Review Article

Customer Engagement in Service Innovation Performance of the Wellness Industry - Based on the fsQCA Method

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Abstract

This study uses complexity theory to explain and better understand the causal patterns of factors that stimulate customer engagement in service innovation performance of the wellness industry in a digital technology environment. To this end, it identifies digital technology and knowledge management as essential factors in service innovation from a customer perspective and proposes a conceptual model and three research propositions. To test the propositions, it employs fsQCA on a sample of 404 experienced customers in the wellness industry. Findings indicate that six configurations of customer perceived value and environmental conditions can explain the high quality of service innovation performance. This study contributes to the literature by offering new insights into the relationships among predictors of service innovation performance from a customer engagement perspective. And advancing the theoretical ground of how customer perceived value and environmental conditions (i.e., knowledge management, digital technology) combine to explain high-quality service innovation performance better. The findings support that the environment for customer engagement in service innovation needs to be more interactive to target customers' perceived value and improve service innovation performance in the wellness industry.

Introduction

Digital technology has spawned a wave of innovation in business models and formats. Only through continuous Service Innovation (SI) can wellness enterprises gain a foothold in the market (Acset al., 2022; Lafuente et al., 2022). Due to the inseparability of service production and consumption, SI must pay attention to Customer Engagement (CE) (Bazi et al., 2020; Behnam et al., 2021; Naeem & Ozuem, 2021). Customers' choice determines the value an organization can capture now and in the future. Related research has primarily focused on Customer Motivation (CM), CE behavior, Perception Value (PV), and its influence tactics (Morgane et al., 2018; Wang et al., 2020; Baah et al., 2021; Li, 2021) [17]. However, many businesses cannot achieve the potential benefits of service innovation internally (Horv'ath & Rabetino, 2019) or find strategic benefits in the innovation-driven outcomes of different types of collaborative service innovation strategies (e.g., outsourcing, strategic alliance) (Wyrwich, 2019; Vaillant et al., 2021), especially for the wellness industry.

Recent years have witnessed a phenomenal rise in healthcare products, with the wellness industry constituting a significant market potential, with a 6.6% annual growth rate, significantly higher than global economic growth [28,31]. Wellness is the active pursuit of activities, choices, and lifestyles that lead to holistic health. The wellness economy encompasses industries that enable consumers to incorporate wellness activities and lifestyles into their daily lives. The wellness economy includes healthy eating, nutrition & weight loss, traditional, complementary medicine, personal care & beauty, physical activity, public health, prevention & personalized treatment, wellness real estate, wellness tourism, mental wellness, thermal/ mineral springs, spas, and workplace wellness in order of importance [31]. It is necessary to acquire insights into the matter to derive meaningful theoretical and practical implications.

Research into CE and SI is developing quickly. However, for the moment, there is still a significant gap in terms of identifying the pre-determinant factors leading to the wellness industry

SI performance within a territory. Hence, this research sparked to gain an understanding of CE, CM, and PV, Customer Capability (CC), Knowledge Management (KM), and Digital Technology (DT) regarding the wellness industry SI from a customer perspective. And this paper employs fsQCA to detect causal combinations of conditions that elicit specific results. In contrast to regression-based models, fsQCA can handle asymmetric effects and provide insights into causal interactions between states [4]. Therefore, this study aims to gain an in-depth understanding of the CE in the wellness industry SI from a set-theoretic perspective and provide multiple triangulation findings. Section 2 provides an overview of the literature review on factors influencing SI and a hypothetical network of SI used to derive rules. Section 3 presents the research methodology. Section 4 presents the empirical results, and the paper's final section includes a discussion and conclusions highlighting practical implications.

Literature Review

Customer Engagement

CE in innovation is an important strategic choice for enterprises to achieve high-level SI performance (Endres et al., 2022; Kang et al., 2021; Tao et al., 2019) [13]. In the context of networking, digitization, and intelligence, CE actively interacts with other customers or companies to share, learn, and socialize through specific media to complete SI (Tang, 2017; Cui et al., 2022). It can meet customers' complex and subtle dynamic needs, shorten the service and product development cycle, reduce research and development costs, and improve the service experience (Yang, 2021; Zhang et al., 2021). For wellness enterprises, CE can inspire customers` trust, publicity and recommendation, feedback, posting comments, loyalty, and satisfaction, and improve SI performance [19,26].

