

An Empirical Analysis of Customer Satisfaction with Cooperative Health Insurance in Saudi Arabia: The Role of Customer Knowledge, Service Characteristics, and National Culture

Mohammad F. Alharbi

Department of Health Administration, College of Public Health and Health Informatics, Qassim University, Qassim, KSA

ABSTRACT

Background: The current study was conducted to examine customer satisfaction with cooperative health insurance coverage.

Materials and Methods: Primary data collected from a sample of 395 local and expatriate workers of the Al-Qassim region in the Kingdom of Saudi Arabia. Cross-sectional data were analyzed using the partial least squares algorithm to test the proposed model. The study used a self-administered questionnaire to investigate the role of the service features, customer knowledge, and the national culture in customer satisfaction with the cooperative health insurance system in the Kingdom of Saudi Arabia.

Results: A positive and significant relationship was found between the four cooperative health insurance service characteristics (availability, acceptability, accessibility, and quality) and customer satisfaction. However, the quality factor emerged as critical in determining customer satisfaction, with 34% variation in the dependent variable with R^2 (0.34). Furthermore, no significant relationship was found between customer satisfaction and customer knowledge. However, investigation of the impact of national culture as a mediator was insignificant.

Conclusions: The study findings are expected to be of great interest for healthcare providers and health insurance companies with regard to more diversification, improvement, and better service delivery for their customer satisfaction.

Keywords: Customer Satisfaction, Cooperative Health Insurance, Services Characteristics, Customer Knowledge, National Culture

INTRODUCTION

In an attempt to achieve the development goals of the health sector in the country and reform of the health system, the Kingdom of Saudi Arabia (KSA) began implementing Cooperative Health Insurance (CHI) in 1999, when the Cabinet passed a resolution for establishment of the CHI program. The aim was to provide health care services and also to cover all non-Saudis who were working in the private sector as well as their families. ^[1]

However, actual work on the Act was initiated on July 16, 2006 through

stage-wise implementation. First, the healthcare insurance plan became mandatory for expatriate workers employed by organizations with more than 500 employees and it was then extended to cover all workers, including Saudis and non-Saudis, in the private sector. ^[2]

The CHI program was initially introduced to address healthcare needs of expatriate workers who were not covered by the government-based insurance plan. The CHI framework helps policyholders to pool their resources collectively to reduce the overall cost of healthcare services. ^[3]

However, the development of mandatory CHI and private insurance for expatriate workers during the early stage has faced certain challenges and problems, including lack of sufficient data and standardized health reporting systems. Hence, it was not possible to make statistical analyses concerning the efficiency of the Saudi healthcare system as a whole. [4] The CHI program was criticized for the lack of formal regulatory control. This has resulted in some participating insurers flouting Sharia laws as well as the lack of transparency in the CHI program, in addition to the prevalence of fraud and abuse of stakeholders (insurance companies, insured employees, and healthcare providers). [4]

Al-Mutawa [5] argued that many CHI customers in the KSA have expressed dissatisfaction with the services provided by the CHI program in addition to the daily complaints received for the services. Nevertheless, such claims about CHI customer dissatisfaction with the services provided were based on direct complaints and large-scale reports. In other words, it seemed that there was a lack of scientific studies on customer satisfaction with the services provided by the CHI program in the KSA.

These issues might have led to low-quality services with respect to CHI. However; there is a lack of information about the quality of care provided by the private sector because most studies on the quality of care were conducted at the facilities of the Ministry of Health. [6]

We investigated the role of the service features, customer knowledge, and the national culture in customer satisfaction with the CHI program in the KSA. The objective of the study was to examine customer satisfaction with the CHI coverage and its relationship with respect to services characteristics, customer knowledge, and national culture as a mediating factor. Within the health care industry, customer satisfaction is considered a significant component of community-based health

insurance plans. This is akin to the satisfaction that a customer or patient derives with regard to the healthcare system. [7]

Patterson and Johnson [8] argued that customer satisfaction is a key issue for all organizations that desire to develop and maintain a competitive advantage in today's highly competitive world. This implies that customer satisfaction is a key factor to enhance the performance of organizations. As far as insurance companies are concerned, there seems to be agreement among researchers and practitioners that customer satisfaction is a key factor that results in better organizational performance. [9] Bovbjerg and Hadley [10] argued that insurance coverage is related to better health outcomes for people. It makes health care cost-effective and reasonably priced and helps consumers use the care provided to them appropriately.

Recently, Alawni [11] investigated the relationship and effects of communications, customer knowledge, and their loyalty to insurance companies in the KSA. He concluded that future studies should be directed toward variable explorations, such as service quality and customer satisfaction, in health insurance coverage in the KSA.

Several researchers have argued that a number of factors might influence customer perceptions regarding their own satisfaction with the services provided by insurance companies, including customer perception about the properties of the health service they receive, that is the availability, accessibility, acceptability, and quality (AAAQ) of the health service. [12] Similarly, for example, Germain [12] argued that the workers' right to obtain a high quality of health requires the provision of these four characteristics without discrimination. Likewise, these characteristics of healthcare service should be explored and examined in future studies as they definitively affect customer satisfaction.

