# Towards a Better Understanding of Foreign Workers' Satisfaction with Cooperative Health Insurance: The Role of Service Characteristics, Financing, Choice of Plan and Customer Knowledge

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**ABSTRACT**

This study explored the relationships among several antecedent factors, namely service characteristics, financing and choice of plan and foreign workers' satisfaction (FWS) with cooperative health insurance (CHI). The study also hypothesized that customer knowledge situation would moderate the relationships among these antecedent factors and FWS with CHI. Drawing from a sample of 384 expatriates in Saudi Arabia, we found that service characteristics were positively related to FWS with CHI. We also found evidence regarding the relationship between CHI financing and FWS with CHI. Similarly, CHI choice of plan was found to be a significant predictor of FWS with CHI. Importantly, we predicted that perceived antecedent factors would each interact with customer knowledge in explaining FWS with CHI, such that this relationship would be stronger when customer knowledge situation is high and weaker when customer knowledge situation is low. Accordingly, the results generally supported our predictions.

**Keywords:** Service Characteristics, Cooperative Health Insurance Financing, Cooperative Health Insurance Choice of Plan, Customer Knowledge, Customer Satisfaction
**JEL Classifications:** G2, J28

## 1. INTRODUCTION

Healthcare is a fundamental requirement of every individual in the modern world as part of the rapid pace of modern society economically, socially, environmentally, legally and technologically (Drechsler and Jütting, 2005). Globally, healthcare has received a considerable amount of resources geared towards promoting good health. In most nations, healthcare is considered a fundamental human right for every individual (CIA; Central Intelligence Agency, 2010). One key strategy to promote and ensure good health in many nations is health insurance (Mufti, 2000). There are multiple ways in which health insurance program can be structured within a society, among other are cooperative health insurance (CHI),

employer-paid health insurance, and individually purchased health insurance (Sekhri and Savedoff, 2005). The Kingdom of Bahrain, for example, provides, per the nation's constitution, comprehensive healthcare for all Bahraini citizens and provides most healthcare for foreign workers and foreign residents of the Kingdom (Hamza, 2008). Overall, in 2007 the Bahrain government covered more than 70% of all healthcare costs for those in the country, whether citizen or foreigners, with private insurance paying about 5% of costs, and individual out-of-pocket expenses covering the remaining healthcare expenditures (Hamza, 2008).

The explosive growth of non-citizen workers and residents in the nation, combined with worldwide increases in the overall cost of

healthcare, have caused the financial burden of such universal healthcare to grow, leading Bahrain to consider requiring the provision of health insurance to all foreigners in Bahrain as a condition of obtaining residency rights; this could be via either a financial arrangement with the country's Ministry of Health or a contract with a private insurance company (Hamza, 2008). Similarly, Saudi Arabia has witnessed a dramatic increase of foreign workers and residents in the past few decades which also put pressure on the country's economy. In Saudi Arabia, expenditure on health insurance as a percentage of total expenditure on healthcare was 76.2%, and private expenditure was 23.8% (Walker, 2009).

Infusion of foreigner workers is a fact of today's globalised world and increasingly a necessary component of economic and social development everywhere in world. In Saudi Arabia this infusion of workers involves a diverse group of people that are actively contributing in development of different economy sectors (Davies et al., 2009) including insurance for healthcare services (Mufti, 2000).

The existence of foreign workers in the country is highly important for the Saudi economy keeping in mind that Saudi nationals tend to avoid many types of works like labour and technical field work (Idris, 2007). Idris (2007) further elaborates that the culture of the native Saudi employees tends to be less productive as compared to their foreign counterparts. This idea was also supported by other researchers like Bell et al. (2005) who stated that that majority of the native Saudi youth have been raised in luxury, with their well-paid and high status parents as role models. Thus, the Saudi worker is not motivated to maintain their position in lower-rank jobs. In addition, a report revealed that one fourth of the native Saudi employees are often absent at work and this leads to high turnover (Al-Kibsi et al., 2007). This means that foreign workers in Saudi Arabia are the real force and drive of the Saudi economy keeping in mind that these individuals came to the country mainly to work and earn their living which means that their work is their priority.