Customer Motivation

The goal is a cognitive representation of the desired end-state. When an enterprise incorporates customers into the SI process, the customer's willingness to cooperate and effort will also affect the progress and results of SI. Different motives (goals) influence CE behavior (Barbopoulos & Johansson, 2016). According to goal-framing theory, CM is an integrative construct encompassing three higher-order master goals (Barbopoulos & Johansson, 2017): hedonic ("to feel better right now"), normative ("to act appropriately"), and gain ("to guard and improve one's resources) (Lindenberg & Steg, 2007). These three overriding goals coincide with Vassileva's (2012) spectrum of motivational theories that refer to CM for CE.

The incentive mechanisms of service innovation in the wellness industry can be explained by the interplay between intrinsic motivations from within, driven by interests or enjoyment that individuals experience from engaging in an activity, and social motivations and the effects of reputation, which have meaning only in social environments. Meanwhile, extrinsic motivations, driven by external rewards, can also explain it (Fernandes and Castro, 2020; Karimi & Nickpayam, 2017; Żyminkowska et al., 2023; Romero, 2018).

Customer Capability

Customers need learning, recommendation, communication, and innovation ability to participate in service innovation. Then they can accurately transfer customer knowledge to wellness enterprise employees to promote service innovation (He et al., 2019; Viswanathan et al., 2018) [7].

Perceived Value

CE results from motivational drivers (Van Doorn et al., 2010; Verhoef et al., 2010). Customers only opt to engage to obtain their benefits in anticipation of securing more value (Hollebeek & Macky, 2019; Prentice & Loureiro, 2018; Prentice & Zhang, 2017). Customers PV by evaluating the judgement of benefits and sacrifices related to economic, emotional, experiential, symbolic, and social aspects (Khalifa, 2004; Talonen et al., 2016). Xie et al., (2021) surveyed visitors to hot spring resorts, national forest parks, mountain parks, and spa wellness facilities in Guangdong Province, China, and found that customer PV had a positive impact on CE. But the causes and effects of PV in wellness industry, from the perspective of value co-creation, is a rather unexplored area of study.

Knowledge Management

Researchers also explored the factors affecting innovative customer behavior at the organizational level (EI-Kassar et al., 2022) [14]. Under the guidance of organizational character traits, knowledge resources can be bundled and combined in a personalized form. Thus creating a solid enterprise KM ability to effectively promote the wellness industry SI [26].

Digital Technology

The development of information technology, especially social media using has continuously innovated the ways for customers to participate in SI (Zhao et al., 2020). Different SI methods depend on different technical levels, and many new service innovation methods are the application of advanced ideas and technologies. With the development of technology, the way CE in SI is constantly changing (Du et al., 2018; Zhao, 2018) [5]. DT can effectively improve the channel and efficiency of enterprise resource integration (Silic et al., 2020). Social media promotes enterprise reorganization and utilization of resources, especially the more convenient knowledge transfer between customers and employees (Cai et al., 2019; Huang et al., 2017), and carry out more SI activities to enhance EP (Zhao et al., 2022).

Service innovation. The SI theory originated from Schumpeter's research on manufacturing innovation from the perspective of technological innovation. Later, under the promotion of a large number of scholars, it experienced the evolution of technological innovation to SI, then to technology and service integration, and open innovation. But SI go beyond simple transactional value-chain exchanges to include a rich and complex ecosystem of platform-based data collection, information processes, and knowledge interaction (Hou & Shi, 2021; Tian et al., 2021).

This study aims to examine the effect of CE on wellness industry SI by presenting a configuration of causally related multigroup factor structures. Based on related literature [22] and using complexity theory analyzed by Woodside (2014), this study shows that CE, CM, CC, DT, KM, and PV are essential antecedents of SI in wellness enterprises.

