Frontiers in Computing and Intelligent Systems
ISSN: 2832-6024 | Vol. 8, No. 3, 2024

Service Performance in Banks: The Effects of Customer Relationship Management Systems Extended Usage

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Abstract: With the rapid development of information technology, customer relationship management systems (CRMS) have been widely adopted by banks and play a crucial role in customer development and retention. However, there are also numerous cases of CRMS implementation failures. Further, employees are enabled by CRMS to make service decisions with the support of leaders. The role of leaders in employees' CRMS usage is understudied. Thus, based on the information systems diffusion model and the theory of leader substitutes, a research model is proposed and empirically tested. The results show that employee CRMS explorative usage has a positive impact on their service performance, while employee CRMS exploitative usage has a significant negative impact on service performance. Besides, significant leadership substitution effects are discussed in CRMS usage.

Keywords: Customer Orientation; CRMS Extended Usage; IS Infusion Model; Leader Substitutes Theory.

1. Introduction

The market environment of banks has changed from incremental market to stock market. It is becoming more and more important to understand, develop and maintain customer relationships. Customer Relationship Management System (CRMS) is a collection of information technology, information and marketing systems, which can efficiently obtain and sort out customer information, establish effective interaction and understand customer needs, purchase model (Chen & Popovich, 2003). Although enterprises are optimistic about the prospect of CRMS and invest a lot in the adoption of CRMS, there is no conclusion about whether the investment is worthy and whether it can improve employees' work performance (Parthasarathy & Sohi, 1997; Igbaria & Tan, 1997; Ahearne et al., 2005). Besides, as the usage of CRMS integrating into employees' daily work, it is important to explore how to make systems play a greater role.

CRMS has been widely adopted in various contexts, yet different employees have their own usage pattern. Based on ambidexterity theory proposed by March (1991), there exist two types of information system (IS) usage behaviors-exploitative usage and explorative usage (Luo & Ling, 2013; Koo et al., 2015; Auh & Mengue, 2005). For instance, some employees routinely use CRMS to perform structured, repetitive tasks to improve service efficiency, which refers to CRMS exploitative usage. Meanwhile others may try to explore different functions of CRMS to perform unstructured tasks or new solutions to improve service performance, which refers to CRMS explorative usage. Previous studies indicated that the usage of IS generally had positive outcomes (e.g., Chen et al., 2020; Luo & Ling, 2013; He & Wong, 2004), but the conclusions are not entirely consistent. Therefore, we intend to explore the motivator and the consequences of employee CRMS extended usage (i.e., exploitative usage and explorative usage behaviors) in this study.

Banks emphasize service interaction, which is associated with service outcome as well as the process of service delivery. As service providers, employees can make adaptive behaviors to offer personalized services with the help of CRMS. Based on leader substitute theory, employees' abilities to make their decision can substitute leader effectiveness in some extent (Kerr & Jermier, 1978; Yin et al., 2017), which consequently affect employees' service performance. For example, when employees follow the routine functions of CRMS, CRMS can directly replace the leaders' decision-making behaviors and help employees make decisions, to provide customers with corresponding services and products. However, when employees want to break the conventional application and explore new functions of CRMS, they may prefer to take actions after getting the permission and support of leaders. In this situation, the substitution of leadership is mixed. Therefore, it is worthwhile to explore the role of different types of CRMS usage in the consideration of leadership.

What's more, the CRMS extended usage behaviors are not spontaneously and need internal and external motivation to drive. The motivation of customer orientation, which refers to individual ability and motivation in serving customers based on individual level, can meet employees' relationship, autonomy and competence through authorization, improving employees' knowledge reserve and encouraging team cooperation. Employees' external motivation can hence be internalized into internal motivation and stimulate effective work behaviors (Zhang, 2021). Therefore, it is necessary to explore the relationship between customers' orientation and employees' CRMS extended usage.

This research is expected to make the following key contributions. Firstly, this paper combines customer orientation with innovative application of CRMS, and integrates leader substitutes theory with ambidexterity of IS usage. It is expected to extend and enrich the IS diffusion literature. Secondly, this paper discusses the CRMS usage behaviors in the diffusion stage, and investigates the antecedent and consequence of different types of extended use of CRMS. Specifically, it is interesting to find out that not all types of CRMS usage contributes to employee service performance improvement. It is expected to provide rich theoretical and practical implications for bank managers. Thirdly, the contingent effects of leadership provide insights for the mechanism of how to manage the outcomes of

employees CRMS usage behaviors.

2. Literature Review and Theoretical Basis

2.1. CRMS Exploitative and Explorative Usage

IS diffusion model is widely used in post-adoption behaviors of information system and studies the characteristics and contents of information technology in different stages. Post-adoption behavior is defined as "adoption decision, function usage behavior and extended behavior made by individual users after installing its applications" (Jasperson et al., 2005), which emphasizes the importance of how individuals use technology and interact with technology. Drawn from Cooper and Zmud (1990), the work of Saga and Zmud (1994) suggests four different stages of the information technology diffusion process: adaptation, acceptance, routinization and infusion. Post-adoption corresponds to the last two stages of this process (i.e., routinization and infusion).

