

## **PREDICTING EMPLOYEES' BEHAVIOR: AN APPLICATION OF THE THEORY OF PLANNED BEHAVIOR – THE CASE OF THE MOROCCAN FORESTRY DEPARTMENT (HCEFLCD)**

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### **Abstract:**

The Forestry Department (HCEFLCD) strongly promotes the subscription to a voluntary complementary healthcare insurance (CHI) to fill the lacunae of the public healthcare insurance called the Mandatory Health Insurance (AMO). However many employees did not accept to subscribe to this category of insurance (CHI). The employees' behavior and decision to get involved in this complementary healthcare plan can be explained by their intention. Therefore, this study through a single case study research method identifies factors that influence employees' intention to subscribe to the CHI based on testing the theory of planned behavior (TPB). Our findings stress the importance of Perceived behavioral control (PBC) and Subjective norm (SN) as salient beliefs for explicating the subscription to the CHI plan. A sample of 120 headquarters' employees completed a questionnaire of 14 items that measure attitude towards the behavior to subscribe (AB), subjective norm (SN), perceived behavioral control (PBC) and behavioral intention to subscribe (BI) to the CHI. These determinants have been analyzed by using a quantitative research methodology. The research design was based on a survey with 7-point Likert Scale in line with the guidelines provided by Ajzen (2006). The study has also used interviews and archival information to investigate and understand further the subscription to the CHI, thereby helping the decision makers to develop strategies to improve the complementary healthcare insurance plan and generally the social welfare of employees.

*Keywords: theory of planned behaviour, complementary healthcare insurance, attitude, subjective norm, perceived behavioral control.*

## 1. RESEARCH BACKGROUND AND MODEL

Health insurance is a valuable tool to protect employees against uncertain high medical expenses and give them access to adequate healthcare services. Moreover, health insurance is related to improved health outcomes and lower mortality, and employees with health insurance are more likely to be productive workers (Eisenberg et al., 1998). The Organization for Economic Cooperation and Development (OECD) distinguishes public from private insurance on the basis of the funding source. In the public insurance programs the money is channeled through the state via a general or social insurance tax, whereas in the private insurance the money is paid to the risk-pooling entity (Neelan & Savedoff, 2004). The private health is often considered as voluntary, for profit commercial coverage in contrast with mandatory publicly financed and publicly managed insurance described as social or national insurance. We distinguish also between primary and secondary coverage. The first occurred when private insurance is the primary form of risk pooling for a portion of the population. In the secondary coverage, private insurance complements the coverage provided by a publicly funded system, often covering a limited set of interventions that address particular gaps in country's public coverage (Joan & Rovira, 2005). The role of private insurance depends on the country's wealth and institutional development. In several lower and middle-income countries, private insurance is the only form of risk pooling available and provides primary coverage, mainly to those who are employed. In most high income countries, private insurance provides secondary coverage to predominantly publicly funded systems (Neelan & Savedoff, 2004).

North African and Middle Eastern countries including Morocco, Lebanon, Bahrain, Saudi Arabia and Tunisia have significant private health insurance markets (Touahri, 2008). In Morocco, the AMO scheme concerns only 30 % of the population. The majority of the beneficiaries are urban citizens (Report of the fiftieth, 2005). The two third of them are public sector employees with their families and retirees. Several institutions manage health insurance in Morocco: CNOPS, Internal plans (OCP, ONCF, CNSS, RAM, BAM, GBP etc.), inter-professional mutual fund (CMIM) and private insurance companies (Ministry of Health, 2001).

The employees of the HCEFLCD as all the staff of the public sector are covered by a mandatory health insurance (*Assurance Maladie Obligatoire*, AMO), a payroll-based mandatory health insurance. The AMO which started effectively in 2005 is managed by the National Fund of Social Providence Organizations (CNOPS). This fund has made great efforts to improve the management of the public sector mandatory health insurance system through speeding up the application processing system and offering better care for patients. Since the implementation of this plan the number of reimbursable drugs has increased from 1000 to 2497 and the creation of an IT system has reduced the reimbursement cycle time from several months to less than one month (Touahri, 2008). This fund is contributed by active employees and retirees respectively through the amounts of 6 % and 1,7 % of their total revenues. Still, the CNOPS covers only 46 % of the total spending and the patients have to pay the remaining 54 % as a *ticket modérateur* or co-payment (Report of the fiftieth, 2006).

As a social and motivational action, the HCEFLCD has launched a complementary health insurance (CHI), to compensate the out-of-pocket health care expenses of its employees. It is a group contract established on a renewable annual basis with a private insurance company via an intermediate cabinet specialized in administering, processing and collecting medical treatment data of the enrollees. This cabinet holds periodic evaluation and assessment

meetings with the HCEFLCD especially to assure the contract is still profitable for the private insurer. This contract depends on the subscription of employees to this plan knowing however that each subscriber should pay a constant monthly premium of 114 MAD.