With this context, Ishfaq et al. [2] suggested that the quality of health

insurance coverage services is a prerequisite to guarantee consumer satisfaction in terms of service design and service matching. Therefore, it is critical to measure and analyze the quality of health insurance coverage services, since the Saudi health care system transforms from the public to the private sector. Further, it is emphasized that quality is important for the providers and recipients within the entire health system. [13,14] Potts [15] asserted that satisfaction with the level of health services can be achieved through the four interrelated factors (AAAQ). He concluded that these crucial factors are often described in connection with healthcare services; however, they also apply to the primary determinants of health.

Beside the aforementioned factors, one more important factor that supposedly influences customer satisfaction with health insurance coverage is customer perception of the sufficient knowledge and awareness of the CHI plans. This represents a critical part of the effective implementation of governance activities imposed by lawmakers. Significantly, the efficacy of these initiatives would be weakened in case of lack of information, awareness, and understanding of health coverage options, as well as rules and regulations with respect to the CHI coverage plans. It would also weaken the quality and availability of care that is received by the native citizens and expatriate workers in the KSA.

Mohammed et al. [16] reported that the insured persons' background information about the health insurance coverage plan is a factor that has a decisively significant role in influencing the level of satisfaction with health care services. Customers consider health coverage as a good way of helping the clients reduce the problems related to healthcare costs. Agyei-Baffour et al. [17] also examined the knowledge, perceptions, expectations, and attitudes of health coverage policyholders and health providers toward health insurance coverage schemes in Ghana, and they found that a lack of

client knowledge might prevent a policyholder from using health insurance coverage services.

Among other factors that might affect customer satisfaction with health insurance coverage, one critical factor is the culture of a country. Significantly, people's attitude about the degree of governmental involvement in the health care insurance sector seems to correlate highly with the culture differences, as they are perceived in general. [18]

Hofstede [19] argued that what determines the level of insurance within any community is the national culture and desire of the people to make use of the coverage as a way of confronting risk. Likewise, Douglas and Wildavsky [20] noted that the culture of a country, based on cultural effects on the level of attempts made to avert risks, influences the quest for health insurance coverage in developed and developing countries. As a result of the existence of a variety of cultural groups within a society that are significantly different in values, norms are acquired and shaped unconsciously, which leads to the development of cognitive maps among customers regarding insurance in healthcare. These values and norms affect the customer perceptions of "right and wrong" and "how things ought to be" *inter alia* the interpretation of satisfaction perceptions. [21]

Saaty and Ansari [9] and Tsoukatos and Rand [22] highlighted the need for future research in examining the national culture regarding service quality and customer satisfaction with health insurance, and these studies should be of interest to other researchers who seek to establish a sound knowledge base on the effects of culture.

Furthermore, customer satisfaction with health insurance coverage programs, such as the CHI program, has been widely studied and reported mostly in Western countries. However, very few studies could be found in emerging and developing countries. [23] Therefore, to understand the mechanism by which they operate and interplay, we must depend on the theories

and investigations in the Western perspective as they might be helpful in the Saudi context. Nevertheless, they cannot provide a clear and deep understanding of the factors that influence customer satisfaction with health insurance coverage in an emerging country, like the KSA. This is due to the differences between the KSA and its Western counterparts in terms of cultural differences between nations and countries. [24] Moreover, Aldosari et al [25] have studied the relationship between the properties of the CHI service and expatriate labor' satisfaction through incorporating customers' knowledge as a mediating variable. They confirmed that it is necessary for future researches to incorporate local and expatriate workers with respect to cooperative health insurance coverage in KSA.

Significantly, our study contributes to the Saudi insurance sector, particularly to the CHI program, as it generates some recommendations that can be taken into consideration by the organizations that are adopting and dealing with the program in the Saudi environment. Our findings shall contribute to a better service quality that produces more satisfying and loyal customers, which enables the government to take decisive actions and make plans to improve areas that are weak and to evaluate the measure of performance in the delivery of healthcare services. Furthermore, current study generated valuable information about the potentials and weaknesses for healthcare providers, which will help policy makers use the information to improve the process and procedures when delivering health care and services. Thus, healthcare system legislatures and administrative agencies can focus on areas for improvement based on real data from the beneficiaries of the current health care services to health insurance programs.

Accordingly, to the best of our knowledge, no previous studies on customer satisfaction with cooperative health insurance coverage have addressed the application of the theory to local and

expatriate employees in the KSA. Therefore, the study attempted to examine whether the CHI health service characteristics (AAAQ) affected local and foreign worker satisfaction with the CHI program in the KSA. The study also attempted to investigate worker knowledge, which is insufficient information, about the rules and regulations of CHI services and how this knowledge influences customer satisfaction with the CHI program.

Furthermore, the study focused on analysis of the construct of national culture as a mediator between the previous factors (service characteristics and customer knowledge) and local and expatriate worker satisfaction with the services provided by the CHI program and how it influences this relationship.