Although health is a fundamental human right for all, foreign workers in Saudi Arabia have been either deprived of this or under the insurance of the MoH in Saudi Arabia which formed pressure on the Saudi economy (Walker, 2009). Taking into account that one third of the people living in Saudi Arabia are foreigners and keeping in mind the rapid increases in the cost of healthcare, this exerted pressure that convinced the government to implement CHI in which Saudi employers were required to provide health insurance for their workers sharing this responsibility with the Saudi government (Mufti, 2000). The CHI program was put in place to address healthcare needs of foreign workers in Saudi Arabia who were not covered by the government-based coverage available to Saudi citizens. CHI is a framework put in place to assist in health payment by policyholders, who pool their resources collectively thus realizing overall cost reductions (Drechsler and Jütting, 2005). The Saudi Compulsory CHI program for foreign workers requires most employers to provide commercial health insurance to cover their employees. This in effect helps transfer some of the costs of providing healthcare from the state to the employers (Al-Haider and AL-Turkei, 2004).

## 2. LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

From theoretical and research perspectives, a number of factors have been hypothesized to influence customers' perceptions of their own satisfaction with the services provided by insurance companies. Among these factors is customers' perception about the characteristics of the health service they receive from health providers. These health service characteristics include customers' perceptions about the availability, accessibility, acceptability and quality of health service (Germain, 2013). Germain (2013) further states that the right to the highest attainable standard of health requires that these four attributes be achieved for all without discrimination and that these attributes of health service should be investigated in future work studies as they are regarded as strong determinants of customer satisfaction.

Another important factor that has been hypothesized to influence customer satisfaction with health insurance is customers' perception of the choice of health insurance plan. Selection of a cooperative health plan requires evaluation of the types of services and care the health plan covers and a determination that the plan provides a network of healthcare providers that is reasonably convenient and accessible to policyholders (Stahl, 2003). Austin (2010) argues that it is important for researchers who peruse studies on customer satisfaction with health insurance to include the choice of plan factor and examine customers' perceptions about this factor and which health plan relates to their satisfaction level. Another important factor that has been hypothesized to influence customers' perceptions about their satisfaction with health insurance is their perceptions of CHI financing. In this context, Tryfos (1996) states that financing health is a critical component of any healthcare system which deals with the systematizing individuals, resources and institutions with a view of supplying healthcare services to cater for health needs of the population. Tryfos (1996) further elaborates that the healthcare available for individuals and the quality of care accessible to the entire population of a particular society is influenced by how that particular society pays for healthcare, plus the amount of resources it allocates to its healthcare systems, programs, and structures.

Health insurance, which is a type of indemnity paid for medical costs, can be financed by various means that includes overt taxation by the state, single-payer systems, out-of-pocket payments and fees, or market-based financing. These types of health payment plans are intended to safeguard the insured from rising or unpredictable healthcare costs (Tryfos, 1996). Thus, in order to achieve optimum health and to ensure a cost effective equality and accessibility to healthcare is provided to the population, governments, charities, private entities and trade unions collaborate in generating cost-effective healthcare plans and it is essential that insurance customers' perceptions about this component are examined (Guerrero, 2010). In addition, in the literature on customers' satisfaction with health insurance services, a number of researchers attempted to investigate customers' perceptions in relation to a number of antecedents and the way these antecedents relate to their satisfaction. However, limited research attempted

to examine the impact of moderating factors on the relationship between the antecedents and customers' satisfaction.

In the current research, an attempt is made to examine the moderating impact of an influential variable, namely the construct of knowledge and the moderating role this construct plays in the relationship between the antecedent factors and customers' satisfaction (Velnampy and Sivesan, 2012). Sufficient knowledge and awareness regarding CHI plans are a critical part of effective wide-spread implementation of governance activities imposed by law makers. Essentially, lack of awareness, knowledge and understanding of health insurance options, rules and regulations concerning cooperative health care plans can seriously undermine the effectiveness of these initiatives, as well as the overall quality and abundance of care that is received by the nation's citizens and foreign workers employed within the boundaries of Saudi Arabia. Velnampy and Sivesan (2012) recommended that the construct of knowledge is included for future researchers who would attempt to conduct research studies on service quality and customer satisfaction link in the insurance industry. As such, governmental agencies should be charged with enhancing overall awareness, knowledge and understanding of cooperative health care insurance to all relevant stakeholders, including health care providers, health insurance providers and the individuals who are eligible for coverage under these mandated programs. This effort to expand knowledge should cover a myriad of relevant concepts, including the use of CHI as a mechanism to enhance the accessibility, acceptability, availability, and quality of universal healthcare.