The CHI is a voluntary additional insurance that helps employees recover the out-of-pocket expenses that the AMO does not consider. This plan ensures indeed the reimbursement of 90 % of co-payments. It also provides the medical services that are recognized and listed by the AMO, such as doctor visits, hospitalizations and medications. Despite all the benefits of this plan, it turned out that many employees did not accept it. According to the Theory of Planned Behavior (TPB), the employees' behavior and decision to get involved in this complementary healthcare insurance plan can be explained by their intention. Intention provides a conduit to a better understanding of the behavior itself (Ajzen, 1991). Subscription intention can be used to predict employees' involvement in the CHI. To this end this study intends to test and apply the TPB and inquire about the relationship between three determinants of intention (attitude, subjective norm and perceived behavioral control to subscribe) and the employees' decision to subscribe to the CHI plan.

### **1.1. Theory of Planned Behavior**

For the purpose of this study, the theory of planned behavior was used to disentangle the complexity of the relationship between the intention to subscribe to the CHI and the employees' attitude, subjective norm and perceived behavioral control. The TPB is a general theoretical framework useful to explain goal-oriented human behavior. The TPB claims that the behavior is a function of salient information or beliefs, relevant to the behavior itself (Ajzen, 1991). These beliefs combine into three distinct conceptual factors: Attitude towards the behavior (AB), Subjective norm (SN) and Perceived behavioral control (PBC).

TPB is an extension of the Theory of Reasoned Action (TRA) (Ajzen & Fishbein, 1980). According to the TRA, the proximal determinant of behavior is a behavioral intention, which is in turn determined by attitude and subjective norm assuming that most human social behavior is under volitional control and can be predicted from intention alone (Fishbein & Ajzen, 1975).

Recognizing that most of human behaviors are subject to obstacles and people may lack complete volitional control over the behavior of interest, Ajzen (1991) introduced the TPB, which generalizes the TRA by adding a third perception: Perceived behavioral control (PBC). Individuals with high levels of PBC should be more disposed to perform or not the behavior. PBC is also held to influence the behavior directly (Ajzen, 2006) and it has often been found to perform the behavior (Armitage & Conner, 2001), particularly when the behavior is not under volitional control and to the extent that it is an accurate reflection of actual behavioral control (Ajzen, 2002).

TPB has been recognized successful in explaining intention towards performing a particular behavior (Ajzen & Driver, 1992) in different fields such as health, leisure choice, psychology, sociology and information technology (Ajzen, 1987; Ajzen & Driver, 1992; Cooke & French, 2008; Mathieson, 1991). Ajzen (1988) suggests that the immediate antecedent of behavior is the person's intention to perform it. Intentions, in turn, are proposed to be function of three independent determinants as abovementioned:

### *Attitude*

Azjen (1987) defines attitude towards performing behavior as the perceptions and evaluation of personal desirability to perform the behavior. We can say in our case, that attitude towards subscription to the CHI refers to the overall evaluation either positive or negative of performing the behavior of interest (subscription to the CHI). Many previous studies have shown a positive relationship between attitude and behavioral intention e.g. Autio et al. (2001), Krueger et al. (2000) and Kolvereid (1996).

### *Subjective Norm*

Subjective Norm reflects an individual's perception that most people of importance think he or she should or should not perform the behavior (Ajzen, 1987). If a person believes that his or her referents think that behavior should be performed, then the subjective Norm will impact his or her intention to perform the particular behavior of subscribing to the CHI. The referents may be a group of people who are close to the person for instance family, peers, spouse, close friend, supervisor and anyone considered important in the person's life. In several studies, Subjective Norm was found to be positively related to intention e.g. Ajzen & Driver (1992) and Kolvereid (1996).

### *Perceived Behavioral Control*

This construct is affected by the perceptions of access to necessary skills, resources and opportunities to perform the behavior. If a person feels to have these situational factors, he or she may develop the intention to perform the subscription behavior. In contrast, if an individual does not have control over the circumstances, he or she may not have any or less intention to perform the particular behavior. The Perceived Behavioral Control influences the intention to perform a behavior (Ajzen & Driver, 1992). This can be achieved assessing the person's self-efficacy and beliefs as regards the controllability of the behavior (Francis et al., 2004). Previous studies have demonstrated a significant association between Perceived Behavioral Control and the intention to perform the behavior e.g. Ajzen & Driver (1992) and Mathieson (1991).

## **1.2. Research Objectives, Model and Hypotheses**

Building on the previous assumptions, the objective of this study is 1) to test the TPB model and predict the intention to subscribe to the Complementary Health Insurance (CHI) plan through the analysis of the behavioral intention's determinants (attitude towards the behavior (AB), subjective norm (SN), and perceived behavioral control (PBC)) and 2) to further explain the decision of employees to subscribe or not to the CHI in the future. The findings of this research are to be used as a planning tool to provide guidelines on how to implement a good complementary healthcare insurance strategy and offer valuable input for managers in promoting social benefits.

We use the TPB to predict the employees' intention to subscribe to the CHI. The model shown below (Figure 1) represents three kinds of variables that the TPB suggests will predict the intention to perform the target behavior (subscription to CHI).