The conceptual model suggested based on literature that the connection between these CHI factors could be mediated by national culture. Therefore, the study sought to fill this gap through conducting an empirical study on customer satisfaction with the CHI services characteristics in an emerging country, like the KSA. The figure 1 below represents the theoretical framework of the present study.

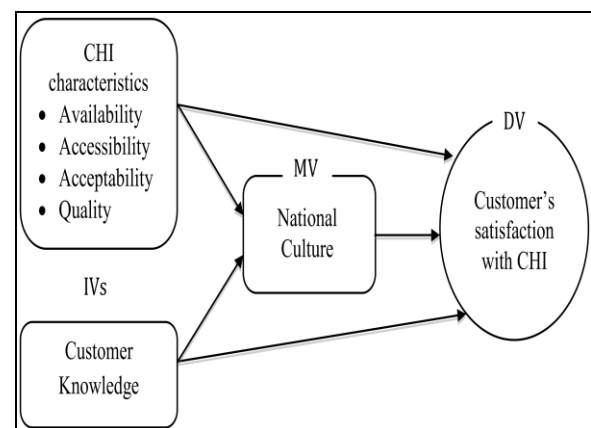


Figure 1: Theoretical framework of the present study

Hypotheses of the Study

The hypotheses suggested for this study were based on the relationships between the independent and dependent variables, as well as the mediating link of the mediating variable as highlighted in the theoretical model of the study. Based on the

above argument, we proposed the following hypotheses:

Hypothesis 1: Characteristics of CHI coverage have influence on local and expatriate worker satisfaction with the CHI program. The main hypothesis further proposed 4 sub-hypotheses (AAAQ), which were tested. These include:

Hypothesis 1a: The availability of the health insurance coverage facility influences workers' satisfaction with the CHI program.

Hypothesis 1b: The accessibility of the CHI system has an impact on workers' satisfaction with the CHI program.

Hypothesis 1c: The acceptability of the CHI system has an impact on workers' satisfaction with CHI the program.

Hypothesis 1d: The quality of the CHI program has an impact on workers' satisfaction with CHI.

Hypothesis 2: Customer knowledge has a significant positive effect on customer satisfaction with the CHI program.

Hypothesis 3: National culture (individualism and power distance) mediates the relationship between the antecedent factors and workers' satisfaction with the CHI program.

MATERIALS AND METHODS

Our study used the quantitative approach [26] and had a cross-sectional survey design. A self-administered questionnaire was used to obtain the opinion of the sample respondents. [27] The study population included local and expatriate workers of the Al-Qassim region in the KSA who were enrolled in the CHI program. The target population for this study was 450,064 workers in the private sector of this region, most of whom were enrolled compulsorily in CHI plans. [28]

A total of 395 local and foreign workers from the Al-Qassim regions of the KSA were selected for the study. These workers belonged to organizations that had adopted the CHI initiative. Of 650 self-administered questionnaires distributed to the participants, 436 were filled and

returned. Of these 436 filled questionnaires, 41 were invalid. Therefore, data were analyzed based on responses from the remaining 395 questionnaires (response rate, 67%).

Measurement of Variables

All items in the questionnaire were adopted from the well-known measures presented in previous studies pertaining to the key variables of this research. The antecedent factors of this research essentially comprise four key sub-sections; that is, the CHI service characteristics (AAAQ). Various studies from the past that sought to assess factors that affect the CHI program and customer satisfaction were used to obtain the items that measure the variables in the study. Four items from the literature were initially used (e.g., Ware et al. [29]) to evaluate the idea of availability of the CHI service. In addition, four items from the study by Marshall et al. [30] were used to investigate and assess the accessibility factor. Moreover, three items were used from the study of Sovd et al. [31] to assess the acceptability factor, and six items were used from the study by Marshall et al. [30] to measure the quality factor.

Customer knowledge was the second variable used in the research. This variable was measured using seven items from the study by McCormack and Uhrig. [32] Similarly, the variable of customer satisfaction, which is the dependent variable of the study, was measured through six items adopted from the study of Marshall et al. [30] Likewise, culture, which is the mediating variable, was studied using the dimensions of power distance and individualism/collectivism reported by Hofstede. [19] On the whole, the power distance dimension was measured using four items, while the individualism/collectivism factor was also measured using four other items.

A five-point Likert scale was used to obtain the responses of the respondents on questions signifying factors, ranging from 1 (strongly disagree) to 5 (strongly agree).

Data Analysis Technique

We used partial least square (PLS) path modeling using SmartPLS 3.0 software (SmartPLS GmbH, Boenningstedt, Germany).