Grounded in the ambidexterity literature, exploitative use and explorative use can simultaneously exist in the IS infusion stage. In the context of IS usage, exploitation refers to using the system to perform structured repetitive tasks to improve efficiency, while exploration refers to the innovative use of systems to perform unstructured or existing tasks (Subramani, 2004). That is, exploitative usage is defined as using more available system features to complete tasks, which means using information system functions in an automatic, substantive, technical or productive way, while explorative usage is defined as using systems to support tasks in an innovative way (Koo et al., 2015). In order to maintain competitive advantage and provide better services, employees need to conduct the both behaviors. Exploitative usage emphasizes the utilization and in-depth development of existing knowledge, highlighting "doing better", which is performed in the form of improvement; explorative usage emphasizes the pursuit of knowledge, highlighting "doing differently", which is performed in the form of breakthrough(Feng, 2021).

Previous researches about IS exploitative usage and explorative usage can be divided into two streams: The first stream takes IS usage as the dependent variables and explores influencing factors and their relationship, that is, the "antecedents" of IS usage. In the past, the antecedents of IS usage were mainly analyzed from three perspectives: individuals' factors, i.e. customer-oriented atmosphere, personal innovation, user attitude, user satisfaction and experience and work environment(Agarwal & Prasad, 1998; Barton & Deschamps, 1998; Zhang, 2021; Jansen et al., 2006; Roh et al., 2005); organizational factors, i.e. organizational structure, organizational support and resource provision (Jansen et al., 2006); and information or information systems' application. The second stream takes IS usage as independent variables. These studies discuss the relationship between the innovative application of IS and organizational performance, employee service performance, service innovation performance and enterprise competitiveness, that is, the "consequences" of innovative usage of IS. Further, researchers have started to examine how employees' service performance interact with IS usages and inclined to explore the mediating role between them. Although, previous studies have provided much efforts on the role of employees' individual characteristics in managing usages of CRMS and employees' service performance (Luo & Ling, 2013; Chen et al., 2020; Subramani, 2004)., noticeably missing from these studies is what role leaders play in employees' usage of CRMS and how it shifts employees' service performance.

2.2. Leadership Substitutes Theory

Kerr and Jermier (1978) introduced the important concept of substitutes for leadership and focused on the impact of non-leadership factors on outcome variables. The critical point of leader substitutes theory is that substitution factors are able to have a direct impact on outcome variables. These can substitute the effectiveness of leadership and meet the needs of individual guidance and care. There exist two kinds of "substitution" effects: "neutralizer" and "substitute". The term "substitutes" for leadership was used by Kerr and Jermier (1978) to characterize the traits that render leader behaviors redundant, unneeded, and unimportant. Certain traits, such as those that facilitate employees' understanding of their roles and work procedures or give them access to feedback and rewards from sources other than their managers, might serve as stand-ins for leadership. Additionally, substitutes could directly impact the results or standards that negate the need for leader behaviors. According to Kerr and Jermier (1978), elements of tasks, subordinates, or organizational structures that render leadership impractical or unproductive are neutralizers of leadership. According to Wu (2010), these neutralizers have the ability to be beneficial or detrimental, depending on the circumstances, but their overall impact is the creation of a leadership void.

Scholars have further put forward leader substitutes theory. For example, Xu and Wang (2008) put forward that universal use of information technology can provide daily information for employees to carry out work, and provide timely job performance feedback for employees, so as to greatly improve efficiency and job satisfaction. Through information systems, employees can communicate with customers and colleagues, which has become an important leadership substitutes factor. There are a few studies actually examining the linkages between leadership substitutes factors and leader behaviors. For example, Wu (2010) finds support for interactions between the substitutes for leadership (e.g., professional orientation) and leader behaviors. Based on this stream of literature, the current paper discusses the substitution effect of employees' extended use of CRMS on leader behaviors.

3. Research Framework and Hypothesis

3.1. Research Framework

Based on the IS diffusion model and the ambidexterity literature, employees' extended usage of CRMS mainly includes exploitative usage and explorative usage. To understand the consequences of CRMS extended usage behaviors and how to motivate and regulate these behaviors, a research model is developed as follows (Figure 1).