Specifically, this study will test the three following hypotheses (Ajzen, 1991):

*H1: Attitude towards the behavior affects positively the intention of the employees to subscribe to the CHI plan.*

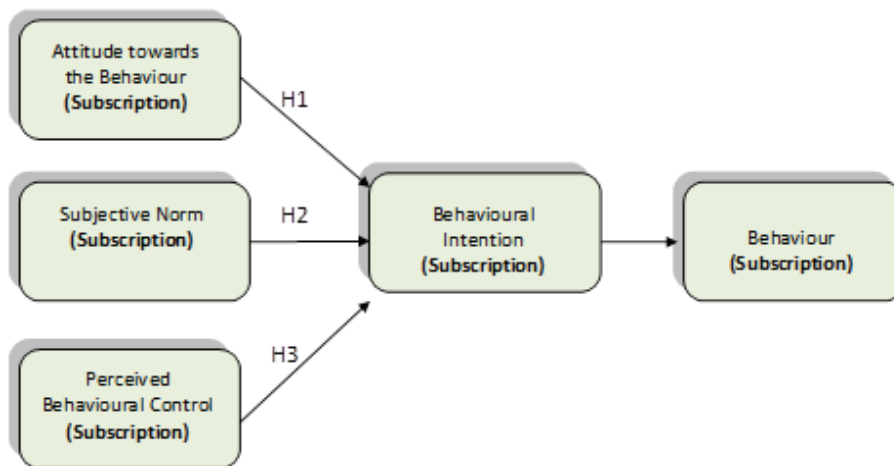
*H2: Subjective norm affects positively the intention to subscribe to the CHI plan.*

*H3: The perceived behavioral control affects or increases positively the intention to subscribe to the CHI plan.*

## 2. RESEARCH DESIGN

To predict the intention of employees to subscribe to the CHI, this study draws on a real situation which requires flexibility and the involvement of all participants in the research. The study focuses on all the factors inherent to the research objectives following the principles of a confirmatory action research (Rory, 1998) based on a single case study design (Yin, 2003) with the rationale of testing a well formulated theory in the CHI domain.

**Figure 1: Research Model**



Source: Adapted from Ajzen, 1991.

As a methodology a survey was used. Data was collected at the headquarters of the HCEFLCD in Rabat. A face to face survey method via a TPB closed-ended questionnaire was also adopted. A triangulation method was applied and useful data was also gathered from interviews with open-ended questions and archival information on how to establish a good strategy to enhance the effectiveness of the CHI. The survey assessed all the variables that affect the behavioral intention to subscribe to the CHI as mentioned in the research model.

### *Sampling*

A proportional stratified sampling method was used to guarantee the representation of all the categories of the entire population (Zikmund, 2002). According to Berenson et al. (2006) the homogeneity of items within each stratum provides greater precision in the estimates of underlying population parameters.

For the TPB studies using a multiple regression approach, generally a sample size of 120 would be acceptable (Francis et al., 2004).

A survey was administered to 140 employees with a response rate of 85,7 % due to the face to face contact and personal interviews.

The sample included 4 salary scale-related categories. The salary scales 5 to 6, 7 to 8, 9 to 10 and 11 and more represent respectively 64 %, 11 %, 14 % and 11 % of the entire population size. The size of each stratum was determined proportionally based on the population size as

follows: 77 for the first category (5 to 6), 13 for the second category (7 to 8), 17 for the third category (9 to 10) and 13 for the fourth category (11 and more), for a total of 120 respondents.

### *Questionnaire*

A structured closed-ended questionnaire was developed following the TPB procedures as described by Ajzen (2006) and Francis et al. (2004). The questionnaire included, in addition to background questions, direct measures of Subscription Intention, Attitude, Subjective Norm, and Perceived Behavioral Control.

The background questions were put at the end of the questionnaire. According to Zikmund (2002) demographic or classification questions at the beginning of the questionnaire is not advisable since asking for personal information such as education or income level may embarrass respondents.

14 items were adopted to measure all the constructs of Intention, Attitude, Subjective Norm and Perceived Behavioral Control. All items used a seven-point Likert scale ranging from 1 (strongly disagree) to 7 (Strongly agree), from 1 (easy) to 7 (difficult) and 1 (I should) to 7 (I shouldn't).

Three items (4b, 5 and 10) have been arranged so that the ends of all scales are a mix of positive and negative endpoints to counteract possible response sets (Ajzen, 2006). These items that have negatively worded endpoints were recorded on the right so that higher numbers then always reflect a positive attitude or subjective norm or perceived behavioral control to the target behavior (Francis et al., 2004).