Furthermore, another justification for the choice of knowledge to constitute the moderating variable in this study is what (Al-Yamany, 2013) suggested about the nature of foreign workers in Saudi Arabia. Al-Yamany (2013) argues that foreign workers in Saudi Arabia, particularly those working in the private sector are imported from different countries and many of them come from non-Arabic speaking countries which mean that many of them cannot speak the local Arabic language. Saudis, on the other hand, prefer to work in the government sectors for many reasons among which is the job security. Thus, when communicating with CHI employees, who are mostly native Saudis and who normally speak Arabic language, foreign workers might not fully understand the rules and regulations in case they have enquires about them. This might leave a negative impact on their knowledge about these rules and regulation. Thus, the current research attempts to examine foreign workers' knowledge about the rules and regulations of CHI services and how this knowledge influences the relationship between the antecedent factors and satisfaction with CHI.

Thus, the purpose of our investigation was to develop and test a moderated model that integrates CHI financing, CHI choice of plan, customer knowledge, and foreign workers' satisfaction (FWS) with CHI More specifically, we proposed that customer knowledge plays a moderating role between CHI financing, CHI choice of plan, and FWS with CHI. Towards achieving the objectives of this study, we further advanced the following hypotheses:

Hypothesis 1: The will be positive relationship between CHI service characteristics and FWS with CHI.
Hypothesis 2: The will be positive relationship between CHI financing and FWS with CHI.
Hypothesis 3: The will be positive relationship between CHI choice of plan and FWS with CHI.
Hypothesis 4: The positive relationships among the antecedent factors and FWS with CHI will be moderated by customer knowledge.

## 3. RESEARCH METHOD AND THE STUDY MODEL

### 3.1. Data Collection and Sample
Data were collected from 384 employed foreign workers from the five main regions in Saudi Arabia, namely the Central region, the Eastern region, the Western region, the Northern region and the Southern region. These foreign workers have been formally enrolled in the CHI programme. Self-reported questionnaires were administered personally during the working hours. The participants were initially explained about the purpose of research and they were also informed that participation in the present study was voluntary before the survey was administered. In order to reduce to minimize the common method variance concern, we adopted several procedural remedies, as suggested by Podsakoff and Organ (1986). For example, the participants were informed that there was no right or wrong answer to questions asked, that it would take them about 10-15 min to complete the survey, that their answers were treated with confidentiality.

Of the 384 participants, 66% were male while only 33% were female. With regards to the age, the outcomes presented that more than 22% of the surveyed individuals were between 18 and 35 years of age. In the same path, the findings displayed that more than 36 % of the surveyed individuals were between 36 and 50 years of age. Moreover, the result revealed that more than 37% of the surveyed individuals were between 51 and 65 years of age. Finally, the findings indicated that more than 3% of the surveyed individuals were over 66-year-old. The results demonstrate that more than 13% of the surveyed individuals were single. Moreover, the outcome revealed that more than 61% of the surveyed individuals were married and more than 19% of the surveyed individuals were divorced. Finally, the outcome revealed that more than 5% of the surveyed individuals were widowed. In addition, the results show that more than 9% of the surveyed individuals were holders of Artisan Cert, more than 8% of the surveyed individuals were holders of Professional Cert and more than 33% of the surveyed individuals were holders of Diploma of education. Besides, the results also show that more than 19% of the surveyed individuals were holders of degree of education and more than 26% of the surveyed individuals were recipients of Masters of education. Finally, the results also show that more than 1% of the surveyed individuals had PhD. Regarding the citizenship, the finding revealed that more than 12% of the respondents were Africans, more than 42% of the respondents were Asian, more than 40% of the respondents had were Middle Eastern and more than 4% of the were European and American.