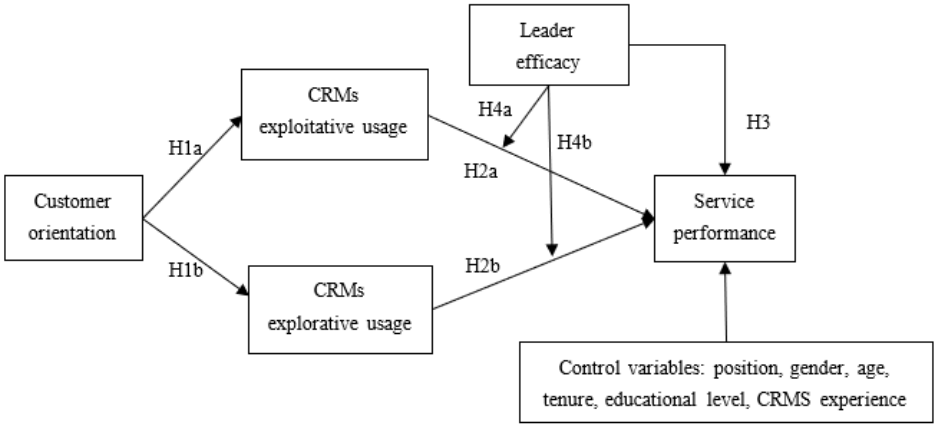

Figure 1. Research model

3.2. Research Hypothesis

3.2.1. Effect of Customers' Orientation on Crms Exploitative and Explorative Usage

"Captures the extent to which employees' job perceptions, attitudes, and behaviors are guided by an enduring belief in the importance of customer satisfactions" is the definition of customer orientation as a work value. It shows how much staff members take pleasure in meeting client demands and how dedicated they are to their interests and welfare. The impacts of customer orientation have drawn much attention at both individual level and organizational level (Zhang, 2021). At individual level, previous research has conceptualized customer orientation as a psychological antecedent to critical job states (i.e., stress and engagement) and as a distal (or mediated) predictor of job outcomes, including employee performance and behaviors (Zablah et al., 2012; Menguc et al., 2016). For frontline employees, customer orientation can stimulate their work-related motivation. Once employees have intrinsically been motivated, they will increase levels of engagement or investment in their jobs. Thus, to work accurately and efficiently, CRMS could be exploitatively used to obtain, scree, process, and record customer information, especially for routine tasks (Li et al., 2018). Besides, with high engagement, employees may try to explore different functions of CRMS to deal with unstructured tasks such as mining clues from customer database so as to provide personalized services. Further, customer orientation is likely to reduce perceived role ambiguity and conflict and decreases job stress among frontline employees (Zablah et al., 2012). Employees are enabled to work efficiently and creatively with exploitative and explorative CRMS usage. Therefore, we proposed that customer orientation can promote both CRMS exploitative usage and explorative usage behaviors.

H1a: Focusing on customer orientation is positively related with CRMS exploitative usage.

H1b: Focusing on customer orientation is positively related with CRMS explorative usage.

3.2.2. Effect of CRMS Exploitative and Explorative Usage on Employees' Service Performance

Exploitative usage and explorative usage are types of IS usage in the IS infusion stage. CRMS exploitative usage emphasizes efficiency and productivity (Koo et al., 2015). It requires a little degree of learning, enhances existing knowledge (e.g., using the same feature of CRM), and denotes the repetition of a specific set of usage methods in order to comply with typical work processes (Luo & Ling, 2013). It denotes that staff members adhere to and are conversant with a set of established guidelines and protocols for the use of CRMS, and they facilitate the integration of CRMS use with work processes. Therefore, exploitative usage of CRMS improves frontline employees' service efficiency by using routine solutions to solve problems as soon as possible. To the opposite, explorative usage behavior focuses on improvement, creativity and "doing differently" (Feng, 2021). Through explorative usage, staff members discover effective ways to use CRMS capabilities, try out new features, and creatively apply them to enhance work completion or task flow (Jasperson et al., 2005). Therefore, we propose that both CRMS exploitative usage and explorative usage are beneficial to employees' service performance.

H2a: CRMS exploitative usage is positively related to employees' service performance.

H2b: CRMS explorative usage is positively related to employees' service performance.

3.2.3. Effects of Leader Efficacy

Leader efficacy reflects leaders' beliefs regarding their abilities to self-motivate that in turn motivate others to act (Hannah et al., 2012; Yukl, 2006). Not only was leader efficacy associated with higher individual leader performance, but it was also associated with higher group performance. When leaders can affect and change followers' cognition and behaviors to translate leader behaviors into follower actions, it seems to be effective leadership (Xu & Wang, 2008). Researches suggested that leader was found to be greatly related to employees' behaviors and performance (Yukl, 2006; Hannah et al., 2012). It can influence subsequent cognitions, affect and behaviors through operating within leaders' self-systems, then affect employees' service performance.

H3: Leader efficacy can positively affect employees' service performance.

In fact, the relationship between leaders and employee performance is complex. Its effects may be vital, insignificant or even harmful. There exist some factors to act as leadership substitutes, such as information technology, which partly replace the role leaders play. Thus, when employees apply CRMS in a conventional way, employees can make independent decisions directly according to customer and product information provided by CRMS, which is not highly dependent on leaders, and even CRMS can completely/partially replace the role of leaders. Tasks hence are accomplished efficiently and the role of leader efficacy is not necessarily translated to the subordinates. Accordingly,

the CRMS exploitative usage behavior substitutes the effects of leadership. However, when employees intend to adapt work procedures or develop new solutions, employees prefer to take actions after getting the support of leaders. It is especially true in banks. During the process, frontline employees also can create new knowledge and improve solutions for future tasks. Leader efficacy will play an important role in this case to monitor, support, and implement employees' adaptive behaviors. Thus, we propose that the CRMS explorative usage behavior may complement the effects of leadership instead of substitution.

H4a: The CRMS exploitative usage behavior is a substitute of leadership. That is, there is a negative interaction between CRMS exploitative usage behavior and leader self-efficacy on employee service performance.

H4b: The CRMS explorative usage behavior is a complement of leadership. That is, there is a positive interaction effects between CRMS explorative usage behavior and leader self-efficacy on employee service performance.

4. Methodology

4.1. Measures

This study used a questionnaire survey to collect data and test the research model. Multiple items of all latent categories were measured using seven-point Likert scales anchored with "strongly disagree" to "strongly agree." To maintain reliability and validity in questionnaire, the instruments were selected from mature measuring scales. The measurements for customer orientation are adopted from Saparito et al. (2004). Three items each are adopted from Li et al. (2013) to measure CRMS exploitative usage and explorative usage respectively. The measurements for employee service performance is selected from Menguc et al. (2016) and leader efficacy's items are adopted from Murphy (1992)'s study. To be noted that, in order to avoid the potential bias caused by self-report survey, the dependent variable (i.e., employee service performance) and leader efficacy were rated by leaders and the other variables were rated by employees.