Research Design

Nomological Net

In line with respective usage in studies utilizing multivariate techniques, this research hypothesized that six conditions positively affect SI because the causal combination is sufficient to evoke the presence of motivated behaviors. This study conceptualization hypothesizes that DT and CE may interact, as PV may

be a response to perceived CC and CM. Further encounters with KM considerations are secondary in situations with this configuration. Ensuring that knowledge flows between customers and employees is a service exhibited in a particular case, usually a function of the organization's environment. Hence, there are many findings with significant effects on SI from both positive and negative affective [10], leading to the following proposition:

Proposition 1: *No single best configuration leads to high SI, but multiple, equally effective designs of causal factors exist.*

Proposition 2: *Single causal conditions may be present or absent within configurations for high SI, depending on how they combine with other causal conditions.*

Proposition 3: *Configurations that lead to high SI will require high-quality service innovation conditions provided by wellness companies.*

Method

The primary purpose of this research is to examine the impact of multiple factors on SI in the wellness industry. Qualitative Comparative Analysis (QCA) is an empirical method based on Boolean algebra and fuzzy set theory. This paper employs it to analyze situations with multiple combinations of features. QCA allows one to theorize pattern configurations between cases to identify similarities and differences (Ragin, 1987, 2008; Rihoux & Ragin, 2009) [23]. This research employs the fuzzy set qualitative comparative analysis method (fsQCA), which integrates the advantages of qualitative and quantitative research and is used for empirical analysis (Pappas & Woodside, 2021). It is a subset of the QCA method, which can use continuous or interval scale variables (Ragin, 2008). FsQCA takes into account the degree variation of the variable, can be calibrated for any value between 0 (i.e., full non-membership in the set) and 1 (i.e., full membership), and reveals multiple combinations with equivalent results (Gligor & Bozkurt, 2020) [21]. Therefore, this paper chooses fsQCA.

The questionnaire is released using the Questionnaire Star platform and sampled through the snowball method of the investigators. Before the research survey question, the respondents were given a consent form, having read through and comprehended our study's purpose and objectives. In addition, the question at the beginning of the questionnaire is to ensure eligible respondent eligibility:" Have you ever participated in wellness service innovation?"

For the issue of CE in the wellness industry, SI combined the studies of Morrison (1993), Ennew and Binks (1999), and Yi and Gong (2013) and finally extracted seven items to gain a more comprehensive understanding—the five items of CM derived from the research of Wang and Xue (2008). CC generalizes the item of He and Chen (2009) to study subjects. Item DT is from Trainor et al. (2014) based on Jayachandran et al. (2005), who generalized them from studies to examine SI in the context of DT. The KM item has three questions, all derived from the research of Cui and Wu (2016). PV items measured in five parts take the role of functional value, social value, emotional value, epistemic value, and conditional value, which come from the research of Sheth et al. (1991), and Sweeney and Soutar (2001). SI items measured financial indicators, customer indicators, and internal indicators by Storey & Kelly (2002), Hsueh et al. (2010), and Yang and Tian (2015). All variables were measured using a 5-point Likert scale.

Tourists who have traveled to the Chongqing forest wellness base are the target population. The wellness industry is a strategic pillar for the development of Chongqing with a complete wellness industry supply chain (Li & Chen, 2022; Wang et al., 2023) [19]. In addition, Chongqing has built 85 forest parks above the municipal level, 26 wetland parks, 36 scenic spots, and ten geological parks. There are more than 40 wellness bases, more than 1,800 green demonstration villages, nearly 100 leading forestry enterprises above the municipal level, and more than 4,000 forest families. The added value of forestry and related industries accounts for more than 5% of the GDP. The added value of forest tourism and wellness industries has reached nearly 40 billion yuan, receiving 657 million domestic and foreign tourists yearly (Department of Technology and Big Data, 2019). A two-stage cluster sampling method is adopted, such as selecting the wellness industry's branch field and choosing a region.

Results

Descriptive Statistics

Four hundred fifty-four questionnaires collect over seven weeks from February to April 2023. After eliminating all questionnaires in which respondents gave the same answers to all questions and those with a rapid answering time (100s less than the average response time), 404 valid questionnaires were ultimately obtained, with an effective rate of 89.1% (Table 1).

Table 1: Sample profile (N=404).

