



Customer Knowledge Management: Improving Performance in Tunisian Hotels Through Customer Value

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Abstract

We investigate the effects of customer knowledge management (CKM) on customer value (CV) and performance using a questionnaire survey of the Tunisian hotel industry. Tunisia offers an exemplary case, exhibiting a serious requirement to reattract tourists and critical need to improve hotel profitability. The industry suffered dramatic reductions in tourist numbers as a result of terrorist attacks. The study develops a conceptual account of knowledge as an asset and how it is used. We employ two contrasting samples; hotel managers (n= 121) and hotel customers (n= 597). Our review of the literature enabled us to build hypotheses which we tested with a logit model. We found robust evidence that good knowledge management is related to perceptions of value. In turn, this enhances performance. Nonetheless, CKM directly enhances financial performance rather than non-financial performance. However, the indirect effects of CKM on both financial and non-financial performance were significant. We conclude that good knowledge management offers a very useful approach to enhancing perceptions of value and hotel performance.

Keywords: customer knowledge management; customer value; financial performance; non-financial performance; hotel industry; Tunisia.

1. Introduction

Knowledge is an asset that may offer competitive advantage. It may be especially particularly useful for understanding the increasing complexity of modern tourism [1] and tourists' preferences.

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Researchers have thus become interested in organizations' capacity to identify, capture, create, share or accumulate knowledge [2; 3; and 4]. Organizations investing in knowledge are found to be more likely to survive, have enhanced performance and sustain their competitive advantage [5, 6]. Indeed, customer-specific knowledge is perceived as a critical resource for any enterprise [7; 8; 9] and is seen as valuable, rare and non-substitutable. Knowledge cannot be easily copied and substituted and enables firms to create value in a unique, inimitable and non-transferable way [10]. Specifically; knowledge about customers can create value [7,11] Explain how customer knowledge can deliver customer delight. Nonetheless, Reference [12] suggest that knowledge management is not well developed in the tourism industry, or even in tourism research. Indeed, Reference [13] comment on the inefficiency and ineffectiveness of knowledge transfer in tourism generally. Moreover, it seems that knowledge management processes are not straightforward; the nature of the tourism industry raises several practical difficulties [14]. Consequently, there appears a need to further our understanding of customer knowledge management and practice [15]. Although [16], along with many others, argues that effective KM creates competitive advantage and [17] highlight its usefulness for tourism's recovery after a crisis, KM has not always achieved the expected results [18,19] Suggest this may be because KM is a complex synthesizing and self-transcending process. Put differently, knowledge builds on itself and needs continuous improvement. It is not open to a simple logical analysis of structure and action. Indeed, following [20]'s comment about KM as an interactive process, we argue that acquiring and employing customer knowledge is a relational process [21, 22]. Formally, Customer Knowledge Management (CKM) is the application of knowledge management (KM) instruments and techniques to support the exchange of knowledge between an enterprise and its customers [15]. These processes indicate the centrality of close customer relationships. Put differently, in order to use customers' knowledge effectively, you have to know your customer [23]. More formally, Reference [24] propose the philosophical underpinning is combining customers and marketing for relationship building, describing this as a communication process between customers and an organization's services to attract and maintain those customers. Reflecting the complexity, we discussed earlier the literature, (e.g. [25;26;27]) suggests that customer knowledge can be categorized as:

- knowledge for customers (i.e., knowledge delivered to customers in order to satisfy their needs);
- knowledge about customers (i.e., knowledge that firms collect in order to better know its targeted customers) and
- knowledge from customers (i.e., the knowledge that customers hold and that organizations can acquire by interacting with them).

Reference [28] Concluded that these types of customer-related knowledge contribute to value creation. Indeed, [29] argued that the ability to continually generate and use customer knowledge creates superior customer value. This growing recognition, that customer knowledge is the key to success through differential positioning [30], is the precursor to customer satisfaction and loyalty [31] and a source of competitive advantage [32]. We suggest that value may lie at the core of the competitive advantage of customer knowledge. Adding value, or perceptions of value, is the outcome of customer knowledge processes; yet customer values are also the substance of what we want to know. A growing body of literature about value, (e.g. [33;34;35]) suggests that understanding how value is perceived, what value is, and how it is created and offered to customers has become crucial, particularly for the service industry, given providers' vulnerability to changes in customers' opinions and perceptions. In