4.2. Data Collection

To obtain validation data, we conducted a field survey with 150 branches of a rural commercial bank in Southwest China. With the assistance of the bank's senior management, we distributed 223 paper questionnaires to potential respondents (the target respondents were front-line employees and the leaders from bank branches) identified by the bank's human resources department. These respondents were based on the following criteria: (1) the respondents had experience in using CRMS; (2) They rely on the introduction of CRMS to complete their daily tasks. A total of 218 respondents answered the questionnaire, with a response rate of 97.8%, excluding invalid questionnaires (there are two main situations: one is that there are many missing values in the questionnaire, and the other is that a few questionnaires are not filled in carefully), and finally 150 valid matched samples are left for data analysis.

5. Data Analysis and Results

This paper used Statistical Software for Social Science (SPSS) and Smart Partial Least Squares (SPLS, version 3.3.3) for the data analysis. Prior to the structural model, the measurement model was evaluated in terms of reliability, convergent validity and discriminant validity. To sum up, the measurement model passed all the test satisfactorily.

5.1. Descriptive Statistics

Table 1 presents the demographic profiles of the respondents. In 150 valid samples, 39.3% of the respondents were male and 60.7% were female.

Table 1. Sample demographics (n=150)

Item	Category	Percentage	**Item**	Category	Percentage
Gender	Male	39.3%	**Position**	Customer Manager	54.6%
				Credit Section Chief	22.6%
	Female	60.7%		Deputy President	8.7%
				President	7.3%
				others	5%
Age	<=19	0%	**Education Level**	Record of Primary School	0.6%
	20 – 29	48.7%		Record of Middle School	12.7%
	30 – 39	44%		Junior Bachelor	84%
	40 – 49	7.3%		Bachelor	2.7%
	>=50	0%		Postgraduate or above	0%
Tenure in the bank	< 1 year	0.8%	**CRMS Experience**	< 1 year	45.3%
	1-3 years	17.3%		1-3 years	29.4%
	4 – 6 years	37.3%		4 – 6 years	13.3%
	7-8 years	23.3%		7-8 years	8.7%
	9 – 10 years	1.3%		9 – 10 years	2.6%
	>= 11 years	20%		>= 11 years	0.7%

5.2. Reliability and Validity Test

This paper uses SmartPLS3 to carry out confirmatory factor analysis to test the measurement model and come to conclusion. To begin with, we evaluate indicator reliability, composite reliability, convergent validity and discriminant validity (as shown in Table 2). Indicator reliability can be assessed through factor loading estimates. It is generally advisable for factor loading to be greater than 0.707 (Benitez et al., 2020). Table 2 presents the factor loading estimates, which range from 0.804-0.963, all items loaded above 0.707 suggesting that more than 50% of the variance in a single indicator can be explained by the corresponding latent variable. Composite reliability represents the correlation between latent variable and construct scores, and thus above the suggested threshold of 0.707, indicating reliable construct scores. To obtain empirical evidence for discriminant validity, HTMT (commonly lower than 0.85 or 0.9 suggested) should

be considered. In our paper, the HTMT is totally below the recommended threshold of 0.85 (and of 0.9). In consideration of multicollinearity issue, VIF is tested, suggesting that multicollinearity is not a serious problem in our data. For internal consistency, the values of Cronbach's alpha and composite reliabilities for latent variables are all greater than the recommended threshold of 0.80 for confirmatory research.

Table 2. construct reliability, convergent validity, and discriminant validity

Construct No. and Name	coding	Weight	Factor loading	VIF	Cronbach's alpha	Composite reliability	AVE
Customer Orientation	**ECO1**	0.261	0.819	2.004	0.874	0.914	0.725
	ECO2	0.272	0.863	2.479			
	ECO3	0.322	0.873	2.394			
	ECO4	0.319	0.851	2.043			
CRMs exploitative usage	**ERTU1**	0.298	0.844	1.903	0.912	0.945	0.852
	ERTU2	0.391	0.957	1.903			
	ERTU3	0.388	0.963	2.344			
CRMs explorative usage	**EINU1**	0.373	0.938	3.709	0.931	0.956	0.879
	EINU2	0.361	0.934	3.610			
	EINU3	0.333	0.942	4.276			
Employees' service performance	**LSPF1**	0.192	0.828	2.540	0.925	0.941	0.727
	LSPF2	0.214	0.854	3.020			
	LSPF3	0.207	0.884	3.318			
	LSPF4	0.203	0.885	3.230			
	LSPF5	0.193	0.860	3.561			
	LSPF6	0.161	0.804	2.618			
Leader efficacy (rated by leader)	**LLE1**	0.302	0.907	3.241	0.916	0.940	0.797
	LLE2	0.357	0.934	3.672			
	LLE3	0.237	0.887	3.036			
	LLE4	0.217	0.841	2.460			

Abbreviations: AVE, average variance extracted

In addition, Table 3 shows the descriptive statistics, average variance extracted (AVE) and construct correlation matrix for the latent variables. AVE (named average variance extracted), typically used to assess convergent validity, indicates how much of the indicators' variance can be explained by the latent variable. In our paper, all AVE values are above 0.5, indicating reliable convergent validity. In addition, we test the discriminant validity by comparing the square root of the AVE and the correlations among each construct and conclude that the square root of the AVE by constructs is greater than any correlation among constructs (Suki &Ramayah, 2011), supporting discriminant validity. Based on this, we conclude that construct reliability, convergent validity, and discriminant validity are all acceptable.