	Details	Frequency	Rate %
Gender	Female	192	47.52
	Male	212	52.48
Age	Under 24	83	20.54
	25-34	120	29.70
	35-44	117	28.96
	45-54	50	12.38
	55-64	25	6.19
	Over 65	9	2.23
Education	Less than high school	41	10.15
	High school/technical school	199	49.26
	Bachelor's degree	142	35.15
	Master's degree or higher	22	5.45
	Student	2	0.50
Occupation	Public Sector	59	14.60
	Private Sector	183	45.30
	Self-employed	81	20.05
	Others	79	19.55
Monthly Income	Under 3000	25	6.19
	30001-8000	248	61.39
	8001-15000	102	25.25
	15001-20000	19	4.7
	Over 20000	10	2.48
Participation in wellness SI	Less than 5 times	251	62.13
	6-10 times	90	22.28
	11-15 times	54	13.37
	More than 16 times	9	2.23

Measurement Evaluation

Harman's single-factor test checks the data set for common method bias and exploratory factor analysis conducted on all items (Podsakoff and Organ, 1986). The evaluation indicates that common method bias does not affect the study's analysis, as identified no major factor. Regarding the unidimensionality of each construct, we found that the standard loading factors for all variables ranged from 0.6 to 0.881, thereby meeting the 0.600 cutoff level established by Samagaio et al. (2018). Cronbach's Alpha measured adequacy regarding reliability and internal validity, composite reliability, and the average variance extracted from the questionnaire measurement variables. These calculations are part of multivariate techniques` standard repertoire and are adopted to ensure high data quality [12].

Further, all manifest variables` outer loading ranges above 0.5 in absolute values, which meet a threshold of 0.7 [12]. The ratios of the established models with seven variables are below 0.7, and all factors comply with the relaxed threshold of 0.9 (Henseler et al., 2015). Therefore, all factors are retained for further analysis. The discriminate validity can be established. For further insight, a 95% confidence interval was calculated using the bootstrapping procedure for 10,000 draws, excluding the null value of 1.

Fuzzy-set Qualitative Comparative Analysis

Necessity and Sufficiency Condition Analysis by fsQCA: This paper employs the software package fsQCA4.0 for analysis. The data collected in the present study using five-point Likert-type scales need to calibrate into fuzzy sets. Their values may range from 0 to 1 before fsQCA run, representing non-membership to total membership categories. Consistent with the extant literature, a theoretical a priori calibration is employed, defining the scale points 2 and 4 on the Likert-type scale as full non-membership (i.e., 2) and full membership (i.e., 4), respectively (Ordanini et al., 2014). The cross-over point allows mapping the empirical data using a logistic function to convert them into fuzzy membership scores (Ragin, 2008) [16].

Data calibrated during fsQCA correlation analysis and XY plots generate to qualitatively examine the data [9,29]. This cali-
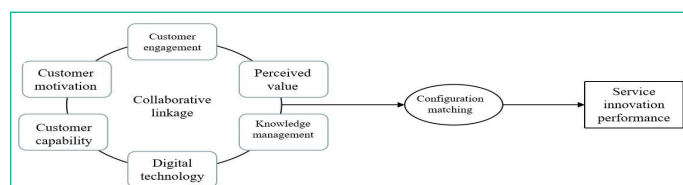

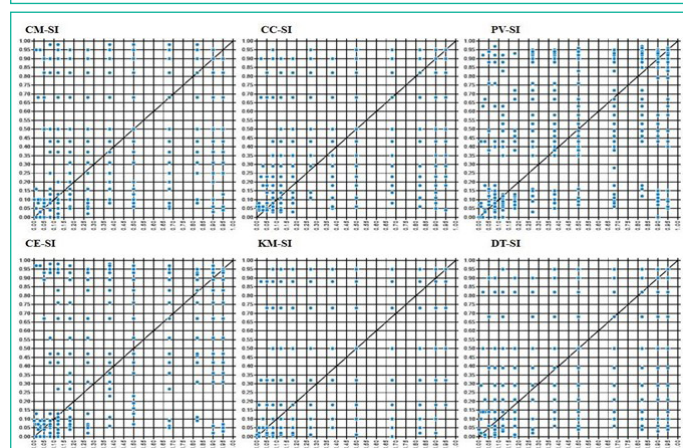**Figure 1:** Analysis model of configuration effect of customer engagement in service innovation.

Figure 2: XY plots for the six conditions and SI as the outcome.

Table 2: Variable assessment.

Variable	Items	Mean(SD)	Cronbach's Alpha	CR	AVE
CM	5	3.67(0.89)	0.872	0.873	0.579
CC	4	3.62(0.99)	0.879	0.881	0.648
PV	19	3.95(0.75)	0.96	0.958	0.547
CE	7	4.05(0.72)	0.87	0.876	0.503
KM	3	3.97(0.81)	0.749	0.767	0.524
DT	4	3.75(0.82)	0.805	0.834	0.556
SI	4	3.87(0.79)	0.824	0.801	0.5

Table 3: Correlations of latent variables.