RESULTS

Measurement Model Results

Key multivariate assumptions, such as normality, linearity, and multicollinearity, were checked and found satisfactory before the main analysis was performed. [33,34] The individual indicator reliability, internal consistency reliability, and discriminant validity were checked for the purpose of evaluating the psychometric properties of the scales. Initially, the outer loadings of each construct were measured and the assessments of individual item reliability were examined. [35,36] Items with loadings less than 0.50 were deleted, which left us with 29 of 38 items. For this reason, as can be observed in Table 1, items were retained with loadings between 0.720 and 0.904. Thereafter, the composite reliability of coefficient and the internal consistency reliability measure were established. The rule given by Bagozzi and Yi [37] was followed, which states that when the composite reliability coefficient is 0.7 or 0.7+, the internal consistency reliability is acquired. The ranges of the composite reliability coefficient of each latent construct were 0.824 and 0.907 (Table 1). Based on these results, we concluded that the measurement model in this research possessed sufficient internal consistency reliability because the composite reliability coefficients for each latent construct surpassed the minimum acceptable level of 0.70. [37] Ultimately, through comparison

between the correlations among the latent constructs with square roots of average variance extracted, the discriminant validity of the measurement model was determined. [38] As shown in Table 2, all correlations among latent constructs were lesser than the square roots of the average variances acquired (values in bold face); thus, it was well established that adequate discriminant takes place.

Table 1: Measurement model

Construct/ Indicator	Loading	Composite Reliability	Average Variance Extracted
Acceptability		0.896	0.742
ACCEPT1	0.831		
ACCEPT2	0.904		
ACCEPT3	0.847		
Accessibility		0.881	0.649
ACCESS1	0.797		
ACCESS2	0.774		
ACCESS3	0.847		
ACCESS4	0.803		
Availability		0.824	0.609
AVAIL2	0.807		
AVAIL3	0.764		
AVAIL4	0.770		
Power Distance		0.887	0.724
DIST2	0.860		
DIST3	0.846		
DIST4	0.846		
Individualism		0.828	0.617
INDIV1	0.774		
INDIV2	0.827		
INDIV3	0.780		
Customer knowledge		0.895	0.681
KC1	0.720		
KC2	0.865		
KC3	0.865		
KC4	0.843		
Quality		0.899	0.640
Q1	0.804		
Q2	0.755		
Q3	0.782		
Q4	0.836		
Q6	0.821		
Satisfaction		0.907	0.709
SAT1	0.827		
SAT2	0.890		
SAT3	0.881		
SAT4	0.765		

Table 2: Discriminant validity

Latent variables	1	2	3	4	5	6	7	8
Acceptability	0.861							
Accessibility	0.522	0.806						
Availability	0.218	0.220	0.780					
Customer knowledge	0.465	0.331	0.181	0.825				
Individualism	0.311	0.172	0.274	0.320	0.786			
Power distance	0.502	0.396	0.048	0.452	0.398	0.851		
Quality	0.565	0.563	0.133	0.311	0.105	0.385	0.800	
Satisfaction	0.504	0.514	0.345	0.251	0.098	0.116	0.568	0.842

Structural Model Results

A standard bootstrapping procedure with 5000 bootstrap samples was used to determine the path coefficients of the model's significance. [35] Moreover, in addition to that, a test of the hypotheses for indirect effect of acceptability and availability, as well as accessibility, health service quality, and customer knowledge on customer satisfaction by way of national culture was done. Determination of the indirect effect in simple mediation models used new methods. [39,40] Critical examination of the two structural models (direct effect model in Table 3 and indirect effect model in Table 4) conformed to the new methods used to determine the indirect effects in simple mediation models were done.

Table 3 shows a significant and positive relationship between quality,

acceptability, accessibility, and availability and local and foreign worker satisfaction with the CHI program ($\beta = 0.340, P < 0.01$; $\beta = 0.168, P < 0.01$; $\beta = 0.213, P < 0.01$; and $\beta = 0.199, P < 0.01$, respectively). Hence, hypothesis 1 is substantiated.

The results also show the direct effect model values of $R^2 = 0.468$ and $Q^2 = 0.306$, which means that the direct effect model justifies 46.8% of the overall variance in customer satisfaction with the CHI program.

Likewise, Table 3 also indicates no significant association between customer knowledge and customer satisfaction ($\beta = 0.007, P < 0.85$); hence, hypothesis 2 was not supported. The path coefficient having a P value for all direct effect models is shown in Table 3.

Table 3: Path coefficients of direct effect model

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O/STDEV)	P Values
Acceptability -> satisfaction	0.168	0.164	0.051	3.276	0.001
Accessibility -> satisfaction	0.199	0.201	0.048	4.133	0.000
Availability -> satisfaction	0.213	0.215	0.037	5.698	0.000
Customer knowledge -> satisfaction	0.007	0.015	0.039	0.183	0.855
Quality -> satisfaction	0.340	0.339	0.047	7.271	0.000

The criteria of Falk and Miller [41] were used, where the satisfaction level of the customers was used to provide an explanation for the R^2 value acceptable levels, which were above 10%.

Furthermore, the findings in Table 3 demonstrate the direct effect model predictive relevance to be $Q^2 > 0$. [42] Testing of the direct effect model was done, and the results of the mediating effect are shown (Table 4).