Table 3. Descriptive, AVE and construct correlation matrix

Latent variables[a]	Mean	S.D.	AVE	1	2	3	4	5
1.Customer orientation (4)	5.642	1.285	0.725	**0.852**				
2.CRMs exploitative usage (3)	5.60	1.374	0.852	0.522	**0.923**			
3.CRMs explorative usage (3)	4.573	1.538	0.879	0.441	0.450	**0.938**		
4.Service performance (6)	5.054	1.212	0.727	-0.026	-0.073	0.159	**0.853**	
5.Leader efficacy (4)	5.505	0.928	0.797	0.055	0.075	0.022	0.291	**0.893**

[a] Number of measurement items

Abbreviations: AVE, average variance extracted (values on the diagonal are the square roots of the AVE)

In this paper, we collect multisourced data (respectively rated by leaders and employees) for independent and dependent variables in our model so that common method bias is not a major concern. At the same time, we take actions to proactively minimize the problem of common method bias (Podsakoff et al., 2003). Firstly, we collect multisourced data including employee self-reported data for independent variable and leader-reported data for the dependent variables to control common method bias. Secondly, we collect data in the broader research context and measures of variables are obtained mainly in different branches of banks. To sum up, all tests indicate that common method bias doesn't threaten the validity of the results.

5.3. Structural Model

After confirming the measurement model, we then use a bootstrapping method (1000 iterations) to examine the overall fit of the estimated model, the path coefficient estimates, their significance, the effect sizes (f^2) and the coefficient of determination (R^2) for the structural model. In the Smart-PLS analysis, we decide to choose manager-assessed service performance as the dependent variables for the structural model in view of potential common method bias. As indicated in the Figure 2, customer orientation significantly enhances exploitative usage of CRMS (H1a: β=0.552; p<0.01; lower limit [LL]=0.402, upper limit [UL]=0.637) and explorative usage of CRMS (H1b: β=0.441; p<0.01; LL=0.294, UL=0.564), separately explaining 25.6%, 19.5% of its variance. Furthermore, CRMS exploitative usage has a significantly negative effect on employees' service performance with path coefficients of -0.227 (H2a: β=-0.229; p<0.01; LL=-0.409, UL=-0.040). and CRMS explorative

usage also has a positive effect on employees' service performance (H2b: β=0.282, p<0.01; LL=0.073, UL=0.472), yielding an explained variance of 22.5%. Besides, leader efficacy can yield a direct positive effect on service performance (H3: β=0.306; p<0.01; LL=0.153, UL=0.466) The results are presented in Table 4.

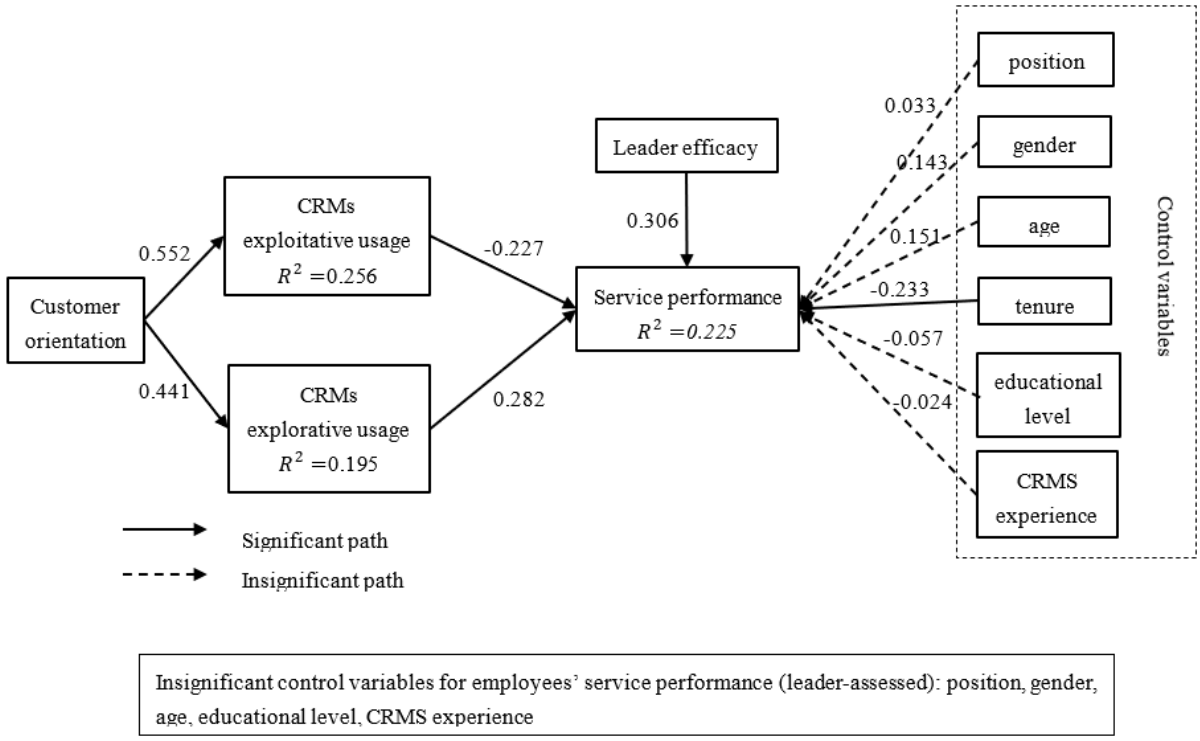

Figure 2. SPLS results of the structural model

Table 4. Path coefficients

Hypothesis	relationship	Std beta	t	p	LL	UL	Decision	R^2	f^2
H1a	ECO→ ERTU	0.552	8.052	0	0.402	0.637	Supported	0.256	0.344
H1b	ECO→ EINU	0.441	6.354	0	0.294	0.564	Supported	0.195	0.243
H2a	ERTU→ LSPF	-0.229	2.341	0.017	-0.409	-0.040	Unexpected	0.225	0.047
H2b	EINU→ LSPF	0.282	2.908	0.006	0.073	0.472	Supported		0.081
H3	LLE→ LSPF	0.306	3.900	0	0.153	0.466	Supported		0.118