	CM	CC	PV	CE	KM	DT	SI
CM	0.806						
CC	0.339	0.848					
PV	0.331	0.324	0.731				
CE	0.492	0.407	0.272	0.69			
KM	0.338	0.276	0.417	0.361	0.703		
DT	0.361	0.328	0.478	0.411	0.39	0.735	
SI	0.556	0.563	0.595	0.519	0.502	0.608	0.74

Note: SD=Standard Deviation, CR=Composite Reliability, AVE=Average Variance Extracted. Diagonal elements (in bold) are the square root of the average variance extracted (AVE). For discriminant validity, diagonal elements should be more significant than off-diagonal elements. Off-diagonal elements are the correlations among constructs (correlations of 0.1 or higher are significant, p<0.01).

bration draws on Likert-type scales` properties of symmetry and equidistance. The mid-point value of 3 is the cross-over point, showing the highest ambiguity [15]. Since both 5 (i.e., `strongly agree`) and 4 (i.e., `agree`) express respondents` acceptance of the respective states, and in principle, respondents have a tendency to avoid extreme values [3], four as selected as the threshold for full membership. Consequently, two is defined as non-membership. The observed distribution of cases in Figure X allows insight into necessary or sufficient conditions. Cases at the bottom right-that are observations with larger membership scores in the condition than in the outcome-provide evidence for the necessity of the condition [9]. The opposite pattern for the case at the top left-that is the observation that the membership fraction is greater than the membership fraction in the condition - yields evidence for a sufficient condition [23]. Further conditional necessity or sufficiency analysis can be carried out.

The high coverage value of 0.746 indicates the empirical relevance of the DT subset to the SI relationship. There is no consistency exceeding 0.9, which deduced that there is no necessary condition for SI. For ~SI, no variable crossed the threshold either. Therefore, these conditions are considered unnecessary. It is important to note that analyzing requisites is only one part of fsQCA and not its primary focus, which includes sufficient causal combinations. Therefore, the data set was not modified due to these findings. Ragin (2009) proposes a quantitative assessment of necessary conditions as the first step in fsQCA, mainly measured by the set theory of consistency and coverage. Evaluation is performed by defining a threshold of 1 for the consistency value, i.e., all observations that support the subset relationship would characterize an absolute necessity. This paper uses a threshold of 0.9 for analysis [9]. Investigating SI, the existence of SI, requires no variable to satisfy the necessary conditions. In the case of ~SI, i.e., no SI and no variable crossing the threshold.

Necessity Condition Analysis: To further test the necessity, this paper uses Necessary Conditions Analysis (NCA) to modify [9] and analyze with R-4.2.3 software. Similar to fsQCA, an XY

Table 4: Analysis of necessary conditions.

Conditions	Outcome: SI		Outcome: ~SI	
	Consistency	Coverage	Consistency	Coverage
CM	0.723	0.705	0.59	0.569
~CM	0.557	0.579	0.694	0.713
CC	0.714	0.741	0.579	0.594
~CC	0.609	0.594	0.747	0.721
PV	0.752	0.712	0.592	0.554
~PV	0.529	0.568	0.693	0.734
CE	0.779	0.697	0.613	0.542
~CE	0.488	0.561	0.658	0.747
KM	0.765	0.699	0.608	0.549
~KM	0.507	0.567	0.667	0.737
DT	0.701	0.746	0.549	0.578
~DT	0.604	0.575	0.759	0.715

Note:~ denotes the negation of a variable.

Table 5: Necessary condition analysis using NCA.

Condition	Ceiling zone	Obs. Above	Accuracy	Effect size d	p-value
CM	0.018	5	0.988	0.019	0.000
CC	0.004	0	1	0.004	0.038
PV	0.001	0	1	0.001	0.305
CE	0.010	1	0.998	0.011	0.004
KM	0.015	5	0.988	0.016	0.000
DT	0.017	4	0.990	0.019	0.001

plot is used for evaluation. But the boundary line defining the necessary condition does not have to be a bisector. Instead, an upper bound line is drawn above the data. Therefore, this study used Ceiling Non-Regression Handled Hull (CR-FDH). This technique draws a continuous line over the plotted data while allowing a small percentage of observations (typically 5%) to lie beyond the regression line [9]. A bootstrap of 10,000 draws is employed for each case to derive the p-value. Table 4 shows that six conditions exhibit the characteristics of necessary conditions. However, in most cases, these constraints will only come into play for high values of SI.