Table 4: Results of the mediating effect

Hypotheses	Path a	Path b	Indirect Effect	SE	t-Value	Bootstrapped Confidence Interval	
						95% LL	95% UL
Individualism culture → acceptability → customer satisfaction	0.238	-0.023	-0.01	0.05	-0.11	-0.105	0.094
Individualism culture → accessibility → customer satisfaction	0.005	-0.023	0.00	0.049	0.00	-0.096	0.096
Individualism culture → availability → customer satisfaction	0.200	-0.023	0.00	0.038	-0.12	-0.079	0.070
Individualism culture → quality → customer satisfaction	-0.124	-0.023	0.00	0.048	0.06	-0.091	0.097
Individualism culture → customer knowledge → customer satisfaction	0.210	-0.023	0.00	0.044	-0.11	-0.091	0.081
Power distance culture → acceptability → customer satisfaction	0.284	-0.257	-0.07	0.05	-1.43	-0.173	0.027
Power distance culture → accessibility → customer satisfaction	0.138	-0.257	-0.04	0.049	-0.72	-0.132	0.061
Power distance culture → availability → customer satisfaction	-0.103	-0.257	0.03	0.038	0.70	-0.048	0.101
Power distance culture → quality → customer satisfaction	0.077	-0.257	-0.02	0.05	-0.41	-0.114	0.074
Power distance culture → customer knowledge → customer satisfaction	0.269	-0.257	-0.07	0.044	-1.57	-0.155	0.017

There was a need for the interval values of the bootstrapped confidence to be remarkably distinct from zero, while there was another need for the *t*-value to be distinct as well to determine the mediating effect. Table 4 also highlights that not all hypotheses have a statistical effect, considering the significance of the confidence interval values that include zero.

The comparison brings into light the justification of the direct model for the variance in customer satisfaction (46%) and quality services variance (34%). Besides, a mediating variables effect was taken into consideration; however, it demonstrated an absence of significant difference from zero.

DISCUSSION

The present research was conducted to examine and analyze the local and foreign workers' satisfaction with the CHI program. The study focused on the significance of customers' satisfaction in elevating the performance of all enterprises with the ambition of developing and sustaining a competitive advantage in the highly competitive world. [8-10] In particular, the direct effects of CHI service characteristics (AAAQ) and customer knowledge of customer satisfaction have been studied in this research. Furthermore, the impacts of these factors were investigated through the mediating influence of the construct of national culture.

The results showed that, when tested individually, all independent variables representing the CHI service characteristics significantly contributed to the dependent variable, the satisfaction of local and foreign workers with the CHI program. This finding indicated that CHI characteristics are significant in influencing the satisfaction of workers with the CHI program.

For the CHI service characteristics, the findings were consistent with the claim by Germain [12] that the right to the greatest possible standard of health calls for the achievement of AAAQ attributes without discrimination. Also, characteristic findings of the CHI services were consistent with

those of Potts, [15] who asserted that the satisfaction with the level of health services could be achieved through four interrelated factors (AAAQ) and that these crucial factors are often described in connection with healthcare services.

The variable of quality was the most clearly represented independent variable. Customer satisfaction was related mainly to the R^2 value (0.34) of the quality dimension in a positive direction. This indicated that there was a strong connection between the perceptions of client service quality and customer satisfaction with the services given to them. This was demonstrated by the vital and positive link between quality and customer satisfaction in accordance with prior studies. [43-46] Therefore, it is necessary to enhance the standard of care to realize the complete advantage of health insurance schemes. According to some studies, there is a positive connection between health insurance and improved standard of care. [47-49] The positive connection between the availability of CHI services and customer satisfaction with the CHI program was illustrated by the outcomes of the direct effect hypotheses. This result was not surprising, because suggestions have been made previously that availability of CHI services has a greater role in the explanation of customer satisfaction. [50,51] However, some studies also indicated that increasing the availability of health service providers to insured and uninsured persons would improve their access to medical care and thus their satisfaction with the service provided. [52,53]

The study also hypothesized a significant relationship between customer worker perception of accessibility of CHI and their satisfaction in the context of the KSA. The consistency of the significant and positive relationship between accessibility and customer satisfaction with prior research indicated that a vital healthcare consumption indicator in the public and private healthcare sectors is the perceptions of a client's easy access. Thus, by enhancing the accessibility and flexibility,

healthcare providers must manage quality and customer satisfaction. [54-56] Furthermore, Sovd et al. [31] indicated that this dimension gives stronger determinants of customer satisfaction once accessibility of facilities is ensured.

A significant and positive relationship was also found between the satisfaction and acceptability dimensions. The finding was in accordance with that of prior studies, indicating that customer satisfaction is influenced by their perception of service acceptability. [31,55,57] Because the KSA has fairly widespread public and private health services, there is a possibility of this finding being a part.