Abbreviations: ECO, customer orientation; ERTU, CRMS exploitative usage; EINU, CRMS explorative usage; LSPF, employees' service performance; LLE, leader efficacy; LL, lower limit; UL, upper limit

Table 5. Interaction effects

Approach	relationship	M	SD	Std beta	T-value	P-value	LL	UL	Decisions (p≤0.05)	R^2	f^2
Main effects model	ERTU→ LSPF	-0.222	0.096	-0.229	2.391	0.017	-0.409	-0.040	Supported	0.188	0.046
	EINU→ LSPF	0.276	0.103	0.282	2.744	0.006	0.073	0.472	Supported		0.072
	LLE→ LSPF	0.312	0.082	0.306	3.728	0	0.153	0.466	Supported		0.113
Two-stage	ERTU→ LSPF	-0.236	0.098	-0.232	2.377	0.018	-0.422	-0.038	Supported	0.226	0.050
	EINU→ LSPF	0.293	0.098	0.295	3.011	0.003	0.092	0.473	Supported		0.082
	LLE→ LSPF	0.312	0.079	0.308	3.796	0	0.175	0.470	Supported		0.117
	Interaction effect1(ERTU*LLE)	-0.107	0.105	-0.125	1.193	0.233	-0.299	0.111	Not supported		0.013
	Interaction effect2(EINU*LLE)	0.209	0.113	0.230	2.025	0.043	-0.040	0.399	Supported		0.049

Abbreviations: ECO, customer orientation; ERTU, CRMS exploitative usage; EINU, CRMS explorative usage; LSPF, employees' service performance; LLE, leader efficacy; LL, lower limit; UL, upper limit.

For the leadership substitutes, the results reveal that there is a significant positive interaction effect between leader efficacy and explorative usage of CRMS on employees' service performance (H4b: β=0.231, p<0.01), while the interaction effect is not significant for exploitative usage of CRMs. Therefore, H4b can be supported while H4a is not. Our explanation is that when employee use CRMS in a routine, conventional way, they can get customers' information and service products information by applying CRMS and CRMS can substitute the decision role of leader as expected. Therefore, in this situation employees have rare need to rely on leader effectiveness. However, when

employees want to apply new functions of CRMS and explore new ways to use, employees prefer to take action after getting the support of leaders. At this time, leaders' attitude will have a different effect on employees' usage of CRMS.

In order to verify interaction effects, we also conduct additional analysis. The result is shown in Table 5. First of all, the path coefficient of the interaction term indicates to which extent the independent variables' influence on the dependent variable changes depending on the interaction variable. the results (interaction effect1, -0.125, p=0.233>0.05; interaction effect2, 0.230, p=0.045<0.05) of path coefficient capturing the interaction effects differs significantly from zero, which supports that the interaction effects really exist. It also suggests that interaction effect1 is not significant while interaction effect2 is otherwise. Further, the interaction effect can be assessed by comparing the proportion of variance explained (as expressed by the determination coefficient $R^2 = 0.146$) of the main effect model (i.e., the model without interaction effect) with the $R^2 = 0.188$ of the full model (i.e., the model including the interaction effect). This idea also underlies the effect size (Henseler & Fassott, 2010; Fassott et al., 2016) that interaction effects with effect size f^2 of 0.02 may be regarded as weak, effect sizes from 0.15 as moderate, and effect sizes above 0.35 as strong. Table 5 shows that interaction effect1 with effect size f^2 (0.013) is pretty weak, suggesting leader efficacy has a weak moderating effect on the relationship between CRMS exploitative usage behaviors and employees' service performance. However, Moderating effect2 with effect size f^2 (0.049) is rather moderate, which shows that leader efficacy positively moderates the relationship.

6. Discussion and Implication

6.1. Key Findings

In this study, we investigate employees' CRMS extended usage behaviors (i.e., CRMS exploitative usage and CRMS explorative usage) and analyze the antecedent of applying CRMS (i.e., customer orientation). The results indicate that customer orientation can positively affect employees' systems usages. Further, we discuss employee CRMS usage behaviors in IS infusion stage and explores the different effects of exploitative usage and explorative usage of CRMS on employees' service performance. The results show that CRMS explorative usage benefit service performance. However, interestingly, exploitative usage is harmful for service performance. This may because in a highly competitive market, routine usage of information systems may not help companies and even has negative impacts. Emphasize more on conventional usage, which is mostly happens in banks, may cultivate conformist and finally damage the organizations. In addition, we investigate the substitutes of leadership of CRMS usage. The direct effect of leader efficacy is consistent with prior studies that leader efficacy has positive effects on employees' service performance. More importantly, we found that leader efficacy can negatively affect the relationship between employees' CRMS exploitative usage and their service performance, although insignificant. However, there is a positive interaction between employees' CRMS explorative usage and employee service performance. Considering the negative effects of exploitative usage behaviors, leverage leader efficacy to enlarge the positive effects of explorative usage is highlighted.

