Partial Least Square Structural Equation Modeling (PLS-SEM) method. The analysis included an evaluation of the measurement model (outer model) to test the validity and reliability of the instrument, as well as an evaluation of the structural model (inner model) to test the research hypotheses.

a. SEM-PLS Model Results

The results of the analysis using the Structural Equation Modeling–Partial Least Squares (SEM-PLS) approach show that the model developed is able to explain comprehensively the relationships among constructs within the framework of E-CRM system adoption. The results of the analysis are presented in Figure 2.

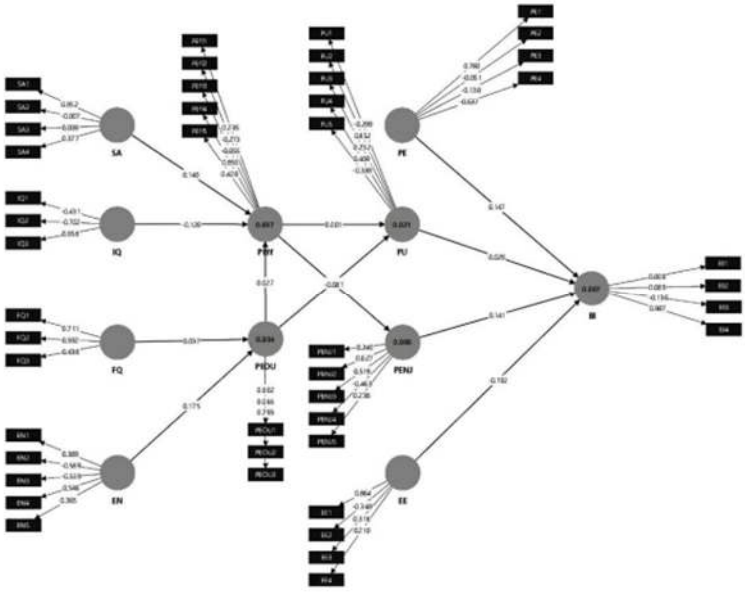

Figure 2. SEM-PLS Model Results

ISSN [Online]: 2776-6349

In general, exogenous variables such as System Availability (SA), Information Quality (IQ), Facilitating Conditions (FQ), and Enjoyment (EN) contribute to the formation of user perceptions, particularly the constructs of Perceived Effectiveness (PEff) and Perceived Ease of Use (PEOU). This indicates that system quality, information quality, and organizational support play a significant role in shaping users' initial perceptions of the system. Furthermore, the constructs of PEff and PEOU were shown to be key mediators influencing Perceived Usefulness (PU) and subsequently affecting Behavioral Intention (BI). The path coefficient values indicate that the relationships from PU and PE (Performance Expectancy) to BI have relatively stronger effects than the other variables. Therefore, it can be concluded that perceived usefulness and performance expectancy are dominant factors driving users' intentions to use the system. Perceived Enjoyment (PENJ) also contributes, although its influence is relatively smaller.

The R-square values for endogenous constructs, namely BI (0.087), PU (0.021), PEff (0.037), PEOU (0.034), and PENJ (0.006), indicate that the model's ability to explain construct variability remains low to moderate. This indicates that, although the model has captured the main relationships among the variables, other factors outside the model may also influence users' intentions to use the system. Therefore, further model development by including additional variables or adopting a more specific contextual approach is highly recommended to increase the model's explanatory power.

b. Summary of Hypothesis Testing Results

All 13 hypotheses proposed in this study were accepted based on the results of the PLS-SEM analysis using SmartPLS 4. A summary of the hypothesis testing results is presented in Table 1.

