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DEVELOPING AN EVIDENCE-BASED STRATEGIC DECISION-MAKING MODEL IN INSURANCE COMPANIES

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ABSTRACT

Management researchers have long been concerned about the fact that management research has not been widely successful in affecting the management practices. Hambrick (1994) argues that the management research mainly aims at decision making and management practices; however, the translation of academic knowledge to measures adopted by managers has practically failed. The present study sought to develop an evidence-based decision-making model in insurance companies. The present study was fundamental and applied in terms of its objective and mixed exploratory research with regard to its nature. In the qualitative part of this study, twenty directors of insurance companies and policy-making experts were selected through purposeful and snowball sampling. Moreover, one hundred seventy directors of active insurance companies participated in the quantitative part to test the model. Structural equation approach and data-based theory was used to analyze the data. Finally, an evidence-based strategic decision-making model was developed according to Strauss and Corbin's paradigm model. Further, the relationships among the research variables were examined using the partial least squares method and the validity of the relationships was confirmed.

1. INTRODUCTION

Nowadays, managers need to be expert decision makers (Franklin, 2013). Given the great impact of management decisions on the organization, the managers must be competent in this regard (Rousseau, 2006). As Henry Mintsberg notes, "No job for our community is more critical than a manager's." The manager is the one who determines whether our social institutions serve us properly or they are wasting our talents and resources (Barends et al., 2017). According to Wick's (1995) definition of seven sensation indicators, that managers are more likely to make logical decisions than decisions that are accurate and appropriate. And this essentially incorporates arguments that are not necessarily appropriate; however, they match with reality at the moment (Teapouri et al., 2017). Various categories of decision

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making have been introduced based on the amount of available information, the complexity of decisions, decision making levels, decision horizons, and so on, one of which is strategic decisions. Such decisions are typically uncommon and non-structured with a high degree of uncertainty and risk, to which a large amount of organizational resources are allocated. These decisions, made by senior directors at the top of the organizational pyramid, have a significant impact on the organization's health and survival as well as long-term implications (Oryana, 2014).

In the insurance industry, strategic decisions are of great importance due to the vital role of this industry in the economy. In spite of the remarkable role of insurance in improving the economy and the welfare of the community, the industry with eighty years of age in Iran has an extremely low penetration rate. The insurance penetration rate indicates the ratio of production premiums to gross domestic product (GDP). This rate was equal to 1.25% in 2004 and, with a growth rate of 0.76%, increased by 2.2% in 2016. The average global penetration rate of insurance is 6%; hence, this index in Iran is far from the global index. The low ratio of this index can be attributed to the function of the insurance industry, which is caused by weaknesses in management and decision-making system as well as in the development and implementation of strategies appropriate to the insurance industry and insurance market in Iran. Iran's insurance industry has undergone major changes over the last ten years. One of such dramatic changes is the quantitative increase of insurance companies as well as the increasing participation of the private sector in this field, in accordance with Article 44 of the IRI Constitution and with the implementation of the tariff liberalization policy. Although this policy aims to develop the insurance industry and seek to adjust the insurance premiums with the insurance risk so as to enhance competition and promote the quality of insurance services, it faced major challenges due to its expeditious implementation and the lack of necessary infrastructure in insurance companies. Under such a condition due to the short time of privatization in the insurance industry and the lack of proper competition in the industry before the tariff liberalization policy, no possibility existed for the newly established non-state firms acquiring market share. The arrival of newly established insurance companies with no financial capacity and the inclusion of non-insurers in the board of directors, these companies decided to adopt the leadership strategy these companies in order to increase their market share and to eliminate the liquidity problems and to reduce the price of their products to boost their portfolio. On the other hand, liquidity problems in recent years have led the managers of some insurance companies make false decisions, focus on third-party losses, and consequently aggravate their liquidity problems. Through pursuing the past mistakes and making attempts for their compensation, these companies have been offering non-technical rates and lowering premium and dumping rates in the market.