The solutions of configuration analysis. Table 5 shows the outcomes of the fuzzy set analysis for high-quality service innovation. The black circles (●) denote the presence of a condition, while the crossed-out circles (⊗) indicate the absence of it [11]. large circles mark configuration elements, peripheral elements with small ones, and blank spaces indicate a do not care situation where the causal condition may be present or absent. The solution table includes set-theoretic agreement values for each configuration and the overall solution, all values above the threshold (>0.9). Consistency measures how closely related subsets are, while coverage assesses the empirical relevance of consistent subsets [20,23]. The results show an overall solution

coverage of 0.741, which shows that the six solutions cover a significant fraction of the results. Comprehensive solution coverage showed that high levels of service innovation identified from the configuration set were comparable to the R-squared values reported in correlational methods (Woodside, 2013).

For high-quality service innovations to occur, solutions 2,5,6 reflect combinations of the presence of CE. Strongly positive CE and quality of DT are core constructs, pointing out the importance of these factors. In detail, the combination of strongly positive customer engagement with high quality of digital technology towards service innovation in the wellness industry, with the high quality of customer capability, leads to high service innovation performance, such as CC*CE*DT (solution 2).

Solution 6 points to the fact that the combination of strongly positive customer motivation and high-quality enterprise knowledge management brings about a high level of service innovation in the wellness industry, with the absence of high-quality customer capability, such as CM*CE*KM*DT. Or they are combined with strongly positive customer motivation and high quality of perceived value, such as CM*PV*CE*KM (Solution 5). Without CE, high SI may be achieved with high quality of DT and PV, regardless of customer lower motivation, such as ~CM*PV*DT (Solution 1), or the presence of high-quality KM, such as PV*KM*DT (Solution 4). CC*PV*KM combines the high quality of CC and PV with the high quality of KM (Solution 3). On the other hand, lower quality of PV, CE, and DT are the core factors for the low quality of service innovations.

The findings provide support for all three propositions. First, multiple configurations lead to high SI (Proposition 1). Second, the results reveal configurations of high SI where one condition may or may not be present depending on its combination with other conditions, suggesting causal asymmetry (Proposition 2). Third, enterprises` KM and DT quality are the most critical factors in configurations predicting high SI (Proposition 3).

Robustness Test

This paper conducts a robustness test on the antecedent configuration of high-service innovation (Zhang & Du, 2019). Robustness checks show that the results are robust. First, increasing the number of cases threshold from 1 to 2 yields nearly identical configurations. Second, increasing the PRI consistency from 0.70 to 0.75 produces nearly identical configurations.

Discussion, Implications, and Conclusion

Discussion and Implications

This study proposed that in wellness industry environments, customers` perceived value combines digital technology and knowledge management to predict service innovation perfor-

Table 6: Configurations for achieving a high and low level of SI.

	SI						SI				
	1	2	3	4	5	6	1	2	3	4	5
CM	⊗				●	●				⊗	⊗
CC		●	●					⊗	⊗		⊗
PV	●		●	●	●		⊗	⊗	⊗	⊗	⊗
CE		●			●	●	⊗		⊗	⊗	⊗
KM			●	●	●	●	⊗	⊗			
DT	●	●		●		●	⊗	⊗	⊗	⊗	
Consistency	0.868	0.88	0.877	0.865	0.859	0.878	0.947	0.924	0.946	0.925	0.928
Raw coverage	0.388	0.483	0.505	0.497	0.484	0.469	0.364	0.398	0.404	0.443	0.442
Unique coverage	0.012	0.048	0.027	0.008	0.024	0.023	0.003	0.068	0.001	0.014	0.043
Overall solution consistency	0.801						0.891				
Overall solution coverage	0.741						0.563				

mance. To this end, this research constructs a conceptual model to identify the above configurations. The prominent role of DT and KM is exciting in the findings, a core construct in four out of six solutions. Quality of DT and KM lead to high service innovation performance with either the presence or absence of different types of PV, respectively (Solution 1-6). Curiously enough, increased quality of DT and KM, regardless of customer capability and engagement, combined with weakly positive or absent motivation, will increase customer service innovation as long as other constructs are absent (Solution 1,4). Another interesting result relates to the increased high quality of enterprise KM with high quality of customer PV. Because only their presence, regardless of the presence or absence of other factors, is sufficient to lead to high service innovation performance (solution 3,5).