Regarding the length of service with current company (year), the results show that more than 6% of the surveyed individuals had <1 year of length of service with current company, more than 31% of the surveyed individuals had between 1 and 5 years of length of service, and more than 49% of the surveyed individuals had between 6 and 10 years of length of service with the current company. Finally, the findings indicate that more than 12% of the surveyed individuals had more than 10 years of length of service with their current company. Finally, the results show that more than 15% of the surveyed individuals had leadership under the category of occupation, more than 30% of the surveyed individuals were specialists more than 24% of the surveyed individuals were technicians and finally, more than 29% of the surveyed individuals were laborers.

## 3.2. Measurement of Varaibles

### 3.2.1. Antecedent factors

Following comprehensive review of literature, we adapted six items from extant research (e.g., Coughlin et al., 2008; McDonald and Kennedy, 2004) to form the global measure for the antecedent factors. Specifically, these items reflected availability of CHI service, accessibility, acceptability, quality, CHI financing, and CHI choice of plan. Furthermore, for the sub-scale of the antecedent factors, we first adapted eight items from the literature (e.g., Coughlin et al., 2008; McDonald and Kennedy, 2004) to assess perceptions of availability of CHI service. An example item is, "CHI services are always made available to clients by the service providers." We then, adapted 8 items from measures of SERVQUAL developed by Markovic and Raspor (2010). A sample item in this subscale of SERVQUAL is "the CHI office is located in an appropriate location." Acceptability construct was measured by 9 items from the work of Sovd et al. (2006). Sample items in this scale "Health facility maintains ethical conduct with regards to billing, charging fees and billing insurance company for services rendered." Next, six items were drawn from Akter et al., (2013) user perceived service quality of mHealth scale to assess perceived service quality of CHI. An example item is "the CHI providers are competent in providing service." Eight and five items respectively were adapted for the literature and used to measure CHI financing and CHI choice (Coughlin et al., 2008; McDonald and Kennedy, 2004). In general, participants were asked to respond to questions reflecting antecedent factors using a 5-point Likert scale ranged from 1 (strongly disagree) to 5 (strongly agreed).

### 3.2.2. Customer knowledge

To assess perceived customer knowledge construct, 11 items were adapted from customer knowledge scale developed by Ensign and Gittelsohn (1998) to measure customer knowledge. A sample item in this scale is 'people typically purchase health insurance as a "guarantee" rather than an investment.' Participants were asked

to respond to questions in this scale using a 5-point Likert scale ranged from 1 (strongly disagree) to 5 (strongly agreed).

FWS. We adapted six items from Tijhuis et al. (2003) to assess FWS with CHI. An example item is, "the CHI providers knew a great deal about community-based health insurance, on a 5-point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree)."

### 3.2.3. Demographic variables

Demographic variables such as gender, age, marital status job tenure, educational qualifications, and worker region were also incorporated into the questionnaire. Gender was measured as a nominal variable, while age and job tenure were treated as continuous variables. Gender was coded using dummy variables with value "1" for male and "2" for female. The participants were asked to indicate their educational qualification. As such, educational qualification was also was coded using dummy variables with "1" = Artisan Certificate," "2" = "Professional Certificate," "3" = "Diploma," "4" = Bachelor Degree," "5" = "Masters," and "6" = "PhD", Age was also denoted using dummy variables with "1" = 18-35 years, "2" = 36-50 years, "3" = 51-65 years, and "4" = 66 years and above. A similar coding system was applied to job tenure with "1" = < 1 year, "2" = 1-5 years, "3" = 6-9 years, and "4" = 10 years and above. Marital status was coded using dummy variables with "1" = Married, "2" = Single, "3" = Single, "4" = Divorced, "5" = Widow/Widower.