other words, perceptions of value may change [36], they are contextual – value-in context [37] and dependent-value-in-use [38,39] Conclude that only continuous interactions with customers can enable firms to acquire new demand related knowledge. Importantly; consumers who contribute to creating value in the consumption process are shown to be more satisfied, as opposed to other passive consumers (e.g.,[40;41]). Although the concept of customer value has garnered much attention, there seems to be limited empirical research supporting or challenging the theoretical claims advanced in the literature (see, [42]). Moreover, despite its pivotal progression in customer value, and considerable influence on organizational performance [20], the concept of customer knowledge seems to be one of the most complex types of knowledge. Indeed, its complexity may emanate from how it is derived from various sources and has contextualised meaning; it is also dynamic and changes rapidly (e.g.,[43]). Accordingly, the management of customer knowledge has become a challenging task [44]. Our research question builds on our problematizing of knowledge processes; we had argued these could be complex and possibly difficult to achieve. Consequently, we ask, how well do these processes work in the Tunisian hotel industry? Our choice of Tunisia as context is both practical and theoretical. For theory, Tunisia offers an exemplary case. Historically, the hotel industry had invested heavily in improvements, but suffered from low profitability. The situation deteriorated badly after the terrorist attacks on tourists [45,46] Explain that for two decades hotels experienced major challenges in their operating environment. Hotel performance indicators have continued to decline and show little sign of recovery. This provides us with a conceptually interesting case for understanding good practice in difficult circumstances. Tourism plays a crucial role in the Tunisian economy and better understanding of improving performance offers a practical contribution. The National Institute of Statistics in Tunisia (NIS) suggests the tourism sector has contributed more than 7% of Tunisia's real GDP. The sector is a main source of foreign exchange and an important employer, creating some 400,000 jobs. Yet this can change rapidly; a crisis demonstrates the vulnerability of tourist places ([47;48;49]).The terrorist attacks caused an immediate and dramatic reduction in tourists. The National Institute of Statistics in Tunisia (NIS) suggests that the number of tourist arrivals, tourist stays and tourism receipts (2010-2015) fell by 31.5%, 54%, and 33.2% respectively. Although our context is Tunisia, all tourist areas are vulnerable to a rapid disenchantment with place ([50, 51]). Thus, knowledge and understanding of what holds value and appeal for customers and how to apply this knowledge in troubled times takes on a special importance. The broader usefulness of a clear accounting of the benefits and practice of CKM is twofold: first, for understanding customer preferences; CKM is a practical way for hotels to remain competitive. Second, for understanding the hotel industry in countries facing a crisis, or any general change in holidaying patterns. Consequently, we argue that knowing and understanding customers' preferences to create value for customers is vital and signals the importance of managing customer related knowledge [15]. Accordingly, we believe this study offers both a practical and a theoretical contribution. The paper is organized as follows. Section 2 reviews the relevant literature for introducing key constructs of our research. Section 3 develops a research model to depict hypothesized relationships. Section 4 elaborates the research methodology and data collection procedures. Data analysis and findings are presented and explained in Section 5. Discussion, concluding remarks, implications and limitations of the study are provided in Section 6.

2. Literature review

2.1. Customer knowledge management

The purpose of this review is to critically examine what we already know about CKM and to use this to frame and inform our study. By identifying the extent of understanding and problematic areas, we are able to focus our contribution to this literature. We argued earlier that customer knowledge is a key source of new knowledge and through its effective management; organizations can improve their capacity to perform and to compete against their main competitors [52,53] Argues firms must include customers in their internal process to manage customer knowledge and gain access to essential sources of information and ideas [15]. Authors in [54] define CKM as “the utilisation of knowledge *for* (i.e. product information) *from* (i.e. their ideas about product improvements) and *about* customers (i.e. their requirements and expectations) in order to enhance the customer-relating capability of organisations”.It assists firms to deal with particular needs of their customers and makes them more effective in improving customer satisfaction ([55,56]). Customer knowledge management (CKM) is about capturing, sharing and employing information, knowledge, experience and ideas linked to customers [57]. In fact, by ‘charming’ customers through the firm’s process, CKM links the external environment with the internal [58], and transmits and shares information not only amongst customers and within firms, but also between customers and firms [16].

Authors in [59] propose three CKM strategies to manage customer knowledge which align well with [54]’s definition:

- management of knowledge for customers;
- management of knowledge from customers; and
- management of knowledge about customers.

The management of knowledge for customers refers to CKM strategies that firms employ to manage knowledge flows from organizations to customers. According to [60], it is fundamental for firms to choose an effective medium to communicate with customers about their products, services, markets, offers, and discounts. Reference [61] finds that continual knowledge flow directed from organizations to customers is a prerequisite to helping customers in their decision-making. As well as supporting customers in their buying cycle, it assists their use of products and services [61]. This allows customers to better understand organizations, their offers and products and services ([43,62]). According to [63,59], organizations providing customers with information about their latest products, campaigns and events keep them in alignment with changes. Secondly, the management of knowledge from customers refers to the CKM strategies that organizations utilize to manage knowledge flow from customers to organizations. Knowledge from customers assists firms to improve the quality of their products and services, as well as to develop new products and services ([62;54;20]). Such knowledge must be integrated for innovation, idea generation and evaluation ([64;65]). Knowledge from customers is critical for organizations to achieve the concept of “design with customers” [66]. It can also be a powerful crisis management tool for organizations [67,59] assert that acquiring relevant knowledge from customers allows them to express their expectations, likes and dislikes. Researchers, such as, [66,68,69] have similarly pointed out that it is worthwhile for organizations to draw knowledge from customers by understanding their reaction to changes, and, thereby, seeking customer-driven innovation in their design and production. Thirdly, management of knowledge about customers refers to CKM strategies that firms employ to manage knowledge flow among customers. In addition to customers’ preferences and past transactions,

knowledge about customers includes analyzing customers' present needs, future desires, changing tastes and trends ([70,71]). It encompasses exploring customers' perceptions on products and services and identifying their preferences and interests, thus gaining competitive advantage. In a similar vein, customers feel that they are valued [54,72] proposes the accumulation of the acts of sharing knowledge about customers can enhance customer loyalty. According to [55], customer knowledge is the basis of the majority of improvements in customer value. However, we cannot simply rely on 'objective' lists such as the star system [73]; perceptions of value are nuanced and may change as circumstances change [74]. Hence, customer's notions of value are subjective. Accordingly, for organizations to create customer value, customer knowledge has to be managed to meet customer needs [75].