The scoring is based on the calculation of the mean of the item scores to give an overall construct score (Ajzen, 2006; Francis et al., 2004). Also, subscription intention construct is measured based on the generalized intention since in the TPB literature most research has been about individual's own behavior. Direct measurement of attitude involves the use of bipolar adjectives which are evaluative (e.g good-bad). Subjective Norm's direct measurement involves the use of questions referring to the opinions of important people in general. Finally, the direct measurement of the items of Perceived Behavioral Control reflects people's confidence that they are capable of performing the target subscription-related behavior. It includes the Self-efficacy that is assessed by asking people to report a) how difficult or easy it is to perform the behavior and b) how confident they are that they could do it; and then the controllability is assessed by asking people to report a) whether performing the behavior is up to them and b) whether factors beyond their control determine their behavior (Francis et al., 2004).

Since all participants are Moroccans, all research instruments were administered in Arabic. However, following the procedures recommended by Francis et al. (2004), the documents were first written in English and then translated to Arabic. Back-translation validation procedures were also used.

We also constructed a scoring key such as the one below. This guided us throughout the data analysis.



**Table 1:** Scoring Key of the Questionnaire

Question numbers	Response format	Items requiring reverse scoring	Construct measured
1 to 3	1 to 7	-	Behavioral intention, direct measure (Francis et al., 2004).
4a to 4c	1 to 7	4b	Attitude, direct measure (Francis et al., 2004; Greenslade et al., 2005).
5 to 8	1 to 7	5	Subjective norm, direct measure (Francis et al., 2004; Greenslade et al., 2005).
8 to 12	1 to 7	10	Perceived behavioral control, direct measure (Francis et al., 2004; Greenslade et al., 2005).

### *Interviews*

Qualitative research interviews were conducted with all the respondents to seek further details and explanations (McNamara, 1999). The main task of the Open-ended questions is to help announcing practical recommendations and implementing a good strategy to enhance subscription to the Complementary Health Insurance (CHI).

### *Measurement Development and Data Analysis*

All the adopted items have been designed to be direct measures of the theoretical constructs, and the different items used to assess each construct should correlate with each other and exhibit high internal consistency (Ajzen, 2006).

Basic descriptive statistics were computed to examine the characteristics of the sample. To achieve the objective of this study, we also performed a multiple regression procedure to test the hypotheses considering intention as the dependent variable and the direct measures of attitude, subjective norm and perceived behavioral control as the predictor variables. We used IBM SPSS statistics 19 for windows to perform the regression analysis.

## **3. RESEARCH FINDINGS AND RESULTS**

This study was conducted with 120 employees from the headquarters of the HCEFLCD to explicate their behavior and decision to get involved in the Complementary Health Insurance (CHI) through the identification of the factors that influence their intention to subscribe to this insurance plan based on testing the model of the theory of planned behavior (TPB).

Table 2 presents the respondents' demographic information.

**Table 2:** Demographic Characteristics

Category	Frequency	Percentage (%)
<i>Gender</i>		
Female	27	22,5
Male	93	77,5
<i>Age</i>		
30 or younger	7	5,8
31 - 40	34	28,3
41 - 50	60	50,1
51 - 59	19	15,8
<i>Scale salary</i>		
5 - 6	77	64,2
7 - 8	13	10,8
9 - 10	17	14,2
11 and more	13	10,8

<i>Marital status</i>		
Married	98	81,7
Single	19	15,8
Divorced	3	2,5
<i>Children</i>		
0	23	19,1
1 - 2	52	43,4
3 - 4	45	37,5

### 3.1. Test of the Research Model

A Cronbach's alpha higher than 0,70 indicates high value in reliability (Guelford, 1965). Generally the reliability levels of each variable in this study are higher than 0,70 (see Table 3): Behavioral intention (BI) (0,9); Subjective Norm (SN) (0,9); Attitude towards the Behavior (AB) (0,9); Perceived Behavioral Control (PBC) (0,74).

As shown in Table 3, the Mean score of Behavioral Intention (BI) is slightly under mid-point. Therefore, it reflects a moderate level of intention to not perform the act of subscribing to the CHI ( $M = 3,67$ ;  $SD = 1,81$ ), although the Mean score of the construct related to the attitude towards the behavior (AB) is moderately in favor of the CHI ( $M = 5,54$ ;  $SD = 1,03$ ). Also, the means scores of Perceived Behavioral Control ( $M = 3,08$ ;  $SD = 1,30$ ) and the Subjective Norm ( $M = 3,87$ ;  $SD = 1,53$ ) are under mid-point too, which denotes an impact of perceived behavioral control and social pressure over not performing the subscription behavior.

Data diagnoses were undertaken based on SPSS calculations to ensure the validity of the regression model (stepwise) such as graphs of the residual analysis.

The results are reported in table 4. The numbers alongside the independent variables in table 4 and figure 2 are the  $\beta$  weights (standardized regression coefficients), indicating the "steepness" of the relationships between the dependent (BI) and independent variables (AB, SN and PBC) on 0-1 scale.

First, the regression analysis (see Table 4) indicates that the standardized regression coefficient for Attitude towards the Behavior against Behavioral Intention is  $\beta = 0,106$  with  $t = 2,737$ ;  $p = 0,007$  showing a significant influential correlation but small contribution to the regression equation in comparison with the other explanatory independent variables. Also, Attitude towards the Behavior has a lower impact on the employees' Intention which partially supports hypothesis 1 (H1).