Based on prior empirical findings, our study proposed that customer knowledge is an antecedent factor for customer (i.e., worker) satisfaction with the CHI program in the KSA. Nevertheless, this hypothesis is not supported by the outcome of the analysis, and it is also not consistent with prior studies, indicating that it is deterring patients from using facilities. Demand-side barriers to access health facilities may exist, such as the attitude of health insurance policy holders (clients) and lack of knowledge being as important as supply factors. [17,58,59] The explanation for this outcome indicates that there is a deficiency in significant impact of customer knowledge of customer satisfaction with the CHI program, which might be caused by customers' (i.e., workers') deficiency in knowledge, awareness, and understanding of health insurance plans, rules, and regulations. For this reason, it is not considered to have a major role in determining their satisfaction with health insurance. The efficacy of these initiatives can be reduced by such lack of awareness and it can also diminish the overall quality and adequacy of healthcare acquired by workers (citizens or foreign workers).

Also, the nature of foreign workers possibly may be significant, especially those who work in the private sector, the majority of which come from countries where Arabic is not spoken. For this reason, there is a

possibility that the essence of the CHI program was not fully relayed in terms of rules and regulations at the time of interaction and communication with CHI employees. Therefore, all worker knowledge regarding these regulations can be adversely affected, since there was no significance in being aware of the rules and regulations of health insurance and they approved the insurance policy as is.

Furthermore, we investigated the indirect impact of national culture as a mediator between CHI service properties (AAAQ) and customer knowledge of customer satisfaction. Nevertheless, this hypothesis was not supported by the outcome of this analysis and it also was not consistent with prior studies indicating a relationship between the attitude of the people regarding the degree of governmental involvement in the healthcare insurance sector and the culture differences as they are perceived overall. [9,18] On the contrary, the conclusion drawn in the study is also consistent with prior studies. [22,60,61] Only quality and customer satisfaction directly supported the connection between quality service, national culture, customer satisfaction, and dimensions of quality service; culture was not an influential factor. The workers in the state had the desire to keep their jobs on a personal basis. They accepted any insurance policy, specifically the CHI that is made available to them. Individuals from these cultures frequently do not accept differences in status and expect equal chances and treatments. This is a clear elaboration of the mediating effect on national culture.

Likewise, it was evident from our conclusion that there was no presence of the social hierarchy and that the people believe that they should be given treatment the same way and they acknowledge equality among themselves.

There are various limitations that recommend caution when drawing conclusions from the outcomes, even though significant contributions concerning the mediating effect of the national culture have

been made by our study. First, because our study mostly emphasized workers employed in one region in the KSA, only limited generalizations can be made. Therefore, this research should be extended to all regions to acquire more comprehensive outcomes. Secondly, a cross-sectional design was adopted for the purpose of investigating the phenomenon at one point in time. The longitudinal design of the study was more suitable as the latter method; the conclusion may be more in-depth since the aspects of human psychology are always changing. Finally, because measurement of all constructs was performed from a single source, the most significant limitation of our study was the effect of common method bias.

CONCLUSIONS

While the R^2 value obtained for customer satisfaction with the CHI program was 46.8%, and it can be stated that some other variables may increase the satisfaction of workers with the CHI program, other significant variables, such as insurance policy premium, reward, and compensation, among others, could better shed light on the factors that influence the satisfaction of all workers concerning the CHI program. Moreover, our study was invaluable for managers of the CHI program and health insurance firms as they are responsible for ensuring assessment of the healthcare provision and accessibility of services to various socioeconomic groups. In addition, our study is also expected to be significant for healthcare providers and health insurance firms with information concerning their strengths and weaknesses. Moreover, our study allows healthcare policy makers to use the information to improve the process and procedures when delivering healthcare and services, enabling healthcare system legislatures and administrative agencies to focus on areas for improvement. The government will be able to increase and improve the accessibility of healthcare for those who need it by understanding that

effective healthcare provision and delivery entails AAAQ.

REFERENCES

1. Alkhamis A, Cosgrove P, Mohamed G et al. The personal and workplace characteristics of uninsured expatriate males in Saudi Arabia. *BMC Health Serv Res.* 2017;17:56.
2. Ishfaq M, Qadri F, Abusaleem K et al. Measuring quality of service from consumers' perspectives: a case of healthcare insurance in Saudi Arabia. *Health Sci J.* 2015;10.
3. Drechsler D, Jutting J. Is there a role for private health insurance in developing countries? *DIW Discussion Paper 517.* Berlin: German Institute for Economic Research. 2005.
4. Barakah D, Alsaleh S. The cooperative insurance in Saudi Arabia: A nucleus to health reform policy. *Proceedings of the International Conference on Information and Finance, Singapore.* 2011;21.
5. Al-Mutawa T. Mandatory health insurance for citizens in private sector: conflicting perspectives. Riyadh: Cooperative health insurance. 2010. cchimag.com/en/archives/DownloadPDF/Octorber-2010-Issue-11. Accessed 14 May 2017.
6. Khaliq A. The Saudi healthcare system: A view from the Minaret. *World Health Popul.* 2012;13:52-64.
7. Faezipour M, Ferreira S. A system dynamics perspective of patient satisfaction in healthcare. *Procedia Comput Sci.* 2013;16:148-56.
8. Patterson P, Johnson L. Modeling the determinants of customer satisfaction for business to business professional services. *J Acad Mark Sci.* 1997;25:417.
9. Saaty A, Ansari Z. Factors critical in marketing strategies of insurance companies in Saudi Arabia. *Int J Mark Stud.* 2011;3.
10. Bovbjerg R, Hadley J. Why health insurance is important. *Health policy briefs.* Washington, D.C.: The Urban Institute; 2007.
11. Alawni M, Yusoff R, Al-Swidi A et al. The relationship between communication, customer knowledge and customer loyalty in Saudi Arabia insurance industry companies. *Mediterr J Soc Sci.* 2015;6:318.