2.2. Customer value

Customer value is characterized as an experience which not only includes the object itself, but also the subject's experiences [76]. It involves processes of interpretation of how a customer benefits from consuming a product or service in relation to the sacrifices made to acquire it [77]. Here, benefits are frequently labeled as quality, and sacrifices are labelled as price [78]. According to [79] customer value is created when the customer perceives that the benefit of consuming products/services surpasses the sacrifices. A broader theoretical framework of perceived value was developed by [80,78], who state that customer choice is a function of multiple 'consumption value' dimensions and that these dimensions make varying contributions in different choice situations. Inspired by this literature, Reference [81] developed a specific measure of customer value on a three-dimensional scale; Reputation for quality; Value for money and Prestige. Firstly, reputation for quality is explained as the influence of a supplier's image on consumers' perception about the overall excellence of a product or service ([82;83]). The customer's knowledge offers businesses knowledge about the customer's preferences and what impacts most on their experiences [74]. How positively or negatively individuals talk to others about their experience affects future assessment of the firm's reputation for quality [80]. In other words, reputation for quality also captures emotional value, the feelings that consuming a product or service generates [78]. Secondly, value for money can be viewed as the utility derived from a product or service due to the reduction of its perceived short-term and long-term costs [78]. In simple terms, it is about comparing the benefits and sacrifices, and represents monetary valuation [81]. It captures the notion of price and perceived price. Price refers to whether the money paid for the product/service was reasonable [80], where as perceived price is what a consumer gives up, or sacrifices in order to obtain a product or a service [82]. Thirdly, prestige captures the utility derived from the product's ability to enhance social self-concept [78]. Prestige is the social value that emanates from associating oneself with a product or a service [84]. Prestige pertains to what the "important others" within the entire customer's network think about the customer for patronizing a given organization [81].

3. The research model and hypotheses

Being pivotal for improvement in customer value, CKM significantly influences organizational performance. This research advances a research model in which customer knowledge management is proposed to influence performance directly and through customer value indirectly, as shown in Fig.1. This section discusses the

components of the presented model and proposes the hypotheses.

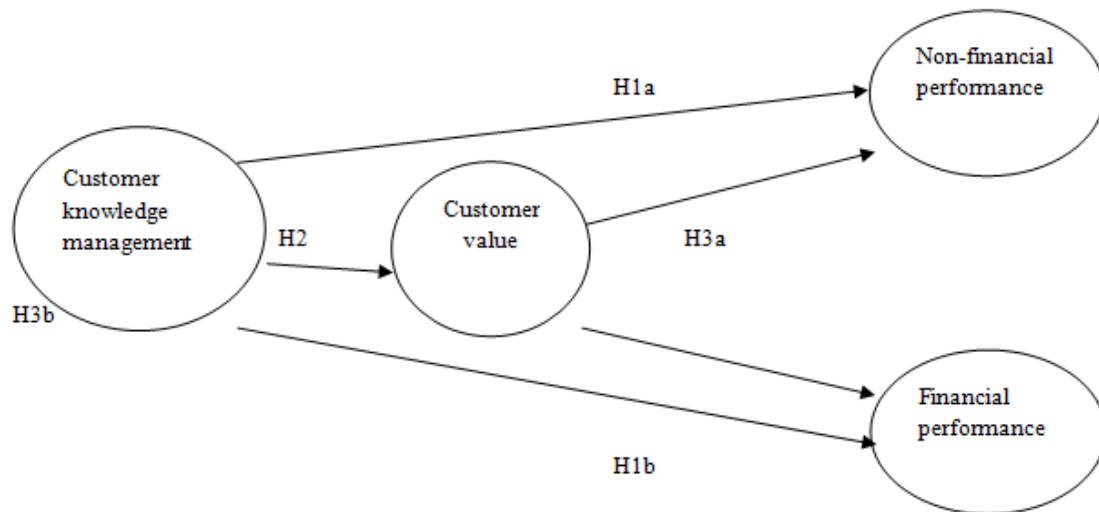


Figure 1: the research model

3.1. Influence of customer knowledge management on performance

Researchers had seen that customer knowledge is a key external resource and can be used to increase market performance (e.g., [85, 86, 87] explain why the application of customer knowledge is fundamental to organizational performance, because this knowledge is about customer needs [87]. According to [15], establishing a co-creative environment through customer interaction and involvement, along with making use of customer knowledge flows, can help firms achieve superior performance. Reference [88] found that customer knowledge enhances operational performance, though it relies on the quality of customer knowledge management. More recently, [89] found a significant link between customer knowledge management (CKM) and organizational performance in the banking industry. In contrast, other studies did not establish such an association (e.g., [90;91]). In light of the above;

H1a. Customer knowledge management directly enhances non-financial performance.

H1b. Customer knowledge management directly enhances financial performance.