Then, the standardized regression coefficient for Subjective Norm against the Intention is  $\beta = 0,432$  with  $t = 6,137$ ;  $p = 0,000$ , showing a highly significant correlation with important contribution to the regression equation. Thus, Subjective Norm affects significantly the Intention which supports the second hypothesis (H2).

Finally, the standardized regression coefficient for Perceived Behavioral Control against the Intention is  $\beta = 0,476$  with  $t = 6,892$ ;  $p = 0,000$ , showing also a highly significant correlation in the regression model with strong and important contribution to the regression model. Therefore, Perceived Behavioral Control affects the employees' intention which supports hypothesis 3 (H3).



**Table 3:** Means, Standard Deviations and Correlation

Variable	BI	AB	SN	PBC	M	SD	Alpha Coefficients
<b>Behavioural Intention (BI)</b>	-				3,67	1,81	0,9
<b>Attitude towards the Behaviour (AB)</b>	0,48**	-			5,54	1,03	0,9
<b>Subjective Norm (SN)</b>	0,89**	0,44**	-		3,87	1,53	0,9
<b>Perceived Behavioural Control (PBC)</b>	0,90**	0,40**	0,86**	-	3,08	1,3	0,74

\*\* . Correlation is significant at the 0,01 level ( 2- tailed)

**Table 4:** Summary of Regression Analysis

	R <sup>2</sup>	S.E	F	B	S.E.B	β
<b>Model</b>	0,86	0,685	236.740***			
<b>Perceived Behavioural Control (PBC)</b>				0,661	0,096	0,476
<b>Subjective Norm ( SN)</b>				0,51	0,083	0,432
<b>Attitude towards the Behaviour (AB)</b>				0,186	0,068	0,106

Note . \*\*\*p< 0,001

R<sup>2</sup> : R square ; SE: standard error of the estimate , SE : standard error of B

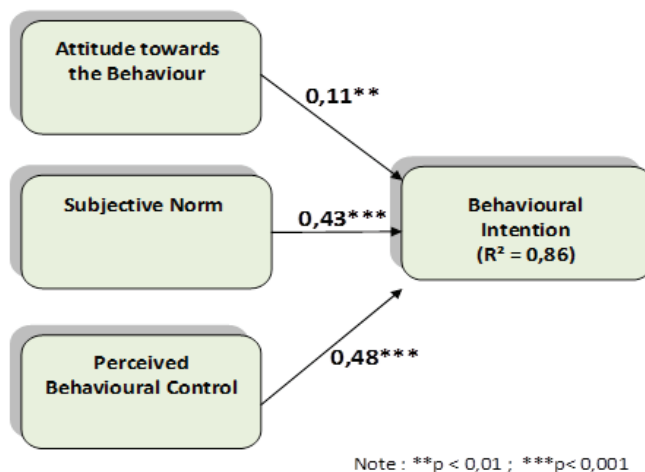
β : beta standardized coefficient , B : unstandardized coefficient

Figure 2 represents the pathways, including beta values ( $\beta$ ) and the standardized regression coefficients found in the regression analysis. The betas from regression model were used to determine the relative weights of each factor.

This figure shows that Perceived Behavioral Control has the most substantial impact ( $\beta = 0,476$ ) on the Intention to subscribe to the CHI, producing a change of 0,476 units in Behavioral intention for each unit change in Perceived Behavioral Control. This influence on Intention is approximately equal to that of Subjective Norm ( $\beta = 0,432$ ) and four times that of Attitude towards the Behavior ( $\beta = 0,106$ ).

These findings suggest that employees' decision to subscribe to the CHI is mostly affected by their Perceived Behavioral Control and Subjective Norm.

**Figure 2:** Path Diagram of the TPB Model of Employees' Subscription to CHI



### 3.2. Demographic Characteristics and Research Findings

Table 5 shows that there is no significant correlation between behavioral intention and the demographic characteristics of the respondents: Age ( $r = 0,025$ ;  $p = 0,79$ ), Gender ( $r = -0,149$ ;  $p = 0,104$ ), Marital status ( $r = -0,105$ ;  $p = 0,252$ ) and a weak positive correlation between the Intention and the Salary scale ( $r = 0,373$ ;  $p = 0,000$ ).

Furthermore, the regression analysis with the combination of all the demographic factors indicates that the coefficient of determination remains unchanged ( $R^2 = 0,86$ )<sup>1</sup> in comparison with the general research model.

These results show clearly that the demographic characteristics of all employees do not affect their behavioral intention (BI) to subscribe to CHI.

### 3.3. Qualitative Findings and Discussion

The present study tested the TPB to predict employees' intention to subscribe to the CHI. The results support the efficacy of the Theory of Planned Behavior in explicating and predicting the intention to subscribe to the Complementary Health Insurance plan.