This not only has put the insurance market in chaos and eliminated the trust of insurers to old companies but also has raised a huge challenge for the companies at the damage time. Furthermore, some of the companies have created chaos in the market through investing the premium funds in sectors with low liquidity and high risk, from which the government and people have suffered. Unfortunately, the insurance industry in Iran faces problems due to

the weakness of the decision-making system, the lack of specific decision-making models, non-use of scientific and reliable indices in the strategic decision-making process. Insurers, on the other hand, often find themselves in a situation where they need their occupational questions to be answered. They require evidence to make relevant informed decisions. Evidence-based decision making introduces a standardized approach that encompasses the gathering of evidence used to guide a decision and the thinking method at the decision-making time and relies on the analysis of internal and external evidence. This process eliminates the need for decision-making based on intuition and past experiences by persuading managers to compile and analyze data before making a decision (Briner et al., 2009). Given the challenges posed to the insurance industry and the ineffectiveness of the strategic decisions adopted so far by senior directors of insurance companies along with their negative consequences for the economy and community, the main question of the present study is as follows: " What is an evidence-based strategic decision-making model in the insurance industry? " The secondary questions of the research are: What is an evidence-based strategic decision making in the insurance industry? What is the central issue of the evidence-based strategic decision-making model in the insurance industry? In what causal conditions are the evidence-based strategic decision-making formed? What strategy is prompted by the central issue? What are the underlying conditions affecting strategy? What are the causative factors involved in the occurrence of the strategy and its outcomes?

2. CRITICAL REVIEW OF RESEARCH BACKGROUND

The evidence-based practice dates back to the French Revolution era, and even centuries earlier, to ancient Chinese medicine; however, this concept and terminology was first introduced in 1992 by Gordon Henry Guyatt, a Canadian physician, and his colleagues in the field of epidemiology and bioethics at McMaster University. For the first time in an article entitled "Evidence-based medicine: A new approach to professional medical education", they presented a clear definition for this concept (Rins & Bartonek, 2017). The evidence-based approach, though, was not stopped behind the medical profession, and gradually came from the medical field to other fields of science. Initially, some disciplined associated with medicine (e.g., nursing and healthcare) embraced this approach, and then it was considered in the other disciplines, including management, psychology, educational sciences, librarianship, education, and police. Evidence-based management approach is now being employed by leading organizations such as Google, Tesco, Capital One, and Harrah's Entertainment (Mar, 2010). The main reason making the use of this approach necessary in management is decision-making. Rins and Bartonek have reviewed recent developments in evidence-based management, and systematically reviewed the efforts made to bridge the gap between research and practice, controversial findings in the studies, and the emergence of evidence-based medicine (Rins & Bartonek, 2017). In this systematic review of thematic literature, four categories of articles were identified: Articles supporting an evidence-based approach, articles addressing the perspectives of this approach, review articles on teaching this approach, and critical articles. A number of these studies are discussed below.

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Rousseau (2018) explored the evidence-based decision-making approach to improve the quality of organizational decisions. He explains how scientific evidence can change organizational decisions and specifies how organizations can successfully make decisions by eliminating biases and adopting appropriate decision-making processes (Rousseau, 2018). Barendz et al. (2017) detected the barriers that make managers avoid using the research findings in their decisions and practices. In this study, the identified factors were shortage of time to read texts, an attitude indicating that managers have a limited understanding of scientific research, and the belief that scientific articles are unreadable. McBride (2015) concluded that the type of decision played a major role in the data collection and analysis process. The managers used the evidence-based decision-making approaches to assess professional corporations and domestic business scales as tools for data collection. The data was then analyzed through implementing the Six Sigma process and comparing the annual business results. This study was purely qualitative and used phenomenological method. The findings of Kohn (2013) revealed that evidence play a critical role in strategic decision-making. In fact, the strategic decisions are supported by processes that require the use of evidence. The aforementioned studies exclusively examined the use of evidence-based decision-making approach as a tool to compensate for decision-making biases and barriers to evidence-based performance and to identify different types of evidence in decisions. The qualitative methods were exclusively used in these studies and no specific model has been proposed for evidence-based decision-making. The best evidence should be assessed based on factors such as methodological appropriateness, contextualization, transparency, repetition and consensus. None of the above-mentioned studies have achieved a specific evidence-based strategic decision-making model in the insurance industry. The evident gap in the relevant thematic literature is the lack of a proper research and evidence-based model and an agreed evidence-based theory and framework.