## 4. STATISTICAL ANALYSIS AND RESULTS

Means, standard deviations, and correlations for all variables appear in Table 1. Prior to conducting our tests of hypotheses, we performed preliminary analyses, which showed that each of all assumptions regarding regression analysis has been satisfied. As shown in Table 1, FWS with CHI (mean = 4.133; standard deviation [SD] = 0.671). Furthermore, CHI service characteristics had (mean = 3.838; SD = 0.545). Next is CHI financing with (mean = 3.458; SD = 1.237). Table 1 also indicated that CHI choice of plan had (mean = 4.172; SD = 0.640). Finally, Customer knowledge had (mean = 4.300; SD = 0.665). The descriptive analysis is based on five-point Likert scale. Table 1 further indicated that CHI service characteristics, CHI financing, CHI choice of plan, and customer knowledge were positively and significantly related with FWS with CHI.

We used Hierarchical Regression Analysis to test the moderating role of the customer knowledge on the relationships among CHI service characteristics, CHI financing, CHI choice of plan and FWS with CHI. We first presented the results of the base model,

**Table 1: Means, SD, and correlations**

| Variable | Mean | SD | 1 | 2 | 3 | 4 | 5 |
|---|---|---|---|---|---|---|---|
| Fwith CHI | 4.133 | 0.671 | 1 | 0.512** | 0.010 | 0.773** | 0.820** |
| CHI service characteristics | 3.838 | 0.545 | | 1 | 0.089* | 0.489** | 0.499** |
| CHI financing | 3.458 | 1.237 | | | 1 | −0.011 | 0.052 |
| CHI choice of plan | 4.172 | 0.640 | | | | 1 | 0.671** |
| Customer knowledge | 4.300 | 0.665 | | | | | 1 |

n=384, *P<0.05, **P<0.01, SD: Standard deviations, CHI: Cooperative health insurance

which incorporates CHI service characteristics, CHI financing, and CHI choice of plan as predictors of FWS with CHI in Table 2. It is clear from the Table 2 that coefficient of determination $R^2$ obtained is 74% and this indicates model fit (Cohen, 1988). The validity of the model was also evidenced by the F value that was significant at the significance value of 0.001 (F = 372.767, P < 0.001). Specifically, the results evidenced good predictive power of CHI service characteristics, CHI financing, and CHI choice of plan in shedding a light on the dependent variable namely FWS with CHI. More specifically, the CHI service characteristics impact on FWS was significant ($\beta = 0.100$, t = 3.317, P < 0.01) at the significant level of 0.01 and thus, Hypothesis 1 (H1) is supported. In addition, the relationship between CHI financing and FWS with CHI is positive and significant at the significance level of 0.001 ($\beta = 0.630$, t = 13.686 P < 0.01) and therefore supporting H2.

Similarly, the relationship between CHI choice of plan and the FWS with CHI, it was found to be positive and significant at the significance level of 0.001 ($\beta = 0.207$, t = 4.504, P < 0.01) and thus, supporting H3. Regarding the autocorrelation test, Table 2 further indicated that the Durbin–Watson value was 2.012, falling in the acceptable range between 1.5 and 2.5, evidencing independence of observations.

Having presented the results of the base model, which incorporates CHI service characteristics, CHI financing, and CHI choice of plan as predictors of FWS with CHI in Table 2, we then performed

Hierarchical regression analysis to test the moderating role of the customer knowledge (Table 3). This involves three key steps. In the first step, the antecedent factors were entered into the model and was found to be significant (F = 906.325, P < 0.01), with adjusted $R^2$ obtained equal to 70%. Table 3 reveals that antecedent factors significantly and positively impact FWS with CHI ($\beta = 0.839$, t = 30.105, P < 0.01). In the next step, knowledge was entered to determine the model's predictive power of FWS with CHI. The predictive powers were revealed to be significant (F = 710.577, P < 0.01) where adjusted $R^2$ was found to be 79%, at the significant level of 0.01. The model evidenced significant predictive power towards FWS CHI, with the antecedent factors significantly and positively impacting FWS CHI ($\beta = 0.513$, t = 14.502, P < 0.01). Added to this, knowledge was revealed to positively and strongly impact FWS CHI ($\beta = 0.438$, t = 12.384, P < 0.01).