We have found support for the theorized determinants of Behavioral Intention (BI) to subscribe, with Perceived Behavioral Control (PBC), Subjective Norm (SN) and Attitude towards the Behavior (AB) accounting together for a larger and significant proportion of the variance (86 %) ( $R^2 = 0,86$ ) in employees' Intention. These results support Ajzen's theoretical assumptions (2006).

The study reveals that the Perceived Behavior Control and the Subjective Norm are the most important determinants of Intention and have the strongest influence on the intention to subscribe. Furthermore, the two constructs made significant contribution to predicting intention with respect to the subscription to the CHI ( $R^2 = 0,85$ ), which means that 85 % of the variability of the Intention is explained by the variability of these two constructs. This is

<sup>1</sup> SPSS has excluded the variables related to the demographic characteristics from the regression model since there is no correlation with the BI.

congruent with the studies conducted by Ajzen & Driver (1992), Kolvereid (1996) and Mathieson (1991).

**Table 5:** Correlation Matrix

Variable	BI	AB	SN	PBC	Age	Gender	Marital status	Salary scale
Behavioural Intention (BI)	1							
Attitude towards the Behaviour (AB)	0,48**	1						
Subjective Norm (SN)	0,89**	0,44**	1					
Perceived Behavioural Control (PBC)	0,9**	0,4**	0,86**	1				
Age	0,025	-0,1	0,009	0,057	1			
Gender	-0,149	0,062	-0,095	-0,177	0,165	1		
Marital status	-0,105	0,138	-0,083	-0,139	-0,434	-0,231	1	
Salary scale	0,373	0,172	0,37	0,449**	0,018	-0,012	0,086	1

\*\*.. Correlation is significant at the level ( 2-tailed)

The study has also shown that Attitude towards the Behavior (AB) did not account for a large weight which is not consistent somewhat with Azjen (2006) and Kruger et al. (2001). These researchers believed that positive or negative Attitudes did strongly predict the Intention respectively to perform or not to perform the behavior.

The study also shows that the demographic characteristics and salary scale did not have an impact or influence on the behavioral intention of the employees to subscribe to the CHI.

The finding related to the Attitude towards the Behavior (AB) leaves open the possibility that participants might have demonstrated biased Attitudes that are inconsistent with their expressed Perceived Behavioral Control (PBC), Subjective Norm (SN) and Behavioral Intentions (BI). This is due either to the nature of the CHI itself as laudable plan or to the issue of social desirability bias. This latter tendency could pose some problems when conducting research with self-reports especially questionnaires (Crowne and Marlowe, 1960). This result was also supported through the archival information which indicates that a large number of employees consider the CHI as important and good for health risks and cost.

In addition, the Perceived Behavioral Control is derived from beliefs about the presence of factors that may facilitate or impede performance of the behavior (Subscription) and Subjective Norm is derived from beliefs about the normative expectations of others (Ajzen et al., 2001).

In the regression model Perceived Behavioral Control (PBC) had the largest Beta weight ( $\beta = 0,476$ ;  $p < 0,000$ ), suggesting that employees were not under volitional control and found difficulties which hindered the performance of the behavior (PBC). This result is confirmed by the qualitative findings collected from the open-ended interviews. These findings highlighted the following difficulties:

- The monthly premium is considered not affordable for all employees particularly for the lower and middle salary scale.
- The employees fear the payment method of the monthly premium. It is withheld at source from the employees' salaries.

- Modest compensation of the out-of-pocket since the CHI complements the reimbursement to 90 % of the medical services and goods that are only mentioned on the AMO's formulary.

Furthermore, the reimbursement is now based on generic drug's lower retail price and does not take into account the over-billing for some ambulatory care specialists (dermatologists, dental prosthesis etc.) or the surgery cost in private clinics.

Also, Subjective Norm ( $\beta = 0,432$ ;  $p < 0,000$ ) denotes that employees felt significantly the social pressure from others to not subscribe. According to the interviews there is effectively a sort of pressure exerted mainly by parents and colleagues who are not in favor of any subscription at all for the following reasons:

- Employees' concerns for health-related information privacy. They are inclined to protect their personal information from being used for some other purposes.
- Some employees prefer a non-group CHI contract with full coverage and reimbursement up to 100 %.
- The parents of employees are not covered by the CHI.
- Lack of awareness of the basic coverage and benefits of the CHI among several employees which has built a negative *buzz* around the insurance plan.
- Submission process creates doubt about the reimbursement time particularly associated with the complicated process of handling health insurance claim forms that should be sent first to the HCEFLCD where they are verified, certified and then transferred to the insurance company.

Perceived Behavioral Control and Subjective Norm are the most significant in the stepwise regression model, showing that the strongest predictors of Intention to not perform the subscription behavior to the CHI are respectively 1) employees perceiving subscription to be difficult and 2) being under social pressure.

## 4. CONCLUSIONS AND RECOMMENDATIONS

The findings of this study provide information to two groups of entities interested in promoting subscription to the CHI policy.

First, the findings give specific insight and guidance to the insurance company as a provider of the CHI on how to refine this type of group contract with public organizations in general.

Second, the results aid decision makers in determining where resources should be focused to optimize their allocation.

