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The Correlation Between Digital CRM System Features and Performance of Service in Clinics: A Case Study of the Fook Kang Clinic.

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Abstract

This study investigates the impact of digital customer relationship management (CRM) systems on clinic service performance, using Fukang Clinic as a case study. The objective is to determine which CRM system features most significantly influence service outcomes and to evaluate their relative importance.

With the increasing reliance on digital tools in healthcare, CRM systems play a crucial role in optimizing workflow, improving patient experience, and strengthening competitive advantages. However, many clinics face challenges in CRM adoption, including integration with existing systems, privacy concerns, and staff adaptation.

The research method used a quantitative descriptive survey, taking 155 clinic staff as a sample, covering different professions such as doctors and nurses, and collecting data through a structured questionnaire. Analyze data using descriptive statistics, correlation, and regression techniques to determine the relationship between CRM functionality and service outcomes. Key findings demonstrate a positive relationship between a user-friendly CRM interface, strong integration capabilities, and enhanced service quality, resulting in improved workflow efficiency and patient retention.

The study provides practical insights for clinics adopting CRM systems, highlighting strategies for implementation, system customization, and training. It concludes by recommending further research on AI integration, patient perspectives, and comparative studies across different healthcare settings.

Keywords : Digital Customer Relationship Management (CRM), Service Performance, Pharmacy Clinic

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Introduction

The rapid advancement of digital technology is transforming healthcare management, with CRM systems emerging as essential tools for patient relationship management. Clinics increasingly rely on digital CRM platforms to streamline operations, enhance communication, and improve patient retention. In recent years, advances in medical science and technology have promoted the vigorous development of the industry. Chinese pharmaceutical companies have grown, the pharmaceutical market has been standardized, regulations have been introduced, and institutional reforms have deepened. During the "Thirteenth Five-Year Plan" period, policies such as the essential drug system were implemented, benefiting the masses, reducing medical expenses in rural areas, and reducing improper drug purchase and sales. Improving core competitiveness requires improving the customer relationship management system. Digital technology is transforming the medical industry, and clinics are also affected. The application of customer relationship management (CRM) systems brings opportunities to them. Technologies such as big data help CRM systems efficiently utilize customer data, provide insights and personalized services, and cover the entire customer life cycle management. In pharmaceutical clinics, digital CRM systems are valuable for managing patient interactions, automating tasks, and delivering personalized care. Service performance is becoming more and more critical. In a highly competitive medical environment, patients can easily switch service providers. Customer satisfaction is related to the sustainable development of clinics and is the key to success and the driver of growth. CRM systems can help clinics optimize patient experience.

While previous studies highlight the benefits of CRM adoption, gaps remain in understanding its challenges in small clinic environments. Most research focuses on large hospitals, neglecting how smaller clinics implement and optimize CRM systems under budget constraints.

Customer satisfaction is crucial to a clinic, affecting product sales and market share. Highly satisfied customers will make repeat purchases and recommend others. Improving service performance requires a multi-pronged approach, customer relationship management is the focus, and digital CRM systems can help improve satisfaction. The system also promotes effective communication between clinics and patients. Patients can receive medical information in a timely manner, and the clinic can track data, avoid information

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omissions, reduce the manual workload of employees, and improve service quality. However, there is insufficient research on the impact of digital CRM systems on pharmaceutical clinic service performance, and given the characteristics of medical services, its impact may be very different from other industries.

To promote optimized application of clinic CRM system. At the system design level, clinics should strive to create a simple and intuitive user interface and efficient and convenient workflow to ensure that users with different backgrounds can easily get started; in terms of system integration, they should strengthen the seamless connection with electronic health records and other operational tools to build a collaborative and efficient medical information ecology; in terms of improving personnel capabilities, a systematic and comprehensive training plan is implemented to help employees master CRM skills; in the field of communication expansion, multiple channels such as text messages, emails, and patient portals are actively introduced to enhance patient interaction and the convenience of information acquisition. ; In terms of data security, we strictly follow the privacy protection agreement to build a solid foundation of patient trust; in the system implementation process, we integrate pilot testing and feedback loop mechanisms to continuously optimize system functions; in terms of external cooperation, we deepen collaboration with suppliers and customize Functional modules that meet your own needs; from a long-term research perspective, actively carry out longitudinal research to deeply explore the long-term impact of the system.