3.2. Influence of customer knowledge management on customer value

The customer knowledge management (CKM) process model suggested by [71] initially aimed at integrating the two concepts of customer relationship management (CRM) and knowledge management (KM). Bearing this in mind, many authors have pointed out that knowledge management (KM) processes and customer value are closely connected (e.g., [71;92]). Likewise, knowledge management (KM) is recognized as a framework for determining an organizations' goals, structures and processes to use knowledge to create value for its customers and community [93]. For example, Reference [94] asserted and modeled how the application of customer relationship management (CRM) offered hotels a valuable opportunity to increase customer value. Customer

relationship management (CRM) strategies can create precious marketing opportunities, enhance customer value and improve customer satisfaction [95]. According to [96], customer relationship management (CRM) is about creating and maintaining long-term relationships with customers in such a way that continual improvement in customer value delivery will arise throughout this relationship. Reference [97] confirm that customer value creation depends on the firm's ability to hold, apply and use particular knowledge and skills for the receiver's benefit. Similarly, Reference [98] emphasized the ability to continually generate and use customer information is crucial for companies to create superior customer value.

H2: Customer knowledge management directly enhances customer value

3.3. Relationship between customer knowledge management, customer value and performance

According to [99] to "stay close to the customer", "puts the customer at the peak of the organization chart," and to "define the company's business purpose" such as "to attract new customer and retain an existing one" can be summarized in one statement "offering superior customer value" resulting in greater profitability. This closeness to a customer can identify what makes a visit memorable [100]. According to [101] gaining superior performance depends greatly on the achievement of a positional advantage by the continued creation of superior customer value. Moreover, during challenging periods adopting customer value strategies is required to increase profits and ensure long-term survival ([102;103;104]). In a similar vein, Reference [105] asserted that a superior customer value generates superior financial performance. Likewise, authors in [106] found that achieving superior performance requires the firm to have a strong competitive position based on the provision of superior customer value. Reference [20] highlighted that steady improvements in customer value substantially affect organizational performance.

H3a: Customer value functions as a mediating factor between customer knowledge management and non-financial performance.

H3b: Customer value functions as a mediating factor between customer knowledge management and financial performance.

If **H2** and **H3a** are true, **H4a** should also be true. Similarly, if **H2** and **H3b** are true, **H4b** should also be true.

H4a: Customer knowledge management indirectly enhances non-financial performance by creating customer value.

H4b: Customer knowledge management indirectly enhances financial performance by creating customer value.

4. Research methods

4.1. Sample and data collection

From June 2017 to April 2018, we surveyed our survey population of three to five-star hotels with 100 or more

employees. Hotels with a minimum of 30 rooms and in business for more than a decade were included. We used two self-administered close-ended questionnaires; one for hotel managers and the other for hotel customers (tourists). We also carried out face to face surveys with managers and customers, aimed to increase the response rate and ensure responses were complete and usable for analysis. General Managers completed the survey for the customer knowledge management (CKM) and the performance (P) constructs. As key informants, they have the best overall perspective on the organizational aspects ([107,108]). They deal with flows of knowledge around the entire organization rather than just having access to knowledge within one or few departments [109]. Initially, we contacted individuals who held managerial positions in different hotels; they were HR/personnel managers, marketing managers, front office managers, housekeeping managers or financial managers. Then, we arranged an appointment with the hotel's general manager. Following prior studies, customer value can be examined across different respondents; general managers, employees or customers ([81;110;111]). Hotel customers were the target population for the construct of customer value. Prior to the data collection, a draft questionnaire was pre-tested with 9 managers and 36 customers. We then revised several items and amended the questionnaire structure. Both surveys were developed in English, then translated to French because some Tunisian managers do not speak fluent English. Customer respondents spoke French or English. We selected 204 hotels but 72 declined; 132 agreed to participate. Eleven questionnaires were discarded because of missing data; in total 121 questionnaires were completed, a very satisfying response rate of 59.31 %. Constraints imposed by the participating hotels prevented us from communicating with customers as much as we would have liked. Nonetheless, the number of respondents participating in the customers' survey was 597.

4.2. Development of the measures

4.2.1. Customer knowledge management

We adopted the three customer knowledge management strategies for managing customer-related knowledge of [59]. Our scale of customer knowledge management (CKM) has three components: (1) Management of knowledge for customers (three items); (2) Management of knowledge from customers (two items); and (3) Management of knowledge about customers (four items). These items were generated from the literature review. Inspired by the work of [63,59,112], we identified management of knowledge for customer (MKFOC) through three items. The management of knowledge from customer (MKFRC) was measured through two items adopted from [59,68]. We identified and refined these from the literature ([70;71;113]) four items to measure the management of knowledge about customers (MKABC). We obtained a measurement scale consisting of nine items (see Table 1) to measure the customer knowledge management (CKM). Items measuring customer knowledge management were structured on a seven-point Likert type scale; from 1: 'not at all' to 7: 'to a very great extent'.

4.2.2. Customer value

We measured customer value by a scale originally developed by [81]. The scale comprised three components: Reputation for quality (six items); Value for money (three items); and Prestige (three items). Customer value was measured on a 7-point Likert-type scale from 1: 'strongly disagree' to 7: 'strongly agree' (see Table 1).

4.2.3. Performance

The scale of performance (P) is composed of two components according to [114] namely: (1) Non-financial performance; and (2) Financial performance. Non-financial performance metrics originally proposed by [115] focused on thirteen items. Reference [116] adapted the scale to include six measuring items. The scale for measuring financial performance (four items) was previously employed by [117]. A 7-point Likert type scale ranging from 1: ‘much worse than competitors’ to 7: ‘much better than competitors’ was employed (see Table 1).