The third step involved the examination of the interaction terms between knowledge and antecedent factors for moderating impact. The model revealed the interaction significant at the level of 0.01 significance (F = 472.475, P < 0.01) where adjusted $R^2$ was found to be 79% at the significant level of 0.01, hence Hypothesis 4 is supported. On the basis of the figures in Table 3, the antecedent factors were significant predictors of FWS with CHI with the following indicators; ($\beta = 0.513$, t = 14.502, P < 0.01). Additionally, knowledge was found to negatively and significantly impact FWS with CHI, with the following indicators; ($\beta = 0.438$, t = 12.384, P < 0.01). In sum, the DW test was used to detect autocorrelation where according to Reinard (2006) and Kazmier (1996), the values of test statistics differ from 0 to 4.0. The general rule of thumb states that statistical values lower than 1.4 shows the presence of a significant positive correlation series, and those higher than 2.6 show strong negative correlation series (Kazmier, 1996). Also, DW values between 1.5 and 2.5 are considered to be acceptable and as such, Table 3 shows that the DW value to be 1.713 (no issue of autocorrelation).
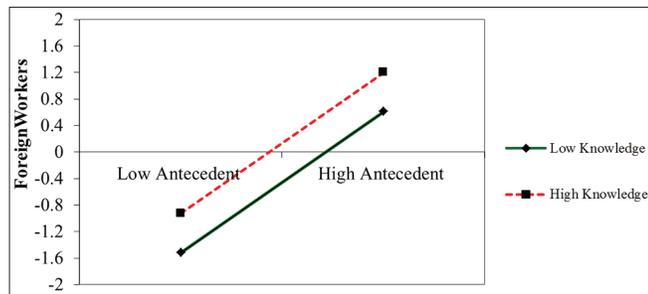
The moderating effect of knowledge situation on the relationship between perceived antecedent factors and FWS with CHI is depicted in Figure 1, which shows a stronger positive relationship between antecedent factors and FWS with CHI for individuals when knowledge situation is high than when it is low.

**Table 2: Regression results of model (dependent=FWS with CHI)**

| Variables | Standardized coefficients | t-value | Sig. |
|---|---|---|---|
| | Beta | | |
| CHI service characteristics | 0.100 | 3.317 | 0.001*** |
| CHI financing | 0.630 | 13.686 | 0.000*** |
| CHI choice of plan | 0.207 | 4.504 | 0.000*** |
| $R^2$ | | | 0.746 |
| Adjusted $R^2$ | | | 0.744 |
| F-value | | | 372.767 |
| F-significant | | | 0.000 |
| Durbin–Watson statistics | | | 2.012 |

*P<0.10, **P<0.05, ***P<0.01, CHI: Cooperative health insurance, FWS: Foreign workers' satisfaction

**Table 3: The moderating effect of the knowledge on the relationship between the antecedent factors and FWS with CHI**

| Variables | Step 1 | | | Step 2 | | | Step 3 | | |
|---|---|---|---|---|---|---|---|---|---|
| | Without interaction | | | Moderator variable | | | With interaction | | |
| | Beta | t | Sig. | Beta | t | Significant | Beta | t | Sig. |
| Antecedent factors | 0.839 | 30.105 | 0.000*** | 0.513 | 14.502 | 0.00 | 0.513 | 14.502 | 0.00*** |
| Knowledge | | | | 0.438 | 12.384 | 0.00 | 0.438 | 12.384 | 0.00*** |
| Interaction | | | | | | | 0.000 | 0.013 | 0.990 |
| F-value | 906.325 | | | 710.577 | | | 472.475 | | |
| F-significant | 0.000 | | | 0.000 | | | 0.000 | | |
| $R^2$ | 0.703 | | | 0.789 | | | 0.789 | | |
| Adjusted $R^2$ | 0.703 | | | 0.787 | | | 0.787 | | |
| $R^2$ change | 0.703 | | | 0.085 | | | 0.000 | | |
| Significant F change | 0.000 | | | 0.00 | | | 0.99 | | |
| Durbin Watson | | | | | | | | | 1.713 |

*P<0.10, **P<0.05,***P<0.01, CHI: Cooperative health insurance, FWS: Foreign workers' satisfaction

**Figure 1:** Interaction effect of antecedent factors and knowledge situation on foreign workers' satisfaction with cooperative health insurance