The findings confirm the importance of PV in the SI process in the wellness industry, which identifies in previous literature [30]. Additionally, this study points to an essential finding that the external conditions provided by enterprises are more conducive to promoting customer engagement in service innovation performance, such as digital technology and knowledge management, as suggested by Blichfeldt (2021) and Xin (2022).

Theoretical implications. Previous studies have explained SI by analyzing antecedent variables arising from various behaviors [6]. However, these studies employed structural equation modeling and multiple regression analysis. They focused on the main effects of various antecedents on one or more dependent variables. But They ignored the interdependence among variables and the causal structure of the interrelationships (Woodside, 2014). These findings contribute to the literature in several ways. This paper adds to the service innovation literature by presenting conditions for service innovation performance using the perceived value in the wellness industry. This study contributes by concluding complexity theory, takes a configuration approach to SI, and contributes to the literature by explaining how two sets of causal conditions (i.e., high and low) combine to form configurations that affect SI. In addition, the study allows for a better understanding of specific patterns of CE that affect corporate SI performance by providing specific conditions for positive and negative internal and external coexistence, consistent with Al-Hawari (2019). The findings suggest that, in some cases, if one condition is more important than the others, it is likely to dominate and add to the effects of mixed conditions.

Managerial Implications: Wellness companies may use the results of this study to enhance SI in the context of DT to improve the effectiveness of personalized strategies and increase the likelihood of SI leading to final sales. This study identifies a critical role of EP for SI. Simultaneously controlling the four core factors (EP, DT, SS, SI) is a challenging task for wellness companies that need to improve personalized services continuously. The effectiveness of SI is paramount, followed by potential benefits. Therefore, in addition to introducing DT reform services, wellness companies must also implement mechanisms to study employee attitudes and behaviors (for example, IM and EE affect the model analysis of SI evaluation).

Furthermore, the results can benefit managers, as they provide alternative combinations of SS, such as a collaborative innovation support environment, thereby increasing SI. Specifically, understanding which factors are more important than others and which combinations of factors can better explain SI should help wellness companies develop more effective and efficient personalized service strategies. Depending on the combined SI content and DT level, managers may focus on specific employee psychological and behavioral motivators. These solutions may be viewed as different types of employees presenting different behavioral expectations and perceptions, opening up opportunities for more advanced workforce management analysis.

Regarding its methodology, this paper performs configural analysis based on individual-level data from the wellness industry. The study confirms the importance of examining complex causal patterns of predictors, contrarian cases, and asymmetric relationships between antecedents and outcomes. As Leischnig and Kasper-Brauer (2015) suggest, implementing complexity theory in individual-level phenomena may be appropriate for theory building. Hence, this paper makes propositions based on complexity theory to explain customers' motivation to engage in wellness enterprise service innovation based on digital technology. Further, the paper puts to test these propositions using fsQCA, a reasonably used approach that has received increased attention in recent studies (Leischnig & Kasper-Brauer, 2015; Ordanini et al., 2013; Woodside, 2014; Wu et al., 2014).

Limitations and Future Research

This article provides insights into how conditions such as CM, CC, PV, CE, KM, and DT explain SI while pointing out which factors are more important than others. The sample mainly consisted of young and middle-aged customers. However, the target customers of wellness services are more inclined to be middle-aged and older adults, thus potentially limiting the generalize of the findings. Future work should attempt to explain whether and under what circumstances one factor or factor dominates or counteracts other factors, especially across age groups.

Conclusion

This study provides evidence for examining combinations of conditions such as CE to better explain SI in the wellness industry. To this end, complexity theory emphasizes the importance of analyzing complex patterns of predictor variables, countercases, and asymmetric relationships. CM, CC, PV, CE, KM, and DT do not all have to combine to drive SI simultaneously. Complex but parsimonious patterns emerge, with various antecedents that may or may not be present, suggesting that different configuration pathways may co-exist to explain SI.

Author Statements

Acknowledgments

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