12. Germain A. Meeting human rights norms for the quality of sexual and reproductive health information and services. Discussion paper presented at the International Human Rights Conference: ICPD Beyond 2014. 2013.
13. Gržinić J. Concepts of service quality measurement in hotel industry. *Ekonomiska misao i praksa*. 2007;19:81-98.
14. McAlexander JH, Kaldenburg DO, Koenig HF. Service quality measurement. *Mark Health Serv*. 1994;14:34.
15. Potts H. Accountability and the right to the highest attainable standard of health. Colchester: Human Rights Centre, University of Essex; 2008.
16. Mohammed S, Sambo MN, Dong H. Understanding client satisfaction with a health insurance scheme in Nigeria: factors and enrollees experiences. *Health Res Policy Syst*. 2011;9:20.
17. Agyei-Baffour P, Oppong R, Boateng D. Knowledge, perceptions and expectations of capitation payment system in a health insurance setting: a repeated survey of clients and health providers in Kumasi, Ghana. *BMC Public Health*. 2013;13:1220.
18. Loh CP, Nihalani K, Schnusenberg O. Measuring attitude toward social health insurance. *Eur J Health Econ*. 2012;13:707-22.
19. Hofstede G. *Culture's consequences: comparing values, behaviors, institutions, and organizations across nations*. Thousand Oaks, CA: Sage Publications Inc.; 2003.
20. Douglas M, Wildavsky A. *Risk and culture: An essay on the selection of technical and environmental dangers*. Berkeley: University of California Press; 1983.
21. Gopalan S, Thomson N. National cultures, information search behaviors and the attribution process of cross-national managers: A conceptual framework. *Teaching Business Ethics*. 2003;7:313-28.
22. Tsoukatos E, Rand GK. Cultural influences on service quality and customer satisfaction: evidence from Greek insurance. *Managing Service Quality: An International Journal*. 2007;17:467-85.
23. Yang K, Jolly D. The effects of consumer perceived value and subjective norm on mobile data service adoption between American and Korean consumers. *Journal of Retailing and Consumer services*. 2009;16: 502-08.
24. Bendl R, Fleischmann A, Hofmann R. Queer theory and diversity management: reading codes of conduct from a queer perspective. *Journal of Management and Organization*. 2009;15:625-38.
25. Aldosari M, Ibrahim Y, Manab NB et al. Linking cooperative health insurance service characteristics to expatriates' satisfaction: mediating role of customer knowledge. *International Review of Management and Marketing*. 2016;6:1013-19.
26. Cooper DR, Schindler PS. *Business Research Methods*. 8th ed. New York: McGrawHill; 2003.
27. Bourque LB, Fielder EP. *How to conduct self-administered and mail surveys*. 2nd ed. London: Sage Publishing; 2003.
28. Ministry of Labour and Social Development. *The annual statistical book 2016*. Saudi Arabia: Statistical department; 2016.
<https://portal.mol.gov.sa/en/statistics/Lists/CommonDocumentLibrary/StatisticalBook%202015.pdf>
29. Ware JE, Snyder MK, Wright WR et al. Defining and measuring patient satisfaction with medical care. *Eval Program Plann*. 1983;6:247-63.
30. Marshall GN, Hays RD, Sherbourne CD et al. The structure of patient satisfaction with outpatient medical care. *Psychol Assess*. 1993;5:477.
31. Sovd T, Mmari K, Lipovsek V et al. Acceptability as a key determinant of client satisfaction: lessons from an evaluation of adolescent friendly health services in Mongolia. *J Adolesc Health*. 2006;38:519-26.
32. McCormack LA, Uhrig JD. How does beneficiary knowledge of the Medicare program vary by type of insurance? *Medical Care*. 2003;41:972-78.
33. Hair JF, Black WC, Babin BJ et al. *Multivariate data analysis*. Upper Saddle River, NJ: Prentice hall; 2009.
34. Field A. *Discovering statistics using SPSS*. Sage publications; 2009.
35. Hair JF, Sarstedt M, Hopkins L et al. Partial least squares structural equation modeling (PLS-SEM): an emerging tool in business research. *Eur Bus Rev*. 2014;26:106-21.
36. Henseler J, Ringle CM, Sarstedt M. Using partial least squares path modeling in advertising research: basic concepts and