## 5. DISCUSSION OF RESULTS AND CONCLUSION

The main objective of this study was to examine the moderating effect of knowledge situation on the relationship between perceived antecedent factors and satisfaction with CHI among foreign workers employed in the five main regions in Saudi Arabia, namely the Central region, the Eastern region, the Western region, the Northern region and the Southern region. Overall, this study has succeeded in advancing the current understanding of the key antecedent of FWS with CHI. In particular, the present study has succeeded in by providing answers to the research questions that "when does perceived antecedent factors affect FWS with CHI"? Regarding the direct effect of predictor variables and the criterion variable, the result revealed a significant positive relationship among antecedent factors and FWS with CHI, suggesting that when foreign workers perceive service characteristics, financing and choice of plan to be favourable, they are more likely to be satisfied with CHI services (e.g., Germain, 2013; Stahl, 2003; Tryfos, 1996; Velnampy and Sivesan, 2012).

The results regarding the moderating effect of moderating effect of knowledge situation on the relationship between perceived antecedent factors and FWS with CHI appear to be congruent with extant research that sufficient knowledge and awareness regarding service characteristics, financing and choice of plan are a critical part of effective wide-spread implementation of governance activities imposed by law makers. Essentially, lack of awareness, knowledge and understanding of health insurance options, rules and regulations concerning cooperative health care plans can seriously undermine the effectiveness of these initiatives, as well as the overall quality and abundance of care that is received by the nation's citizens and foreign workers employed within the boundaries of Saudi Arabia (Velnampy and Sivesan, 2012). Theoretically, this research suggests that knowledge situation acted as a buffer between perceived antecedent factors and FWS with CHI, such that these relationship becomes stronger (i.e., more positive) when knowledge situation is high than when it is low.

This study has provided a theoretical implication by giving additional empirical evidence in the domain of expectancy disconfirmation theory (Anderson, 1973). The theory posits that consumers form satisfaction judgments by evaluating actual product/service (Anderson, 1973). According to Anderson (1973), consumers seek to avoid dissonance by adjusting perceptions about a given product to bring it more in line with expectations. Consumers can also reduce the tension resulting from a discrepancy between expectations and product performance either by distorting expectations so that they coincide with perceived product performance or by raising the level of satisfaction by minimizing the relative importance of the disconfirmation experienced (Olson and Dover, 1979). This study has also tested the moderating role of knowledge situation on the relationship between perceived antecedent factors and FWS with CHI. Extant empirical has demonstrated that perceived antecedent factors were positively related to FWS with CHI services (Germain, 2013; Stahl, 2003; Tryfos, 1996; Velnampy and Sivesan, 2012). Despite the theoretical and logical arguments in favor of the link between antecedent factors and FWS with CHI, however, a key research question that needs to be answered is when and how does antecedent factors affect FWS with CHI? This study has provided answer and/or address the theoretical gap by incorporating of knowledge situation as a potential boundary condition for the effect of antecedent factors on FWS with CHI.

## 6. LIMITATIONS AND SUGGESTIONS FOR FUTURE RESEARCH

While this study has provided support for a number of the hypothesized relationships between the independent and dependent variables, the findings have to be interpreted with consideration of the study's limitations. Firstly, the present study adopts a cross-sectional design which does not allow causal inferences to be made from the population. Therefore, a longitudinal design in future needs to be considered to measure the theoretical constructs at different points in time to confirm the findings of the present study. The present study also offers quite limited generalizability as it focused mainly on workers employed in the five main regions in Saudi Arabia, namely the Central region, the Eastern region, the Western region, the Northern region and the Southern region. Consequently, additional work is needed to include local employees from various organisations (both public and private) in order to generalize the findings. Foreign workers should be studied and compared with local employees.

## 7. CONCLUSION

In conclusion, the present study has provided additional evidence to the growing body of knowledge concerning the moderating role of knowledge situation on the relationship between perceived antecedent factors and FWS with CHI. Results from this study lend support to the key theoretical propositions. In particular, the current study has successfully answered the research question and objective despite some of its limitations. In addition to examining the direct effect of perceived antecedent factors on FWS with CHI, the present study has extended the extant research by incorporating knowledge situation as a significant moderating variable. Finally, in terms of theoretical contributions, the results from this study provide some several future research directions.

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