Table 1: Customer knowledge management, customer value and performance scales

Customer knowledge management	
Management of knowledge for customer	<ul style="list-style-type: none"> • We carefully choose an effective medium to communicate with customers about products, services, markets, offers and discounts. • We seek to ensure that our customers are regularly updated with information about latest products, services, campaigns and events to keep them in alignment with changes. • We seek to submit projects/ideas details by adopting online/offline advertisement, such as, ‘under review’, ‘reviewed’, ‘under construction’, ‘coming soon’ and ‘launched’.
Management of knowledge from customer	<ul style="list-style-type: none"> • We work to encourage customers to express their needs, doubts, purchase intentions, expectations, likes and dislikes by directly asking them about their opinion and feedback.
Management of knowledge about customer	<ul style="list-style-type: none"> • We seek to understand customers’ reactions to changes. • We make a real effort to analyze customers’ present needs, future desires, changing preferences, interests and trends. • We seek to deal with rumors and misconceptions among customers. • We seek to treat customers as evaluators of submitted ideas. • We profit from online/offline customer-to-customer knowhow exchange in the form of opinions, preferences and word-of-mouth.
Customer value	
Reputation for quality	<ul style="list-style-type: none"> • The hotel delivers services of the highest quality. • The quality of hotel service is consistently high. • The hotel service is considered very reliable. • This hotel is considered a ‘top quality hotel’. • I really enjoy staying at this hotel. • The hotel staff treats us with great respect.
Value for money	<ul style="list-style-type: none"> • I consider the hotel rates to be reasonable. • This hotel offers value for money. • The hotel reservation system is convenient for me. • Staying in this hotel is considered prestigious.

Prestige	<ul style="list-style-type: none"> • I consider staying in this hotel a status symbol. • I consider staying in this hotel fits my social status.
Performance	
Non-financial performance	<ul style="list-style-type: none"> • New product/service development over the past 3 years • Staff development and training over the past 3 years. • Customer satisfaction over the past 3 years. • Relations with suppliers over the past 3 years. • Employee satisfaction over the past 3 years. • Market share over the past 3 years.
Financial performance	<ul style="list-style-type: none"> • Average return on investment over the past 3 years. • Average profit over the past 3 years. • Average growth over the past 3 years. • Average return on sales over the past 3 years.

5. Results

5.1. Measurement model

We firstly performed a confirmatory factor analysis (CFA) in AMOS to evaluate the overall measurement model. To evaluate the validity of measurement model, both convergent validity and discriminant validity, commonly regarded as subsets of construct validity, were assessed [118]. Convergent validity is the degree to which factors that are presumed to measure a single construct agree with each other. Following previous literature, this study tested the convergent validity by assessing factor loading that should be significant and exceed 0.5; composite reliability (CR) for each construct which should exceed 0.6; and the average variance extracted (AVE) which should not be less than 0.5 for all constructs [119]. In our model all factor loadings and composite reliabilities (CR) are statistically significant at the 0.01 level and all fall in the acceptable ranges. Factor loadings range from 0.688 to 0.954. Composite reliabilities (CR) range from 0.937 to 0.991. AVE has values greater than 0.5 and ranges from 0.591 to 0.837. The results show that our model meets the convergent validity criteria. The most common measure of internal reliability is the Cronbach's alpha (C- α). This statistic ranges from 0.734 to 0.795; all are higher than 0.7.

Table 2 shows the means, SD, factor loading, AVE, CR and C- α of every construct.

Table 2: Results of CFA and internal reliability testing

Constructs	Mean	SD	Items	Loading	AVE	CR	C- α
Management of knowledge for customer (mkfoc)	5.487	0.955	mkfoc1	0.688	0.591	0.952	0.734
			mkfoc2	0.821			
			mkfoc3	0.792			
Management of knowledge from customer (mkfrc)	5.413	0.957	mkfrc1	0.825	0.688	0.937	0.735
			mkfrc2	0.835			
Management of knowledge about customer (mkabc)	5.398	0.937	mkabc1	0.774	0.645	0.967	0.736
			mkabc2	0.756			
			mkabc3	0.879			
			mkabc4	0.799			
Reputation for quality (rfq)	5.250	0.782	rfq1	0.870	0.716	0.991	0.743
			rfq2	0.881			
			rfq3	0.865			
			rfq4	0.853			
			rfq5	0.821			
			rfq6	0.784			
Value for money (vfm)	5.351	0.732	vfm1	0.830	0.726	0.984	0.751
			vfm2	0.881			
			vfm3	0.845			
Prestige (pres)	5.213	0.900	pres1	0.918	0.837	0.989	0.754
			pres2	0.954			
			pres3	0.871			
Non-financial performance (nfp)	4.036	0.936	nfp1	0.871	0.683	0.979	0.781
			nfp2	0.892			
			nfp3	0.885			
			nfp4	0.928			
			nfp5	0.933			
			nfp6	0.888			
Financial performance (fp)	3.985	0.995	fp1	0.853	0.659	0.980	0.795
			fp2	0.914			
			fp3	0.913			
			fp4	0.897			

Table 3: Discriminant validity analysis

Constructs	mkfoc	Mkfrc	Mkabc	Rfq	Vfm	pres	nfp	Fp
Mkfoc	0.591							
Mkfrc	0.309	0.688						
Mkabc	0.319	0.343	0.645					
Rfq	0.345	0.231	0.277	0.716				
Vfm	0.243	0.232	0.203	0.608	0.726			
Pres	0.208	0.125	0.114	0.470	0.524	0.837		
Nfp	0.013	0.045	0.015	0.015	0.011	0.012	0.683	
Fp	0.025	0.020	0.012	0.010	0.017	0.018	0.597	0.659

Authors in [120] defined discriminant validity as the degree to which factors, assumed to measure a specific construct, do not predict conceptually unrelated criteria. We adopted [119]’s approach to measure discriminant approach. As such, the AVE for each construct should not be lower than the correlation between constructs. Table 3 illustrates that the measurement model has adequate discriminant validity. In Table 3, diagonal elements in italics are the AVE and the off diagonal elements represent the squared correlation between constructs. From detailed data in Table 3, it is evident that each diagonal element is higher than relevant off diagonal elements. As a result, all constructs in the measurement model were judged as having satisfactory discriminant validity.