Research Objectives

1. Identify the specific characteristics of a digital CRM system that are most closely associated with clinic service performance.

2. Evaluate the relative importance of the impact of different CRM system features on clinic service performance.

Literature Review

The origin of customer relationship management system (CRM) was proposed by Gartner Group in the 1990s. It aims to build a management system for enterprises through Internet technology, collect and manage customer information, rationally allocate resources,

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establish customer-centered business processes, and make up for the limitations of ERP systems. Limitations in customer management. (Chen Minyi, 2024, pp. 144-146) In a clinic, it is crucial to maintain customer relationships and prevent customer loss. Clinics should use its management to analyze customer information, improve customer interaction effects, establish good connections with customers, and improve satisfaction. And loyalty, driving business growth. (Zhang Shuang, 2024, pp. 171-173)

Digital Customer Relationship Management System (CRM):

Ease of use is key to the success of a CRM system, affecting user satisfaction and system performance, and is particularly important in medical environments. It focuses on a simple and intuitive system interface, which can improve employee efficiency and service quality, and affect CRM performance. For example, it has a significant positive impact in the mobile phone service industry. At the same time, it and perceived usefulness are the basic determining factors for users to accept the CRM system, which can improve employee work efficiency, reduce training costs, and thereby improve customer satisfaction and loyalty. Clinics should pay attention to this aspect when implementing the design. (Al-Refaie, A., Li, MH, & Ko, JH 2012, pp.16-30)

Functionality is a promising technological innovation in the commercial field that can integrate enterprise business links and resource systems to improve operational efficiency and service quality. Including customer information management (integrating and analyzing multi-dimensional information to achieve personalized services), operation management (such as automating sales processes to improve collaboration efficiency), marketing activity planning and execution (precise positioning, automatic push, and evaluation of effects), and customer relationship health management (Functions such as providing personalized services and information support), operation management functions (simplifying communication, billing, inventory management, etc.) have many impacts on service quality, and enterprises need to optimize based on actual conditions when implementing them. (Shen Chongde, Shen Junlong, 2012, pp. 364-367)

Integration with other systems is an important aspect of enterprise information construction, which can improve customer management and other capabilities and reduce operating costs. In the medical industry, the integration of CRM systems with electronic health records (EHRs) is crucial. For example, it allows clinicians to easily access patient

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records and improves decision-making and service efficiency. However, it also faces challenges such as poor interoperability between ERP systems and CRM, which requires Improvements such as the use of standardized protocols while integrating reminder functions such as text messages can improve patient compliance. (Vats, 2024).

Communication channels, the CRM system has developed into a comprehensive platform for multi-channel communication, including phone calls, text messages, websites, etc. Mobile CRM overcomes traditional limitations and employees can benefit from mobile applications. Different channels have their own advantages and disadvantages. For example, telephone customer service provides instant interaction, while email and websites are suitable for handling a large number of inquiries. Effective communication channels can improve CRM service quality and customer perceived value, and companies should make reasonable use of them. (Sinisalo, J., & Karjaluoto, H. 2007, pp. 242-257)

CRM systems raise privacy concerns when collecting and analyzing customer data to improve service quality, and improper handling can reduce customer trust and satisfaction. Privacy can be protected and trust enhanced through encryption, access control, and the establishment of transparent policies. Successful implementation requires cross-department collaboration and attention to regulatory and ethical standards. Companies must balance data utilization and privacy protection. (Anupreet Kaur Mokha & Pushpender Kumar. 2024. pp. 103-127)