In addition, although the evidence-based decision-making process and the effects of managerial authority, organizational policies, and organizational context are well-known, they have not yet been theorized (Rousseau, 2007). The gap observed in the evidence-based strategic decision-making literature highlights the need to provide a specific model in this field.

3. THEROTICAL FOUNDATIONS OF THE RESEARCH

3.1 STRATEGIC DECISION MAKING

A variety of decision making categories have been suggested according to the amount of existing information, the complexity of decisions, decision making levels, decision horizons, and so on, one of which is strategic decisions. These decisions are typically uncommon and non-structured with a high degree of uncertainty and risk, to which a large amount of organizational resources are allocated. Contrary to the common decisions, strategic decisions are made over a longer period of time based on details (Oriana, 2014). Strategic management decisions are typically made in a more complex environment, their conversion is difficult and costly, and their results are largely conditional to the behavior of other individuals and organizations. Additionally, strategic decisions essentially change

the relationship between an organization and its customers and competitors. One of the features of strategic management decisions distinguishing it from other types of decisions is the "specific context or set" in which the decisions are made. Managers make strategic decisions within the context of their organizations, and these decisions affect many actors. Also, the actors' responses naturally affect the final outcome of the decision. These actors encompass customers, competitors, and a more general community, including society, legislators, and investors (i.e., the whole world). Thus the sustainability of strategic management decisions largely depends on the manager's knowledge of the current situation and possible reactions of the organizations, competitors, customers, and the general community (Bolding, 1994). The strategic decisions are the point from which the other organizational decisions and activities are originated. Hence these decisions determine the directions to an organization and brings motivation. Strategic decisions also play a key role in making diverse organizational activities and the allocation of resources coherent (Lafman et al., 1996). Albania (2007) believes that the strategic decision-making process refers to a set of activities through which strategic issues are identified, interpreted, dealt with, and solved. Strategic decisions are made by senior directors at the top of the organizational hierarchy. These decisions direct tens or even hundreds of smaller decisions at lower organizational levels. If the decision is not effective at the top of the organization, the following decisions at lower levels will not work properly as well. Similarly, if the strategic choice of the senior director is to succeed, it will well affect the other decisions made in other sections of the organization (Harrison, 1996).

3.2 EVIDENCE-BASED DECISION MAKING

The theory of evidence-based decision-making was developed in the 1990s in accordance with evidence-based medical theory (Briner et al., 2009). In a study conducted by Rousseau (2018), evidence-based decision-making theory was defined as an evidence-based informed practice process. This measure contributes to the application of scientific knowledge in the decision-making process (Francis et al., 2013). Evidence-based decision making effectively involves decision-making measures, which requires a systematic review of organizational research (Grima et al., 2011).

The systematic review of texts is a coordinated measure to systematically identify and critically analyze all existing studies, acceptably interpret the research data, and sometimes to quantitatively analyze them by using a standard and systematic method to respond to a question (the subject of decision). The reviewed research is collected based on the common literature on decision-making methods. One of the points in this process is to include the ideas and methodologies whose effectiveness have been scientifically proved (Grima et al., 2011). Evidence-based decision-making strongly focuses on data search, analysis, and collection (Fafer & Satten, 2007). Evidence-based decision-making results in credible learning among employees and continuous improvement within the organization. In addition, evidence-based decision making provides high-quality management decisions that are better implemented and improve organizational goals (Rousseau, 2006). The traditional