We assessed the measurement model fit by evaluating: firstly absolute fit measures including observed normed χ^2 (χ^2 /df), goodness of fit index (GFI) and root mean square error of approximation (RMSEA); secondly incremental fit measures including normed fit index (NFI), adjusted goodness of fit (AGFI) and comparative fit index (CFI); and finally parsimonious fit measures, including parsimony goodness-of-fit index (PGFI) and parsimony normed fit index (PNFI). As displayed in Table 4, all fit indices met adequate levels. Consequently, the model fits the data well and it is able to test the research hypotheses.

Table 4: Overall fit indices of the CFA model

Fit index	Scores	Recommended cut-off value
Absolute fit measures		
χ^2 /df	1.680	$\leq 2^a$; $\leq 5^b$
GFI	0.938	$\geq 0.90^a$; $\geq 0.80^b$
RMSEA	0.075	$< 0.08^a$; $< 0.1^b$
Incremental fit measures		
NFI	0.912	$\geq 0.90^a$
AGFI	0.984	$\geq 0.90^a$; $\geq 0.80^b$
CFI	0.913	$\geq 0.90^a$
Parsimonious fit measures		
PGFI	0.812	The higher, the better
PNFI	0.715	The higher, the better

^a Acceptability : acceptable.

^b Acceptability: marginal.

5.1. Econometric model

Our main method of analysis is logistic regression, which has the advantage over structural equation modeling (SEM) that it does not require the assumption of multivariate normality [121]. Multivariate normality is the main assumption in structural equation modelling and violation of this assumption generates distorted results [122]. Another advantage of the logit model over the structural equation modelling (SEM) is that the estimated marginal effect in the logit model provides the measurable importance of each explanatory variable [121]. The logit model, because of these advantages, is popular for marketing, management and strategy studies. Respondents were asked to choose between multiple categories ordered from 1= “much worse than competitors” to 7 = “much better than competitors” (for managers) and from 1= “strongly disagree” to 7 = “strongly agree” (for customers), consequently ordered logit models should be well suited. However, the data were highly skewed. Although multivariate normality is not required in the logit model, we were concerned that the highly skewed data could be problematic when the low-point scales lose their representatives in the sample. Thus, the multinomial variables were transformed into binomial variables following [123]’s advice. If the average scores of respondents were 3.5 or below, hotels are considered to be under-performing and customers are considered to be receiving low value; if the average scores of respondents were above 3.5, hotels are considered to be well-performing and customers are considered to be receiving high value. A binominal logit model was consequently applied and estimated in the Stata program.

The binominal logit model in this study is as follows:

$$P(y_i = 1/X) = \phi(Z_i) \quad i=1, \dots, n \quad (1)$$

Where ϕ is a logistical cumulative distribution function taking values strictly between zero and one for all real numbers z [124]; dependent variables including financial performance, non-financial performance, reputation for quality, value for money and prestige, where:

$$\phi(z_i) = \frac{e^{z_i}}{1+e^{z_i}} \quad (2)$$

$$z_i = \beta_{i0} + X \beta_i \quad (3)$$

Equation (3) stands for the natural logarithm of the odds that an observation will fall into a category of answer “well performed/highly valued =1” or “less performed/lowly valued=0”.

The model was estimated using maximum likelihood techniques. The marginal effects of the predictors on the response probability were calculated as:

$$\frac{dP(y_i=1)}{dx_j} = \phi(z_i) (1 - \phi(z_i)) \beta_{ij} \quad (4)$$

The resulting empirical specification for equation (3) is

$$Z_{nperf} = \beta_{1,0} + \beta_{1,1}mkfoc + \beta_{1,2}mkfrc + \beta_{1,3}mkabc + \beta_{1,4}rfq + \beta_{1,5}vfm + \beta_{1,6}pre + \beta_{1,7}ha + \beta_{1,8}hs + \varepsilon \tag{5a}$$

$$Z_{fperf} = \beta_{1,0} + \beta_{1,1}mkfoc + \beta_{1,2}mkfrc + \beta_{1,3}mkabc + \beta_{1,4}rfq + \beta_{1,5}vfm + \beta_{1,6}pre + \beta_{1,7}ha + \beta_{1,8}hs + \varepsilon \tag{5b}$$

$$Z_i = \beta_{i0} + \beta_{i1}mkfoc + \beta_{i2}mkfrc + \beta_{i3}mkabc + \beta_{i4}ha + \beta_{i4}hs + \varepsilon \tag{6}$$

Equations (5a) and (5b) are the financial and non-financial performance equations; as suggested by the literature, we assume that performance is affected not only by customer value, but also by the customer knowledge management.