The perceived behavioral control and subjective norm were found to have much greater influence on employees' intention to purchase the CHI policy than attitude towards the behavior. According to those findings, employees base their decisions mainly on their perceived ease or difficulty to perform or not to perform the behavior with regard to the opinions of others (parents, spouses, colleagues, supervisors etc.).

### 4.1. Recommendations

To enhance employees' intention to subscribe to the CHI, decision makers should take into account the following actions:

### *Affordability Issue*

The HCEFLCD should resolve the affordability issue through subsidizing the price (premium) of the CHI especially for lower and middle salary employees by respectively 75 % and 65 %. These rate subsidies have been proposed by the majority of employees during the interviews. Table 6 shows the cost per annum that is worth 649 868,4 MAD to be incurred by the HCEFLCD via the Social Employee Association (FOSEF)<sup>2</sup>.

The HCEFLCD pumps annually into the budget of this Association (FOSEF) the amount of 1 200 000 MAD which seems not sufficient to fulfill the coverage-related purpose for the entire population at the national level. Nevertheless, the FOSEF could help at this stage. On one hand it can be recognized as public utility by decree (Royal law) which helps to arrange fundraising (e.g. charitable funds from general public) and on the other hand the HCEFLCD could in conjunction with the Ministry of finance devote 2 % of the aggregate employment earnings to the CHI. This action is feasible only if the FOSEF becomes a public Foundation by decree such as the Foundations of the Ministry of National Education and the Ministry of Justice.

**Table 6:** Rates Subsidy and Total Cost per Annum

Salary scale	Number of employees	Rate subsidy	Cost per employee*	Total cost per annum	Observation
[ 5 - 8]	545	75%	85,5	559170	the calculations are based on a premium of 114 MAD
[ 9 - 10 ]	102	65%	74,1	90698,4	

\* this cost to be incurred by the Forestry department

### *Awareness and Delivery of CHI Information*

The HCEFLCD should provide and facilitate access to useful information related to the benefits of the Complementary Health Insurance via the website that is dedicated to this insurance policy which must also include a section that provides answers to general health insurance questions, information about government-sponsored programs, list of clinics, a glossary defining common insurance terms, subscription forms and links to other resources such as insurance provider's website. The HCEFLCD in cooperation with the FOSEF and the insurance company must reinforce the promotion efforts systematically among all employees and their families via brochures and meetings and also should adopt a permanent ambitious communication plan specifically related to the CHI.

### *Submission Process*

To enhance trust, preclude privacy concerns and save reimbursement time, the HCEFLCD must overhaul and improve the submission process through facilitating direct submission by the beneficiaries themselves of insurance claim forms to the insurance company electronically using Internet or Fax or by mail.

### *Payment Method*

The HCEFLCD must review the payment method of the insurance premium. The majority of employees have expressed their major concern as regards the idea of withholding the premium at source on a monthly basis. They prefer, in contrast, to pay the premium annually by cheque or cash.

<sup>2</sup> « Fondation des Œuvres Sociales des Eaux et Forêts », nonprofit association, constituted in 2001 under the association law of 1958.

### *Terms of the Contract*

Given the large number of the HCEFLCD's staff and the intense rivalry in the group CHI contract market, the decision makers could have the bargaining power over the insurance company to push forward towards reviewing the terms of the contract by adding attractive conditions and advantageous provisions dealing with medical full coverage and including eventually parents and spouses to become covered by the CHI regardless of having or not a statutory health insurance.

### *Governance and Restructuring of the FOSEF*

The HCEFLCD is by far the major sponsor and provider of the FOSEF's fund besides membership fees. The FOSEF considered as a partner in this plan, must reflect to its contributors a good image and healthy situation as regards its governance: maintaining reliable and trustful balance sheet, supporting regular internal and external auditing and ensuring transparent election of its board.

All the parties can achieve these objectives through the contract agreement system<sup>3</sup> to be implemented effectively by the HCEFLCD and the FOSEF. This scheme will establish *the rules of the game*, define rights and obligations and develop a climate of confidence and trust. It has also the advantage of encouraging the parties to focus on results and strengthening the relationship ties among them to discuss progress and remove obstacles.

## **4.2. Implications, Limitations, and Future Research Agenda**

This study has both theoretical and practical implications. With regard to the theory of planned behavior we have demonstrated the applicability of a widely recognized social and psychological theory through testing it in a specific domain such as the CHI. Perhaps the most theoretically interesting and influential beliefs associated with subscribing to the CHI are both the perception of easiness or difficulty to perform the behavior and the importance of the opinions of others.

This research provides practical information to the parties interested in the effective integration of CHI plans in social affairs within the public sector. It also gives specific guidance to top managers who design and implement CHI initiatives, and helps decision makers determine where resources should be focused to optimize their allocation. The proposed subscription model describes a concrete set of factors that managers might consider to facilitate subscription to the CHI policy. Indeed, the PBC and SN represent specific factors on which managers and decision makers should focus their intention, efforts and investment to shape employees' behavior and increase subscription to the CHI.