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approach to decision-making either extensively relies on personal experiences or blindly follows the recommendations contained in business texts or comments made by counselors, which are often derived from traditional beliefs or weak evidence (Rousseau, 2006). When there is little reliable information available for decision-making, managers whose thoughts are oriented towards evidence-based management seek to act based on logic and Evidence but not on the basis of guesses and hope (Fafer & Satten, 2006). Different definitions are provided for evidence-based decision making. According to Maxim et al. (2015), evidence-based decision-making can be used as one of the effective tools to rationally justify the selection of a particular approach or program. Evidence-based decision making is not new; however, it is a framework combining strategic planning with the analysis of economic and social costs in a transparent model. A good decision requires to informed by evidence, research and information, to the greatest extent possible. This approach is called evidence-based decision making (Maxim et al., 2015), involving the use of current information to make decisions that are empirically supported (Keating, 2016). Evidence-based decision-making refers to management practices, in which ethics, professional expertise, data analysis, and the principles derived from the formal investigations are included (Gamble & Jellie, 2014). The ISO Committee, which formulates quality management standards, proposes "evidence-based decision-making" as the sixth principle of quality management, and highlights the fact that effective decisions are made based on the analysis and evaluation of actual data and information. The evidence-based decision-making mainly aims to achieve effective decisions based on data and information analysis (Blanc, 2017). According to Eszter et al. (2014), the application of the evidence-based decision-making principle would bring about the following benefits:

1) Understanding how decisions are made (informed decisions);
2) Increasing the ability to demonstrate the effectiveness of past decisions by looking at recorded actual data; and
3) Improving the ability to review opinions, and challenge and change them as well as the decisions (Eszter et al., 2014).

3.3 BENEFITS OF USING AN EVIDENCE-BASED APPROACH IN DECISION MAKING AND ITS CRITIQUES

Evidence-based decision making leads to greater organizational goals, credible learning, and continuous improvement (Rousseau, 2006) so that the organizational managers need to combine this approach with their management and leadership style. Combining evidence-based decision-making with organizational practices leads to better organizational results, reduces the use of inefficient management, and enhances managerial expertise since this process involves a systematic research process (Rousseau & McCarthy, 2007). Improving the exploitation of evidence-based decision-making involves identifying and publishing the stages that should be considered for its beneficial use. This approach provides managers with a framework for understanding why the evidence-based decision-making practices are the best option for today's organizations (Kuhn, 2007). Evidence-based decision-making highlights the importance of data search, analysis, and collection (Fafer & Satten, 2007). Saket et al. listed the reasons for using this approach as follows (Saket et al., 2000): Decision errors and the resulting financial and time costs (which forms a large part of the managers'

errors due to their lack of knowledge regarding the best management practices), managers' knowledge (since the managers' academic disciplines are irrelevant to their job or they no longer have up-to-date knowledge after graduation), unanswered questions when dealing with organizational problems, managers' inability to critically analyze information and to distinguish authentic and non-authentic information, long time to receive information for managers, and the use of different methods to deal with a specific problem (heterogeneous managerial decisions about a particular topic). Through using a conscious, systematic and transparent research system in evidence-based management, these errors can be greatly reduced. In practice, however, adopting evidence-based approaches in management and modeling the medical field have been criticized. Some of these critiques have suggested that medical evidence is based on precise methodology and randomized controlled experiments, while such experiments (Experiment-based research method based on control and treatment) is not possible in management (Axelson, 1998). Moreover, evidence-based management ignores this fact that the decision-making process in the organization is rarely fully logical and is often influenced by the policies and interests of the various stakeholders (Hudkinson, 2011). Another criticism is that, unlike evidence-based medicine, the effectiveness of evidence-based management is not dependent on the evidence (Ray et al., 2009). Briner et al. (2009) have specified a number of common misconceptions about evidence-based management, and concluded that the knowledge of "evidence-based management" is a product of the executives' practices but not the academics' in the field of management.

4. RESEARCH METHODOLOGY

This research was fundamental in terms of its objective and mixed exploratory in terms of its nature and methodology since it adopts a combination of both quantitative and qualitative approaches simultaneously (Fard et al., 2004).