5.1. Hypothesis testing and results

Table 5: Estimated results of the marginal effects on the probability of being well performed/highly valued.

	nfp_	fp_	rfq_	vfm_	pre_
ha	0.037 (1.01)	0.027 (0.72)	-0.015 (-1.06)	0.0015 (0.09)	0.005 (0.19)
hs	0.138*** (5.11)	0.126*** (4.34)	0.032* (1.69)	1.031* (1.61)	0.034* (1.75)
mkfoc	0.023 (0.33)	0.140* (1.91)	-0.016 (-0.55)	-0.016 (-0.67)	0.040 (1.10)
mkfrc	0.042 (0.74)	0.142*** (2.51)	0.028** (1.00)	0.002** (0.08)	0.110* (0.20)
mkabc	-0.0156 (-0.23)	-0.019 (-0.27)	0.054* (1.69)	0.042* (1.51)	0.01* (0.69)
rfq	0.065* (0.76)	0.039* (0.44)	-	-	-
vfm	0.015 (0.16)	0.002 (0.02)	-	-	-
pres	0.076* (1.22)	0.031* (0.49)	-	-	-
_cons	-4.441* (-2.44)	0.268 (0.17)	0.670 (0.25)	-3.339 (-1.06)	-4.458* (-2.22)
N	121	121	121	121	121

t statistics in parentheses * p<0.1 ** p<0.05, *** p<0.01

Note: The numbers in parentheses are asymptotic t-ratios.

This study examines the influence of customer knowledge management (CKM). It represents a novel organizational approach for delivering customer value by capturing, sharing and employing the information, knowledge, experience and ideas linked to customers [57]. The focus has been on the value generated by the organization's products or services, as perceived by customers in relation to achieving their goals and desires [125], which in turn leads to enhancing the financial and non-financial performance of the hotel industry. Our study thus contributes by offering robust empirical evidence supporting the theoretical propositions in the literature. As illustrated by equation (3), the estimated parameters in the logit model are interpreted as the marginal effects of the observed explanatory variables on the logarithm of odds of success. Success is defined as hotels that are performing well and customers who are highly valued. The marginal effects of the explanatory variables on the odds of success are often reported in the literature. Accordingly, it would be acceptable to present which explanatory variables are important. However, we thought it useful to study the direct effect of variables on the probability of success. The direct effect can be estimated according to equation (4). Thus, instead of reporting the estimated parameters, we present the variables marginal effect on success probability in Table 5.

*** Significant at the 1% level; ** significant at the 5% level; * significant at the 10% level.

6. Discussion

6.1. CKM positively influences financial performance

The estimated parameters of (mkfoc), (mkfrc) and (mkabc) are not statistically significant in the non-financial performance equation, suggesting that **H1a** is rejected. This indicates that customer knowledge management is not important in directly influencing the hotel's non-financial performance which focuses more on the organization's long-term performance. Our result contradicts studies by [126;127;128;129]. These researchers found that the non-financial performance was evaluated through customer satisfaction, innovation, product quality and these aspects were dependent on the management of their customer knowledge. This result may be explained on the one hand by the difficulty of measuring non-financial performance in services ([130,131]) and on the other hand by the changing customer expectations over time. However, we can assert that customer value fully mediates the effect of customer knowledge management on non-financial performance. On that basis, we would argue that the firms with an ambition to achieve an effective combination of financial and non-financial performance cannot rely entirely on the management of their customer knowledge. In parallel, the estimated parameters of (mkfoc) and (mkfrc) are statistically significant in the financial performance equation, suggesting that **H1b** is generally true. This indicates that procuring a constant capacity to use and manage knowledge 'for customers' and 'from customers' is crucial to deliver important short-term benefits leading to a plethora of previous findings (e.g. [132;133;26]). Therefore, we conclude that managing customer knowledge can help hotels achieve superior financial performance which focuses more on the organization's short-term success. We also found that (mkabc) is not statistically significant in the financial performance equation. Knowledge 'about customers' include basic tombstone data about a customer (e.g., name, contact information) as well as a record of his/her transactions with the organisation's products and services used, and certain preferences (e.g., language, method of communication) ([26]). The organisations involved in managing knowledge 'about

customers' are not able to achieve the profitable and sustainable growth of revenue. This result contradicts studies by [134;135;136;137]).

6.2. CKM directly enhances customer value

As [55] asserts, customer knowledge is the basis of most improvements in customer value and is an important theme for this study. The findings associated with the management of knowledge 'about customers', 'for customers' and 'from customers' are valuable in this context. We confirm that the management of knowledge for customers does not directly enhance customer value. In other words, continual improvement in customer value doesn't depend on the management of knowledge that organizations provide to their customers. This finding is in line with [138, 97], who asserted that better knowledge *from* customers and *about* customers is a chance to strengthen the relationship in such a way to provide an extra value to the customer. Our estimated results suggest that (mkabc) and (mkfrc) will increase the probability of raising (rfq) by 2.8% and 5.4%, (vfm) by 0.2 % and 4.2% and (pre) by 11% and 1% respectively. Our findings concur with that of [138] research that places a greater value on data exchange between what managers know about their customers and how they exploit that information in order to create superior customer value. We conclude that just as knowledge about customers influences customer value, so does knowledge from customers. The results suggest that (mkfoc) which is a kind of knowledge that the organization's target customers attain in order to know the organization better is not statistically significant in the customer value equation. We can conclude therefore that (mkfoc) doesn't directly enhance customer value. The result may be explained by the organization's inability to manage all of these knowledge flows (e.g., knowledge that is streamed from competitors), leading to the findings by [26]. Nevertheless, there are six customer knowledge management variables across the nine customer value equations in which the estimated marginal effects are statistically significant. These results suggest that **H2** is generally true. We conclude, therefore, that customer knowledge management directly enhances customer value.