In a highly competitive business environment, the service industry relies on high-quality services to attract consumers. The application of CRM system plays an important role in improving service quality, which can enhance customer knowledge, improve service behavior and relationship management. Service quality in turn enhances loyalty by improving customer satisfaction. Cavaliere et al.'s study shows that pharmacies using CRM systems can improve service quality, etc., and its best practice strategies in different industries need to be explored in the future. (Cavaliere, 2021)

At the same time, Sheng Wang discussed the value of CRM in the field of digital marketing. It integrates data to provide personalized marketing, etc., which is important for enterprises to gain competitive advantages. In the future, blockchain can be integrated to improve performance. (Wang, S. 2024) Changsu Kim et al. studied employee performance after using m-CRM, expanded the IS success model, and found that certain factors affect

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performance through employee satisfaction and system use, and managers should pay attention to relevant factors to improve employee performance. (Changsu Kim, 2015) Amorim develops marketing strategies based on customer behavior classification, showing that CRM systems and data mining technology can improve customer retention and business performance. The results show that user-friendly interfaces, seamless integration with existing systems, and strong communication channels are critical to improving service quality and operational efficiency. (Amorim, 2021)

Conceptual Framework

In today's digital age, many clinics are introducing digital CRM systems to improve management and service levels. However, the relationship between the characteristics of the system and the actual service performance is not clear. Therefore, the researchers constructed this conceptual framework, aiming to deeply analyze how the different characteristics of each independent variable CRM system affect the dependent variable clinic service performance through a case study of Fukang Clinic. Through such research, it can provide a theoretical basis and practical guidance for clinics to select and optimize CRM systems, and help clinics better use digital tools to improve service quality and competitiveness. This conceptual framework clearly defines the core variables of the study and their interrelationships, provides a solid theoretical foundation for the selection of subsequent research methods and data analysis, and guides the research direction of exploring how various factors affect clinic service performance. It has important guiding significance and typicality in the field of CRM system application research in the medical industry.

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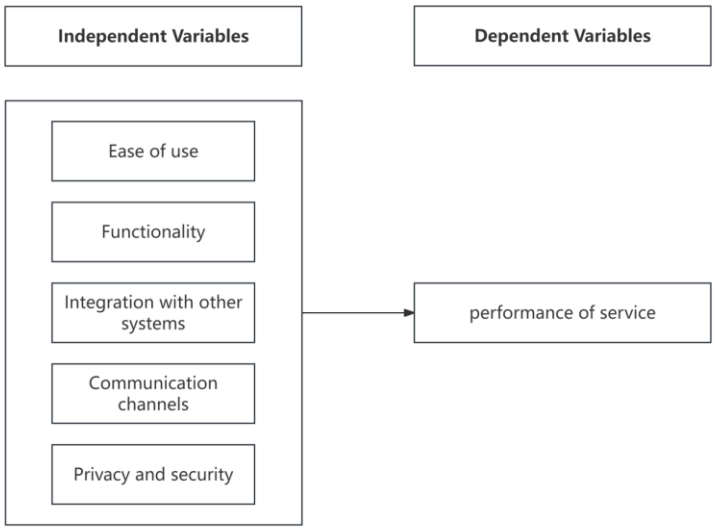

Figure 1 CRM System and Service Performance Framework

Research Methods

This study focuses on the impact of digital customer relationship management (CRM) systems on clinic service performance, using a quantitative descriptive survey research design. The specific research methods are as follows

A quantitative descriptive survey research design is used to collect clinic customer and employee data through surveys to analyze the impact of CRM systems on satisfaction levels (including factors such as service quality and customer retention). A cross-sectional survey is used to obtain data at a single time point, focusing on key variables such as the availability of the CRM system, the scope of functions, and the degree of integration with clinic operations, to explore the correlation between the functions of the digital CRM system and customer satisfaction.