In the first section of this study, the grounded theory was used to identify effective benchmarks in the evidence-based decision-making field, and the partial least-squares approach was used to test the model. In order to collect data, interviews were held in the first phase and a questionnaire was used in the second phase. Interviews began with questions about the "causal conditions affecting evidence-based decision making" (open interview), and the next questions were based on the interviewee's response. All interviews were recorded and reviewed several times in order for key points to be extracted. The questionnaire also encompassed 60 items extracted from the final model. The statistical population of this study consisted of two parts. In the first part for interviews, the senior directors of insurance companies participated, who were first selected by using the theoretical sampling method based on the benchmarks specified by researcher to detect experts (e.g., history of employment in insurance industry, history of working as the CEO or board members in insurance companies, extent of mastery in the scientific foundations of strategic management and decision making, and so on). Accordingly, eight experts were identified and then snowball sampling method was used to increase the number of interviewees in this study. It continued as long as the researcher achieved the data saturation

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as such 20 in-depth interviews were conducted. Hence the in-depth interview method was used to collect the data, and no new information was obtained after the 15th interview; however, 20 interviews were held to ensure the validity and reliability of the findings. From the 15th interview, the data was completely repetitive and approached a satisfactory theoretical saturation. In the quantitative part, the statistical population encompassed the executive directors of insurance companies. First, the total population of the study was estimated to be 304 persons. Two-step sampling was used to determine the sample size in this study. Using the Cochran's formula, the sample size was calculated to be 170, then the contribution rate of each insurance company was determined using a random stratified approach proportional to the population size: Arman Insurance Co. (n=6), Asmari Insurance Co. (n=5), Asia Insurance Co. (n=11), Iranian Reinsurance Co. (n=4), Alborz Insurance Co. (n=9), Omid Insurance Co. (n=3), Iran Insurance Co. (n=13), Iran Moein Insurance Co. (n=3); Parsian Insurance Co. (n=9); Pasargad Insurance Co. (n=9); Tejarat-e-No Insurance Co. (n=4); Middle East Insurance Co. (n=4); Taavon Insurance Co. (n=5); Tose'e Insurance Co. (n=5); Hafez Insurance Co. (n=4); Dana Insurance Co.; (n=7), Dey Insurance Co. (n=7), Razi Insurance Co. (n=6); Saman Insurance Co. (n=6); Sina Insurance Co. (n=6); Karafarin Insurance Co. (n=8); Kowsar Insurance Co. (n=5); Ma Insurance Co. (n=6); Moalem Insurance Co. (n=7), Melat Insurance Co. (n=4), Mihan Insurance Co. (n=4), and Novin Insurance Co. (n=4). Finally, the target members were selected using simple random sampling approach.

5. RESEARCH FINDINGS

5.1 QUALITATIVE SECTION

The analysis process of qualitative data consisted of four steps: 1) data; 2) familiarity; 3) coding; and 4) acquisition of meanings and concepts. To explore the views, the experts' comments regarding the shared components of evidence-based strategic decision-making were detected as key concepts, managers and experts' propositions in the open coding phase. Then in the axial coding phase, the commonly expressed concepts were placed under a same heading (as shown in the following tables). When an in-depth interview was conducted with 20 experts, managers and industry experts, data saturation was reached and the interview process was stopped. Finally, the data from the interviews, based on the indicators presented in the theoretical foundations and the grounded theory, were grouped as separate factors. The interviewees' verbal statements were also analyzed based on an open coding approach and classified into 26 main components regarding the statistical relationships between categories and propositions. Then, as a result of the content matching of the themes, the identified components were depicted as a structured grounded theory.

5.2 FORMATION OF THE MAIN CLASSES

After determining the categories, the main classes of the theory were formed, as presented in Table 1.