6.2. Theoretical Implication

Firstly, in recent years, a major problem that has aroused the interest of researchers and practitioners is the impacts of CRMS application on employees' and enterprise service performance, and whether work motivation (i.e., customer orientation) has an impact on usage behaviors of CRMS. We attempt to enrich IS diffusion literature by focusing on the impact of customer orientation on their service performance and regarding usage of CRMS as a key intermediary. Secondly, it is expected to enrich the IS usage literature and ambidexterity literature that types of CRMS usage may result in different outcomes. Although previous literature indicate that both information systems explorative and exploitative usage are overall beneficial in the adoption stage (He & Wong, 2004), our findings indicate that it may not always be the case in the post-adoption stage, especially in a mature market with fierce competition. Thirdly, extending the leader substitutes theory, we highlight the usage of CRMS as one of the leadership substitute factors, which can affect employees' service performance. Prior studies found mixed results on the relationship between extended usage behaviors and service performance (Roman & Lacobucci, 2010; Chen et al., 2020). The opposite effects of explorative and exploitative usage may provide clues for overall mixed results in previous literature. Different usages behavior could be substitute or complement leadership, which may further relieve the inconsistency in consideration of the role of leaders. It provides a lens for further IS extended usage study to involve in the role of leaders and specific organizational factors.

6.3. Practical Implications

Employee's usage behaviors may cause different effects on their service performance. Managers are suggested to encourage frontline employees to deeply engage in CRMS and integrate it into their job and service. Leveraging the resources of CRMS, it is essential to promote employees to adapt their service to fulfill customer diverse needs so as to acquire and retain customers innovatively. Excessive emphasize conventional usage of CRMS may not benefit the company and even harmful. Cultivate a flexible climate is also suggested to avoid rigid and regimented service style. In addition, we propose CRMS usage behaviors can play a critical role in substituting leader effectiveness based on leader substitution theory. When employees use CRMS in a routine, simple way, appropriate empowerment is recommended. When employees encounter with unstructured tasks or intend to innovatively use the systems, leaders' support is helpful then. The intervention of leaders in appropriate occasions can effectively improve employees' performance. Besides, effective distribution of leader's energy also helps to improve leader themselves work efficiency.

6.4. Limitations and Future Research

This study has some limitations that provide opportunities for future research. Firstly, based on the leadership substitutes theory, there are potentially different types of substitute factors, such as organization related factors and task related factors. In the current study, we only focus on the CRMS usage. Further study could combine different types of factors besides the CRMS usage. Secondly, CRMS has been adopted in various organizations. In the current study, we select a typical service industry (i.e., bank) to test our framework. Further researches may examine whether the result is

consistent in different contexts. Thirdly, since the data was collected by questionnaire, although we tried our best to control for common method variance in the research design and the methodology, it cannot be fully eliminated. Further study could replicate the research with different data source and/or methods.

7. Conclusion

CRMS have been commonly adopted in various contexts for years and already stepped into post-adoption stage. This research aims at exploring how different usage behaviors of CRMS affect employees' service performance and how to manage it. By providing a theoretical model and empirical evidence for extended usage of CRMS, our finding highlights the antecedents and mechanisms of CRMS explorative and exploitative usage on service performance. Furthermore, based on the leadership substitutes theory, the role of leaders in frontline employees' CRMS usage is explored. It is expected to provide theoretical lens for letting information system investment continually make contributions and developing effective leadership as well.

References

[1] Agarwal R., & Prasad J. 1998. A conceptual and operational definition of personal innovativeness in the domain of information technology. Information Systems Research. 9(2). pp.204-215.

[2] Ahearne M., Jelinek R., & Rapp A. 2005. Moving the direct effect of SFA adoption on salesperson performance: training and support as key moderating factors. Industrial Marketing Management. 34(4). pp.379-388.

[3] Auh S., & Mengue B. 2005. Balancing exploration and exploitation: the moderating role of competitive intensity. Journal of Business Research. 58(12). pp.1652-1661.

[4] Barton D.L., & Deschamps I. 1998. Managerial influence in the implementation of new technology. Management Science. 34(10). pp.1252-1265.

[5] Benitez J., Henseler J., Castillo A., & Schuberth F. 2020. How to perform and report an impactful analysis using partial least squares: guidelines for confirmatory and explanatory is research. Information & Management. 57(2). pp.103168.

[6] Chen I.J. & Popovich K. 2003. Understanding customer relationship management (CRM): people, process and technology. Business Process Management Journal. 9(5). pp.672-688.

[7] Chen G., Gully S.M., & Eden D. 2001. Validation of a new general self-efficacy scale. Organizational Research Methods. 4(1). pp.62-83.

[8] Chen R.R., Ou C.X, Wang W., Peng Z. & Davison R.M. 2020. Moving beyond the direct impact of using CRM systems on frontline employees' service performance: the mediating role of adaptive behavior. Information System Journal. 30(3). pp.458-491.

[9] Chen Q.J., Wan M.F., & Wang Y.M. 2021. The influence of digital technology application on ambidextrous innovation of enterprises—empirical test based on organizational life cycle. Soft Science. 35(11).

[10] Cooper R.B. & Zmud R.W. 1990. Information technology implementation research: a technological diffusion approach. Management Science. 36(2). pp.123-139.

[11] Fassott G., Henseler J. & Coelho P.S. 2016. Testing moderating effects in PLS path models with composite variables. Industrial Management& Data Systems. 116(9). pp.1887-1900.

[12] Feng J.Y. 2021. The influence of ambidextrous innovation on provincial innovation performance- the mediating effect of R&D expenditure and the moderating effect of learning absorptive ability. Taiyuan University of Technology.