6.3. CKM indirectly affects performance by enhancing customer value

We found that both customer value measures: reputation for quality and prestige, significantly influence financial and non-financial performance. The results indicate that superior performance requires an organization to have positional superiority. This is founded on the provision of superior customer value, leading to previous findings by [106]. Specifically, when the scale of (rfq) and (pres) increases by one unit, it enhances the probability of the hotel's financial performance by 6.5% and 7.6% and non-financial performance by 3.9 % and 3.1% respectively. So, designing a value offering that corresponds to customers 'expectations and change these expectations into a pack of value deliverables in the forms of product/service advantages (reputation for quality) and relational advantages (prestige) is crucial to achieve ultimate performance when creating tourism experiences. This is consistent with findings of [139;140;141]. Interestingly, we found that (vfm) which pertains to the benefit that a customer derives from the product/service in return for the money spent on it, is not statistically important either for the hotel's financial or non-financial performance. So, hotels can better compete by mostly focusing on customer value dimensions (rfq & pres). We suggest that hotels avoid focus on (vfm) as it would reduce profit margin and may increase customer worry and frustration [142] by believing that cheaper price equals poorer quality. Since **H2** is generally true and the estimated parameters of (rfq) and (pres) are

significantly positive in both financial and non-financial performance equations. We provide support for **H3a** and **H3b**. This finding recognizes the importance of customer value as a mediator in the relationship between customer knowledge management and both financial and non-financial performance. As discussed earlier, when **H2** and **H3a** are true, **H4a** is also true and when **H2** and **H3b** are true, **H4b** is also true. The results also confirm our assumption that customer knowledge management indirectly affects financial and non-financial performance by enhancing customer value. **H4a** and **H4b**, as such, were supported.

7. Conclusion

We found the indirect effect of customer knowledge management on financial performance via customer value is significant and the direct effect of customer knowledge management on financial performance is also significant. This suggests that customer value partially mediates the effect of customer knowledge management on financial performance. However, that is not the case with non-financial performance. The indirect effect of customer knowledge management on non-financial performance via customer value is significant, but the direct effect of customer knowledge management on non-financial performance is not significant. Accordingly, we identified that customer value fully mediates the effect of customer knowledge management on non-financial performance. We conclude that managing customer knowledge does help hotels achieve superior financial performance, but may offer short-term success. Specifically, customer knowledge management directly enhances customer value and customer knowledge management directly enhances customers' perceptions of value. Interestingly this perception was not directly related to the amount of customer spend. We conclude that just as knowledge about customers influences customer value, so does knowledge from customers. Clearly managing knowledge is a valuable practice. Our study shows that customer knowledge management is useful for the hotel industry and more generally to the wider tourism industry. It is evident that hotels give and receive a great deal of data; in fact, such data can be converted into valuable knowledge and effectively utilized in improving hotel performance. The importance of the benefits of knowledge management takes major importance in the aftermath of crisis. Notions of value in customer perceptions are particularly fragile after a crisis, yet take on greater importance if tourists are to be encouraged to return.

8. Practical and theoretical implications

This study has several practical and theoretical implications:

Firstly, our framework may encourage hotels to manage a portfolio of different types of customer knowledge management for bridging customer knowledge management and customer value. Secondly, we identified how customer knowledge management is a continuous strategic process by which companies enable their customers to move from passive information sources and recipients of products and services to knowledge partners. Thirdly, hotel industry managers may recognize that delivering value is key to their organization's profitability and may serve as the principal indicator of business success. Finally, the better the firm can manage customer knowledge in developing new value adding services and products, the better the key account performance. This study provides a possible mechanism by which customer knowledge management strategies can contribute towards enhancing customer value and performance. The study findings confirm the mediator role of customer

value in the relationship between customer knowledge management and both financial and non-financial performance. The primary emphasis of previous studies has been on the financial performance measures. This study, however, focuses on both financial and non-financial performance and these were found to be statistically different. It considers the value generated by the organization's products or services, as perceived by customers in relation to achieving their goals and desires [143], which in turn leads to enhancing the financial and non-financial performance of the hotel industry. This carries implications for strategy which needs to be further explored. The study has gone beyond just conceptualizing the linkages between customer knowledge management, customer value and performance; it proposes a comprehensive, alternative theoretical model fit for in-depth evaluation in future studies.

9. Limitations and Future Research

Despite the contributions of the present study, there are some limitations. Firstly, data was not collected from the same hotels. This could make the results not entirely comparable. Secondly, the questionnaire was tested in two languages; and translation and interpretation of the questionnaire could be different. Finally, the problem is also associated with different levels of familiarity with the questionnaires between managers and the relatively heterogeneous sample of customers - specially differences that arise due to different levels of education. This study has used the variable of customer value that can be examined across different respondents within the same organization and across industries. We targeted hotels in a specific geographic area; further studies may focus on other industries. Our study focused on service firms in an under-developed country (Tunisia); future research might focus on service firms in developed or developing countries.

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