- recent issues. *Handbook of research on international advertising*. 2012;252.
37. Bagozzi RP, Yi Y. On the evaluation of structural equation models. *J Acad Mark Sci*. 1988;16:74-94.
 38. Fornell C, Larcker DF. Evaluating structural equation models with unobservable variables and measurement error. *J Mark Res*. 1981;18:39-50.
 39. Preacher KJ, Hayes AF. Asymptotic and resampling strategies for assessing and comparing indirect effects in multiple mediator models. *Behav Res Methods*. 2008;40:879-91.
 40. Preacher KJ, Hayes AF. SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behav Res Methods*. 2004;36:717-31.
 41. Falk RF, Miller NB. *A primer for soft modeling*. University of Akron Press; 1992.
 42. Henseler J, Ringle CM, Sinkovics RR. The use of partial least squares path modeling in international marketing. In: *New challenges to international marketing*. Emerald Group Publishing Limited; 2009. p. 277-319.
 43. Chang HH, Wang YH, Yang WY. The impact of e-service quality, customer satisfaction and loyalty on e-marketing: Moderating effect of perceived value. *Total Quality Management*. 2009;20:423-43.
 44. Chen CF. Investigating structural relationships between service quality, perceived value, satisfaction, and behavioral intentions for air passengers: Evidence from Taiwan. *Transp Res Part A Policy Pract*. 2008;42:709-17.
 45. Kuo YF, Wu CM, Deng WJ. The relationships among service quality, perceived value, customer satisfaction, and post-purchase intention in mobile value-added services. *Comput Human Behav*. 2009;25:887-96.
 46. Zhao L, Lu Y, Zhang L, Chau PY. Assessing the effects of service quality and justice on customer satisfaction and the continuance intention of mobile value-added services: An empirical test of a multidimensional model. *Decis Support Syst*. 2012;52:645-56.
 47. Witter S, Garshong B. Something old or something new? Social health insurance in Ghana. *BMC Int Health Hum Rights*. 2009;9:20.
 48. Brugiavini A, Pace N. Extending health insurance in Ghana: effects of the National Health Insurance Scheme on maternity care. *Health Econ Rev*. 2016;6:7.
 49. Ekman B. Community-based health insurance in low-income countries: a systematic review of the evidence. *Health Policy Plan*. 2004;19:249-70.
 50. Azhar AR, Salehuddin MM, Saiful MF. Customer satisfaction with supermarket fresh food's characteristics. *Journal of Tourism, Hospitality and Culinary Arts*. 2012;4:17-37.
 51. Sharif K. Impact of category management practices on customer satisfaction—Findings from Kuwaiti grocery retail sector. *Journal of Targeting, Measurement and Analysis for Marketing*. 2012;20:17-33.
 52. Hadley J, Cunningham P. Availability of safety net providers and access to care of uninsured persons. *Health services research*. 2004;39:1527-46.
 53. Penchansky R, Thomas JW. The concept of access: definition and relationship to consumer satisfaction. *Medical care*. 1981;127-40.
 54. Owusu-Frimpong N, Nwankwo S, Dason B. Measuring service quality and patient satisfaction with access to public and private healthcare delivery. *International Journal of Public Sector Management*. 2010;23:203-20.
 55. Davies AA, Basten A, Frattini C. Migration: a social determinant of the health of migrants. *Eurohealth (Lond)*. 2009;16:10-2.
 56. Lange R, Schiller J, Steinorth P. Demand and selection effects in supplemental health insurance in Germany. *The Geneva Papers on Risk and Insurance-Issues and Practice*. 2017;42:5-30.
 57. Poletti T, Balabanova D, Ghazaryan O et al. Options for scaling up community-based health insurance for rural communities of Armenia. *Health system development programme*. London: London School of Hygiene and Tropical Medicine; 2007.
 58. Griffiths P, Stephenson R. Understanding users 'perspectives of barriers to maternal health care use in Maharashtra, India. *J Biosoc Sci*. 2001;33:339-59.
 59. Boateng D, Kwabong GD, Agyei-Baffour P. Knowledge, perception about antiretroviral therapy (ART) and prevention of mother-to-child-transmission (PMTCT) and adherence to ART among HIV positive women in the Ashanti Region, Ghana: a cross-sectional study. *BMC Womens Health*. 2013;13:2.

60. Shih C. Effects of culture on service quality and customer satisfaction ratings. Unpublished Ph.D. Thesis. Department of Parks, Recreation, and Tourism, University of Utah; 2006.
61. Li H, Mäntymäki M. An empirical examination of the relationships between the dimensions of culture and e-service quality perceptions. In Bled Conference 2011 (p. 55).

How to cite this article: Alharbi MF. An empirical analysis of customer satisfaction with cooperative health insurance in Saudi Arabia: the role of customer knowledge, service characteristics, and national culture. *Int J Health Sci Res.* 2017; 7(11):234-246.

International Journal of Health Sciences & Research (IJHSR)

Publish your work in this journal

The International Journal of Health Sciences & Research is a multidisciplinary indexed open access double-blind peer-reviewed international journal that publishes original research articles from all areas of health sciences and allied branches. This monthly journal is characterised by rapid publication of reviews, original research and case reports across all the fields of health sciences. The details of journal are available on its official website (www.ijhsr.org).

Submit your manuscript by email: editor.ijhsr@gmail.com, editor.ijhsr@yahoo.com