Table 1. Summary of Results of Testing All Hypotheses

H	Path	Hypothesis Statement	β	Result
H1	SA → PEff	System Adaptability → Perceived Effectiveness	0.444	Accept
H2	IQ → PEff	Information Quality → Perceived Effectiveness	0.438	Accept
H3	FQ → PEOU	Format Quality → Perceived Ease of Use	0.497	Accept
H4	EN → PEOU	Ease of Navigation → Perceived Ease of Use	0.605	Accept
H5	PEOU → PEff	Perceived Ease of Use → Perceived Effectiveness	0.408	Accept
H6	PEff → PU	Perceived Effectiveness → Perceived Usefulness	0.446	Accept
H7	PEff → PENJ	Perceived Effectiveness → Perceived Enjoyment	0.796	Accept
H8	PEOU → PU	Perceived Ease of Use → Perceived Usefulness	0.316	Accept
H9	PENJ → PU	Perceived Enjoyment → Perceived Usefulness	0.216	Accept
H10	PE → BI	Performance Expectancy → Behavioral Intention	0.323	Accept
H11	PU → BI	Perceived Usefulness → Behavioral Intention	0.255	Accept
H12	PENJ → BI	Perceived Enjoyment → Behavioral Intention	0.321	Accept
H13	EE → BI	Effort Expectancy → Behavioral Intention	0.416	Accept

Based on Table 1, all 13 hypotheses proposed in this study were accepted. The factor with the strongest direct influence on Behavioral Intention (BI) was Effort Expectancy, with a coefficient of $\beta = 0.416$. It was followed by Performance Expectancy with $\beta = 0.323$, Perceived Enjoyment with $\beta = 0.321$, and Perceived Usefulness with $\beta = 0.255$. Meanwhile, the strongest relationship in the overall model was the influence of Perceived Effectiveness on Perceived Enjoyment, with a coefficient of $\beta = 0.796$. This finding confirms the central role of perceived effectiveness as a bridge toward creating a pleasant user experience.

c. Managerial Implications

Effort Expectancy is the strongest direct predictor of Behavioral Intention, with a coefficient of $\beta = 0.416$. Therefore, PLN needs to prioritize improvements in the usability of its E-CRM application. Possible efforts include simplifying transaction flows, adding autocomplete and smart-suggestion features, and developing interactive video-based tutorials within the application. Ease of Navigation was proven to be the

ISSN [Online]: 2776-6349

strongest predictor of Perceived Ease of Use, with a coefficient of β = 0.605. Therefore, PLN needs to conduct a comprehensive evaluation of its E-CRM navigation design by involving direct feedback from salespeople. A more intuitive and responsive interface redesign will significantly improve overall ease of use.

The very strong relationship between Perceived Effectiveness and Perceived Enjoyment, with a coefficient of β = 0.796, indicates that when salespeople successfully use E-CRM to complete their tasks effectively, they are more likely to enjoy using it. PLN therefore needs to ensure that frequently used E-CRM features, such as lead input, application status tracking, and performance reports, function optimally and provide measurable results for users Information Quality and System Adaptability both significantly influence Perceived Effectiveness, with coefficients of β = 0.438 and β = 0.444, respectively. PLN needs to ensure that customer data available in E-CRM is always up-to-date, accurate, and complete. A regular data-updating program and integration with other PLN back-office systems will improve the quality of information available to salespeople. Performance Expectancy significantly influences Behavioral Intention, with a coefficient of β = 0.323. This implies the importance of clearly communicating to salespeople the concrete benefits of using E-CRM in achieving their sales targets. Coaching programs, sharing success stories, and reward systems based on E-CRM usage can be effective strategies for strengthening salespeople's belief in the benefits of the system.

V. Conclusion

This study aims to analyze the factors that influence the adoption of E-CRM applications by PT PLN (Persero) sales personnel in the Retail and Commerce Directorate using a combined approach of the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT). Based on data collected from 300 valid respondents and processed using the Partial Least Square Structural Equation Modeling (PLS-SEM) method with SmartPLS 4 software, all measurement instruments used in this study met the validity and reliability requirements. All 45 indicators measuring 11 constructs had outer loading values ranging from 0.875 to 0.927, far exceeding the minimum threshold of 0.70. The Composite Reliability (CR) values for all constructs ranged from 0.9375 to 0.9562 (>0.70), while the Average Variance Extracted (AVE) values ranged from 0.7821 to 0.8482 (>0.50). These results demonstrate that the measurement model has excellent levels of convergent validity, discriminant validity, and reliability.

Overall, this study demonstrates that the adoption of the E-CRM application by PT PLN (Persero) sales personnel is influenced by a series of interrelated factors within the integrated TAM–UTAUT model. The main influence chain identified in the model begins with system quality variables—System Adaptability, Information Quality, Format Quality, and Ease of Navigation—which affect Perceived Ease of Use and Perceived Effectiveness. These perceptions subsequently influence Perceived Enjoyment and Perceived Usefulness, which ultimately affect Behavioral Intention to use the system. Behavioral Intention is also directly reinforced by Performance Expectancy and Effort Expectancy from the UTAUT framework.