However, this study still shows some limitations. First, this research was conducted only in one public department. Second, it would be important for future research to establish an extended model of the TPB by including other variables to explain in depth the phenomenon.

Given the importance of the theory of planned behavior in predicting the intention of individuals and understanding successfully a wide variety of human behaviors such as subscription to the CHI, this research can be generalized to other public offices and ministries at the national level particularly for CHI policies.

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<sup>3</sup> Called in French "Contractualisation" or "contrat programme".



## REFERENCE LIST

1. Ajzen, I. (1987). Attitudes, traits and actions: dispositional prediction of behavior in social psychology. *Advances in Experimental Social Psychology*, 20, 1–63.
2. Ajzen, I. (1988). *Attitudes, personality and behavior*. Milton Keynes, OUP.
3. Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50, 179–211.
4. Ajzen, I. (2002). Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior. *Journal of Applied Social Psychology*, 32, 665–683.
5. Ajzen, I. (2006). Constructing a TPB questionnaire: conceptual and methodological considerations. Retrieved in July 2010 from <http://www-unix.oit.umass.edu/~aizen/>
6. Ajzen, I., & Driver, B.L. (1992). Application of the theory of planned behavior to leisure choice. *Journal of Leisure Research*, 24(23), 207–224.
7. Ajzen, I., & Fishbein, M. (1980). *Understanding attitudes and predicting social behavior*. Englewood Cliffs, NJ: Prentice-Hall.
8. Armitage, C. J. & Conner, M. (2001). Efficacy of the theory of planned behavior: Meta-analytic review. *British Journal of Social Psychology*, 40, 475–499.
9. Autio, E., Keeley, R. H., Klofsten, M., Parker, G. G., & Hay, M. (2001). Entrepreneurial intention among students in Scandinavia and in the USA. *Enterprise and Innovation Management Studies*, 2(2), 145–160.
10. Berenson, M. L., Levine, D. M., & Krehbiel, T. C. (2006). *Basic business statistics, concepts and applications*. Pearson Prentice hall.
11. Cooke, R., & French, D. P. (2008). How well do the theory of reasoned action and theory of planned behavior predict intentions and attendance at screening programmes? Meta-analysis. *Psychology & Health*, 23(7), 745–765.
12. Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology*, 24, 349–354.
13. Eisenberg, D., Davis, R., Ettner, S., Appel, S., Wilkey, S., Van Rompay, M., & Kessler, R. (1998). Trends in alternative medicine use in the United States, 1990–1997. *Journal of the American Medical Association*, 280(18), 1569–75.
14. Fishbein, M., & Ajzen, I. (1975). *Belief, attitude, intention, and behavior: An introduction to theory and research*. Don Mills, Ontario: Addison-Wesley.
15. Francis, L., Eccles, M., Johnston, M., Walker, A., Grimshaw, J., Foy, R., Kaner, E., Smith, L., & Bonetti, D. (2004). *Constructing questionnaires based on the theory of planned behavior – Manual for health services researchers*. Centre for Health Services Research, University of Newcastle (UK).
16. Greenslade, J., & Katherine M. W. (2005). The predicting of above-average participation in volunteerism: A test of the theory of planned behavior and the volunteers functions inventory in older Australian adults. *The Journal of Social Psychology*, 145(2), 155–172.
17. Guelford, J. P. (1965). *Fundamental statistics in psychology and education*. New York: McGraw-Hill.
18. Joan, C., & Rovira, J. (2005). Why some people go private and others do not: Supplementary health insurance in Spain. *Public Finance and Management*, 5(4), 523–543.
19. Kolvereid, L. (1996). Organizational employment versus self-employment reasons for career choice intentions. *Theory of Practice*, 20–33.
20. Krueger, N. F., Reilly, M. D., & Carsrud, A. L. (2000). Competing models of entrepreneurial intentions. *Journal of Business Venturing*, 15, 411–432.
21. Mathieson, K. (1991). Predicting user intentions: comparing the technology acceptance model with the theory of planned behavior. *Information System Research*, 2(3), 173–199.

22. McNamara, C. (1999). *General guidelines for conducting interview*. Minnesota, USA.
23. Ministère de la Santé. (2001). *Comptes nationaux de la santé 1997–1998*.
24. Neelan, S., & Savedoff, W. (2004). Private health insurance implications for developing countries. *Bulletin of the World Health Organization*, 83(2), 127–134.
25. Rapport du Cinquantenaire (2006). *Le Maroc possible, une offre de débat pour une ambition collective*. Edition Maghrébines.
26. Rory, O. (1998). *An overview of the methodological approach of action Research*. Faculty of Information Studies, University of Toronto.
27. Touahri, S. (2008). *Mandatory health insurance makes progress in Morocco*. Maghreb, Rabat.
28. Yin, R. K. (2003). *Case study research, design and methods*. Applied Social Research Methods Series, Volume 5.
29. Zikmund, W. G. (2002). *Business research methods*. South-Western Cengage Learning.