The research subjects cover pharmaceutical clinics that have implemented digital CRM systems, and the geographical scope focuses on urban clinics that are more likely to adopt the system, and considers the challenges encountered in the implementation of CRM in clinics.

A total of 155 participant samples were collected in this study, classified by gender and occupation, including 113 women and 42 men. The occupations include 48 doctors, 20 nurse managers, 63 nurses, 11 logistics and transportation personnel, and 13 logistics personnel. The sample includes medical professionals and support staff, and nurses are the largest occupational group.

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A structured questionnaire was designed as the main data collection tool, which was divided into several parts:

The demographic information section collected background information such as employees' job roles, years of work experience, and frequency of CRM system use.
The satisfaction with CRM system functions section used a 5-point Likert scale to assess employees' satisfaction with system functions such as system interface, data accuracy, response time, information security, and customer data management.

The perceived impact on service performance section also used a 5-point Likert scale to measure employees' views on how CRM system functions affect service performance, involving aspects such as workflow efficiency, task accuracy, customer communication effectiveness, and service quality improvement. The questionnaire items were adapted from valid scales in CRM and service performance research and fine-tuned based on pilot test feedback to ensure reliability and validity. Data collection was carried out by distributing self-filled paper questionnaires to all clinic staff. The research team completed the distribution and collection of questionnaires within one week, explained the purpose of the study to the participants, and ensured the confidentiality and anonymity of their responses. The questionnaire collection rate reached 100%, and a complete data set was obtained for analysis. Finally, multiple regression analysis was conducted to further quantify the impact of CRM system characteristics on service performance results and gain a deeper understanding of how specific CRM system characteristics affect different dimensions of service performance. Data analysis was mainly performed with the help of SPSS software, while Microsoft Excel was used for initial data collation and descriptive statistics.

Research Results

Correlation analysis

The Pearson correlation analysis method is used to examine the significance and direction of the linear correlation between variables. When using Pearson correlation analysis, we generally use the correlation coefficient r to describe the linear correlation between variables. If the correlation coefficient $r < 0$, it indicates that the correlation between the two variables is negative, and if the correlation coefficient $r > 0$, it indicates

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that the correlation between the two variables is positive. If the correlation coefficient r = 0, it indicates that there is no correlation between the two variables.

	average value	Standard Deviation		Easy to use	Functional	Integration with other systems	Communication channels	Privacy and Security	Service Performance
Easy to use	4.017	0.967	Pearson correlation	1					
Functional	4.004	0.906	Pearson correlation	0.419***	1				
Integration with other systems	3.802	0.915	Pearson correlation	0.247**	0.303***	1			
Communication channels	3.630	1.024	Pearson correlation	0.414***	0.351***	0.231**	1		
Privacy and Security	3.905	0.914	Pearson correlation	0.391***	0.391***	0.307***	0.249**	1	
Service Performance	3.673	0.893	Pearson correlation	0.296***	0.248**	0.214**	0.340***	0.385***	1

***Correlation is significant at the 0.001 level (two-tailed).

** The correlation is significant at the 0.01 level (two-tailed).

* The correlation is significant at the 0.05 level (two-tailed).

Correlation analysis is used to study the correlation between ease of use, functionality, integration with other systems, communication channels, privacy and security, and service performance , and the Pearson correlation coefficient is used to indicate the strength of the correlation. The specific analysis shows that:

The correlation coefficient between functionality and ease of use is 0.419, and it shows a significant level of 0.001, which shows that functionality has a significant positive correlation with ease of use. The correlation coefficient between integration with other systems and ease of use is 0.247, and it shows a significant level of 0.01, which shows that integration with other systems has a significant positive correlation with ease of use. The correlation coefficient between communication channels and ease of use is 0.414, and it shows a significant level of 0.001, which shows that communication channels have a significant positive correlation with ease of use. The correlation coefficient between privacy and security and ease of use is 0.391, and it shows a significant level of 0.001, which shows that privacy and security have a significant positive correlation with ease of use. The correlation coefficient between service performance and ease of use is 0.296, and it shows a significant level of 0.001, which shows that service performance has a significant positive correlation