Table 1. Micro and macro categories

Category Code	General categories	Category Code	Wisdom Categories
C1	Environmental uncertainty	B1	Internal uncertainty
		B2	External uncertainty
C2	Managers' Personal Attributes	B3	Managers' Personality traits
		B4	Managers' Knowledge and skills
		B5	Strategic thinking
C3	Confidence-seeking discourse	B6	Need for stable decisions
		B7	Clear decision-making path
C4	Strategic gap	B8	Evaluating the environment out of organization
		B9	Gap between the existing and the desired situation
C5	Organizational Culture	B10	Values and beliefs in strategic decision making
		B11	Interactive space in the organization
C7	Ethical limitation in decision-making	B12	Attention to ethics in decision making
C8	Attention to strategic issues	B13	Identification of strategic issues
C9	Evidence-based strategic decision-making	B14	Internal evidence-based planning
		B15	External evidence-based planning
		B16	Critical evaluation
C10	Gap analysis	B17	Positive gap
		B18	Negative gap
C11	Stakeholder's involvement	B19	Need for stakeholders' strategic viewpoints
		B20	Identification of stakeholders' preferences and values
		B21	Stakeholder's involvement
C12	Organizational resources and facilities	B22	Purposeful allocation of resources
		B23	Appropriate flow of information and knowledge
C13	Scientism	B24	Scientism
C14	Coalition	B25	Coalition
C15	Strategic orientation	B26	Strategic orientation