[13] Guerola-Navarro V., Raul O., Hermenegildo G. & Agustin I.F., 2021. Customer relationship management (CRM) and innovation: a qualitative comparative analysis (QCA)in the search for improvements on the firm performance in winery sector. Technological Forecasting & Social Change. 169. pp.120838.

[14] Hannah S.T., Avolio B.J., Walumbwa F.O. & Chan A. 2012. Leader self and means efficacy: a multi-component approach. Organizational Behavior and Human Performance. 118, pp.143-161.

[15] He Z.-L., & Wong P.-K. 2004. Exploration vs. Exploitation: An empirical test of the ambidexterity hypothesis. Organization Science. 15 (4). pp 481-494.

[16] Henseler J. & Fassott G. 2010. Testing moderating effects in PLS path models: an illustration of available procedures. Handbook of Partial Least Squares (in book). pp.713-735.

[17] Igbaria M. & Tan M. 1997. The consequences of information technology acceptance on subsequent individual performance. Information &Management. 32(3). pp.113-121.

[18] Jansen J. J. P., Bosch F. A. J. V. D., & Volberda H. W. 2006. Exploratory innovation, exploitative innovation, and performance: effects of organizational antecedents and environmental moderators, Management Science. 52 (11). pp. 1661-1674.

[19] Jasperson J., Carter P.E. & Zmud R.W. 2005. A comprehensive conceptualization of post-adoptive behaviors associated with information technology enabled work systems. MIS Quarterly. 29(3). pp.525-557.

[20] Kerr S. & Jermier J.M. 1978. Substitutes for leadership: their meaning and measurement. Organizational Behavior and Human Performance. 22(3). pp.375-403.

[21] Kuvaas B.& Buch R.2020. Leader self-efficacy and role ambiguity and follower leader-member exchange. Leadership & Organization Development Journal.41(1). pp. 118- 132.

[22] Koo C., Chung N. & Kim H.W. 2015. Examing explorative and exploitative uses of smartphones: a user competence perspective. Information Technology. 28(1). pp133-162.

[23] Kwok N., Shen W. & Brown D.J. 2020. I can, I am: differential predictors of leader efficacy and identify trajectories in leader development. The Leadership Quarterly. 32(5). pp.101422.

[24] Li Y.F., Huang J.H. & Song T.T. 2018. Examining business value of customer relationship management systems: IT usage and two-stage model perspectives. Information Management. 56(3). pp.392-402.

[25] Liu H., Wu S., Zhong C. & Liu Y. 2020. An empirical exploration of quality management practices and firm performance from Chinese manufacturing industry. Total Quality Management & Business Excellence. 32(15-16). pp. 1694-1712. DOI: 10.1080/14783363.2020.1769474.

[26] Luo Y. & Ling H.2013. Exploration and exploitation of information systems usage and individual performance. Procedia Computer Science. 22. pp. 863-872.

[27] March J.G. 1991. Exploration and exploitation in organizational learning. Organization Science. 2. pp.71-87.

[28] Parthasarathy M., & Sohi R.S. 1997. Salesforce automation and the adoption of technological innovations by salespeople: theory and implications. Journal of business and industrial marketing. 12(3). pp.196-201.

[29] Podsakoff P.M., Mackenzie S.B. & Lee J.Y. 2003. Common method biases in behavioral research: a critical review of the

literature and recommended remedies. Journal of Applied Psychology. 88(5). pp.879-903.

[30] Roh T.H., Ahn C.K. & Han I. 2005. The priority factor model for customer relationship management system success. Expert Systems with Applications. 28(4). pp.641-654.

[31] Roman S. & Lacobucci D. 2010. Antecedents and consequences of adaptive selling confidence and behavior: a dyadic analysis of salespeople and their customers. Journal of the Academy of Marketing Science. 38(3). pp.363-382.

[32] Saga V. & Zmud R.W. 1994. The nature and determinants of IT acceptance, routinization and infusion. In Levine, L. (Ed.), Diffusion, Transfer, and Implementation of Information Technology. Elsevier Science Inc. New York. NY. pp.67-86.

[33] Subramani M. 2004. How do suppliers benefit from information technology use in supply chain relationship? MIS Quarterly. 28(1). pp.45-73.

[34] Suki N.M & Ramayah T. 2011. Understanding consumer intention with respect to purchase and use of pirated software. Information Management & Computer Security. 19(3). pp.195-210.

[35] Wang X.J. 2020. A multi-level research on the impact of employee-customer value co-creation on service innovation. Jilin University.

[36] Wu Y.C. 2010. An exploration of substitutes for leadership: problems and prospects. Social Behavior and Personality. 38(5). pp.583-595.

[37] Xu X.D. & Wang X.Y. 2008.Leadership substitution: a new perspective for the study of leadership effectiveness. Human Resources Development of China. (09). pp.10-13.

[38] Yin K., Wang C.F. & Zhang K.L. 2017.Substitutes for leadership theory: a literature review and prospects. Foreign Economics& Management. 39(11). pp.61-76.

[39] Yukl G.A. 2006. Leadership in organization (6th ed.). Upper Saddle River. NJ: Prentice Hall.

[40] Zablah Alex R., George R. Franke, Tom J. Brown, & Darrell E. Bartholomew. 2012. How and when does customer orientation influence frontline employee job outcomes? A meta-analytic evaluation. Journal of Marketing. 76(3). pp.21-40.

[41] Zhang L.L. 2021. The impact of customer-oriented atmosphere on employees' proactive behaviors. Research on Financial and Economic Issues. 9(14).