The most prominent findings are: (1) Ease of Navigation is the strongest predictor of Perceived Ease of Use (β = 0.605); (2) Perceived Effectiveness is the strongest predictor of Perceived Enjoyment (β = 0.796), representing the strongest relationship in the overall model; and (3) Effort Expectancy is the strongest direct predictor of Behavioral Intention (β = 0.416). These three findings provide clear directions for developing strategies to increase E-CRM adoption at PT PLN (Persero). This study addresses both research questions. First, the factors influencing PLN sales personnel to use E-CRM include System Adaptability, Information Quality, Format Quality, Ease of Navigation, Performance Expectancy, and Effort Expectancy as antecedent factors; Perceived Ease of Use, Perceived Effectiveness, Perceived Enjoyment, and Perceived Usefulness as mediating variables; and Behavioral Intention as the outcome variable. Second, the relationships among these variables have been mapped in a validated structural model, with all 13 tested paths showing positive and significant effects.

ISSN [Online]: 2776-6349

References

Ariani, P. Y. (2023). Penerapan sistem informasi Customer Relationship Management (CRM) dalam meningkatkan kepuasan pelanggan pada PT PLN (Persero) Unit Layanan Pelanggan (ULP) Denpasar [Undergraduate thesis, Politeknik Negeri Bali].

Barker, R. M., et al. (2009). Why is my sales force automation system failing? Business Horizons, 52, 233–241.

Buttle, F. A., et al. (2016). Sales force automation: A review of the research. Macquarie Graduate School of Management, Macquarie University.

Cendika, P., Parawansa, D. A., & Baumassepe, A. N. (2023). New PLN Mobile innovation: Technology Acceptance Model. Paulus Journal of Accounting, 4(2), 1–9.

Davis, F. D. (1989). Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Quarterly, 13(3), 319–340.

Domfeh, H. A., et al. (2018). The impact of sales force automation system on quality service delivery and sales reporting among micro and small-sized enterprises in Kumasi Metropolis, Ghana. International Journal of Economics and Management Systems, 3.

Endang, F. (2015). Technology Acceptance Model (TAM) untuk menganalisis penerimaan terhadap sistem informasi perpustakaan. Jurnal Iqra', 9(1), 1–13.

Faulds, D. J., et al. (2015). Sales force automation systems: The correspondence between the perception of productivity gains and the perception of management control among salespeople. Review of Business Information Systems.

Giovannetti, M., et al. (2022). Understanding salespeople's resistance to, acceptance, and leadership of customer-driven change. Industrial Marketing Management, 107, 433–449.

Kateman. (2010). Analisa sistem layanan call center pada PT PLN Wilayah Riau dan Kepulauan Riau Cabang Pekanbaru [Undergraduate thesis, Universitas Islam Negeri Sultan Syarif Kasim Riau].

Lee, T. M., & Park, C. (2008). Mobile technology usage and B2B market performance under mandatory adoption. Industrial Marketing Management, 37, 833–840.

Mboeik, C., Andung, P. A., & Mandaru, S. S. E. (2020). Praktik digital public relations dalam upaya meningkatkan citra positif perusahaan PT PLN (Persero) UIW NTT. Jurnal Politikom Indonesiana, 5(2), 40–54.

Puspitawati, H. (2013). Riset pemasaran dan konsumen. IPB Press.

Ranjan, J., & Puri, S. (2018). Sales force automation: Research agenda. International Journal of Value Chain Management.

Srinivasan, N., et al. (2014). Effect of technology on sales performance: Progressing from technology acceptance to technology usage and consequences. Journal of Personal Selling & Sales Management.

Sumarwan, U. (2017). Metode riset bisnis dan konsumen. IPB Press.

Sutjipto, T. M. C. (2020). Penerapan adopsi teknologi model UTAUT untuk sistem layanan Samsat terintegrasi berbasis mobile. Jurnal Manajemen Informatika, 10(2), 38–47.

Wibowo, A., & Luhur, U. B. (2017). Kajian tentang perilaku pengguna sistem informasi dengan pendekatan Technology Acceptance Model (TAM). Dalam Konferensi Nasional Sistem Informasi (hlm. 1–8).