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with ease of use. The correlation coefficient between integration with other systems and functionality is 0.303, and it shows a significant level of 0.001, which shows that integration with other systems has a significant positive correlation with functionality. The correlation coefficient between communication channels and functionality is 0.351, and it shows a significant level of 0.001, which indicates that communication channels have a significant positive correlation with functionality. The correlation coefficient between privacy and security and functionality is 0.391, and it shows a significant level of 0.001, which indicates that privacy and security have a significant positive correlation with functionality. The correlation coefficient between service performance and functionality is 0.248, and it shows a significant level of 0.01, which indicates that service performance has a significant positive correlation with functionality. The correlation coefficient between communication channels and integration with other systems is 0.231, and it shows a significant level of 0.01, which indicates that communication channels have a significant positive correlation with integration with other systems. The correlation coefficient between privacy and security and integration with other systems is 0.307, and it shows a significant level of 0.001, which indicates that privacy and security have a significant positive correlation with integration with other systems. The correlation coefficient between service performance and integration with other systems is 0.214, and it shows a significant level of 0.01, which means that service performance has a significant positive correlation with integration with other systems. The correlation coefficient between privacy and security and communication channels is 0.249, and it shows a significant level of 0.01, which means that privacy and security have a significant positive correlation with communication channels. The correlation coefficient between service performance and communication channels is 0.340, and it shows a significant level of 0.001, which means that service performance has a significant positive correlation with communication channels. The correlation coefficient between service performance and privacy and security is 0.385, and it shows a significant level of 0.001, which means that service performance has a significant positive correlation with privacy and security.

Research Discussion

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The study highlights the transformative potential of CRM systems in healthcare, focusing on their unique requirements:

Comparative Analysis:

While CRM systems have been extensively studied in industries such as retail and finance, their application in healthcare presents unique challenges and opportunities. For example, a patient-centered care model requires a greater focus on privacy compliance and tailored communication strategies than a retail setting. Dwivedi & Choudhary (2024) noted similar industry nuances, emphasizing that CRM adaptation must take into account regulatory and cultural contexts.

Usability as a driver of success:

The study highlights that ease of use is directly related to system adoption and satisfaction. Duran & Ekinci (2020) demonstrated that availability can improve service quality and reduce resistance to new technologies. This finding is particularly important in clinics, where a diverse group of users, including clinicians and administrative staff, interact with the system.

Patient-centered care:

CRM systems significantly improve the delivery of personalized and patient-centered care. Shahbaz et al (2021) found that CRM-enabled personalization improves patient satisfaction and loyalty. Through customized communication, appointment scheduling, and follow-up, Fukang Clinic successfully enhances the overall patient experience.

Research Suggestions

Clinics must prioritize user-friendly interfaces and streamlined workflows to ensure accessibility for all users. A CRM system should seamlessly integrate with existing electronic health records (EHR) and other operational tools to create a cohesive ecosystem. Additionally, a comprehensive training program should be implemented to equip employees with the necessary skills to use the CRM effectively. Expanding communication channels is also essential; incorporating text message notifications, email updates, and patient portals can enhance patient engagement and accessibility.

To build trust and ensure regulatory compliance, clinics should adopt strict data privacy protocols. Pilot testing and iterative feedback loops should be integrated into the

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CRM implementation plan to continuously refine and optimize system performance. Furthermore, working closely with CRM vendors allows clinics to tailor functionalities to their specific needs. Lastly, future research should explore the long-term impact of CRM systems on patient retention and operational efficiency, ensuring that these systems continue to provide value in an evolving healthcare landscape.

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