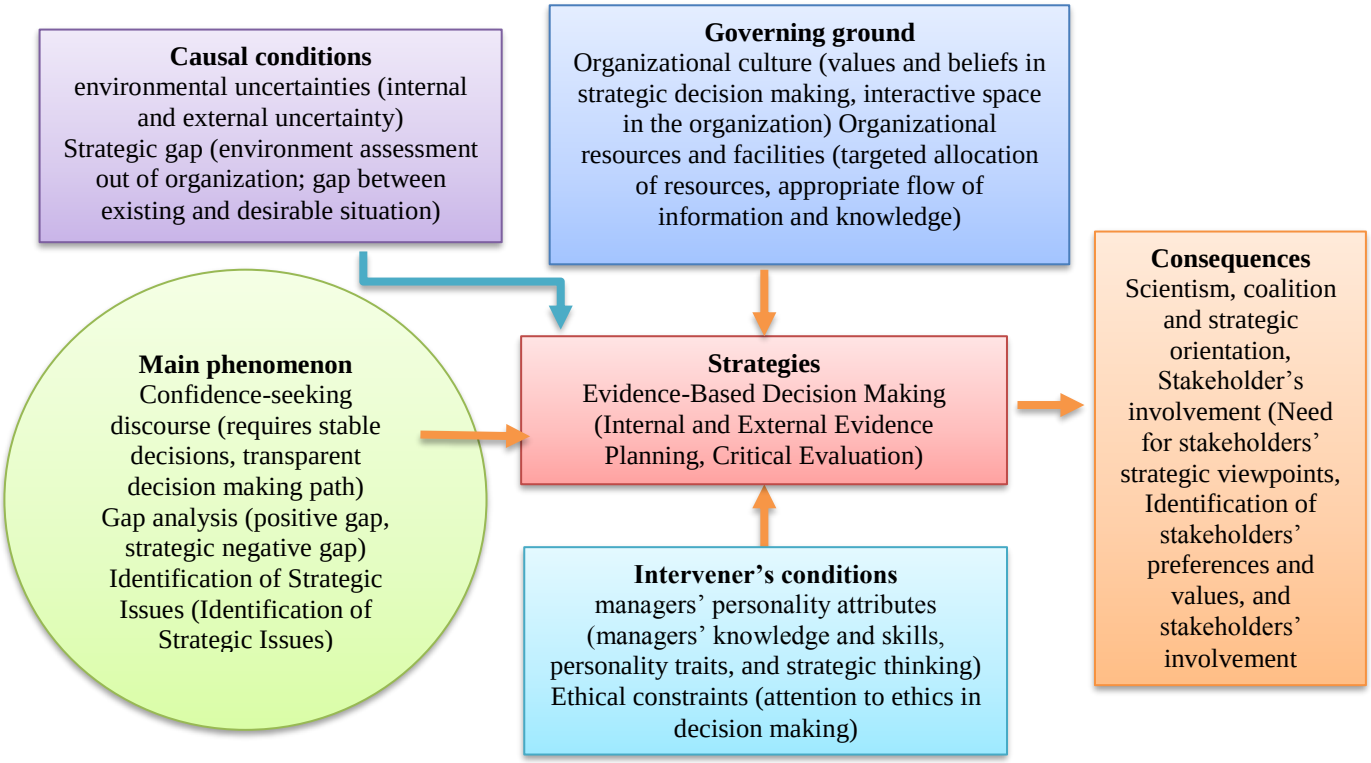

Figure 1. Axial coding based on the model

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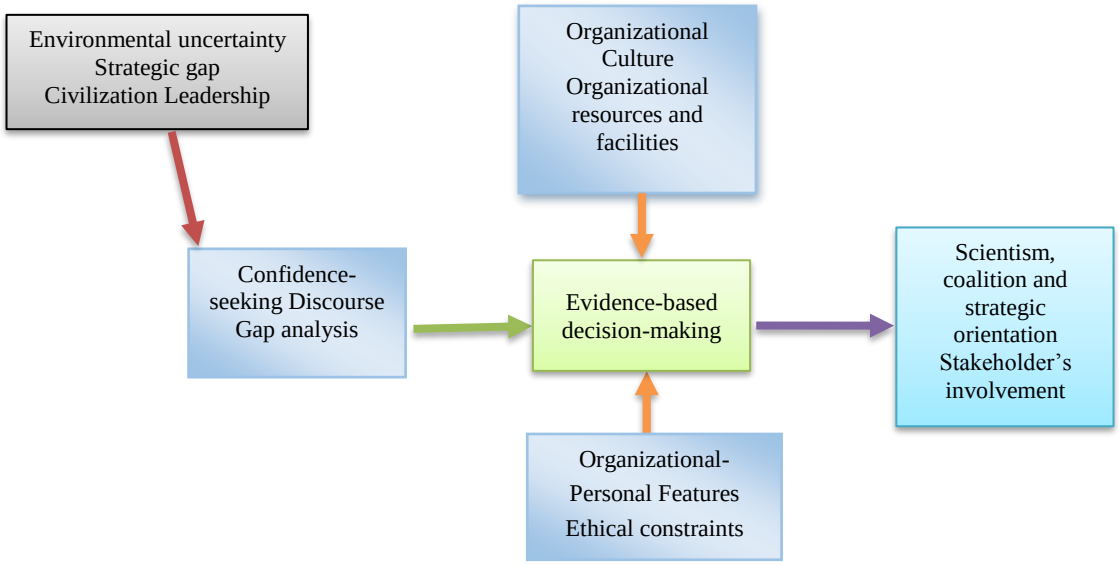

Figure 2. Evidence-Based Decision-Making Model.

When a category was identified, the researcher could explain it based on its specific features and dimensions. By defining the specifics of each category, it can then be identified. The function of the attributes in the grounded theory is to provide more detailed information about each category.

5.3 AXIAL CODING

The axial coding was the second phase of analysis in the data-based theorization, which aimed to establish a relationship between the generated classes (in the open coding phase). This is performed based on the paradigm model and helps the theorist to easily process the theory. The basis of the connections in axial coding lies in the expansion of each class (Figure 1).

5.4 THEORIZATION PHASE

As stated above, the grounded theory mainly aims not merely to describe the phenomenon but to generate the theories. For the analysis of theory to be transformed, classes must be linked systematically. Selective coding (based on the results of the two previous steps) is the main phase of theorization as such it systematically links the axial class to other classes, presents those relationships within a framework, and modifies the classes that need further improvement. At this stage, the researcher, based on his own understanding of the studied texts, either presents the framework of the paradigm model as a narrative or disorganizes the paradigm model and graphically depicts the final theory (Figure 2)

5.5 VALIDITY AND RELIABILITY OF QUALITATIVE DATA

Reliability refers to the consistency of the research findings. The reliability of an interview is discussed in stages such as interviewing, copying, and analysis. The reliability of the interviewee shows how the questions are directed. In terms of copying reliability, one should also be concerned about the intertextual reliability of the transcripts while the texts are typed by two different typists. During the classification of interviews, attention to the percentages reported by the two coders is a method used for determining the analytical

reliability (Bowen & Bowen, 2008).

(A) Calculation of inter-coder reliability: To calculate the inter-coder reliability, a number of interviews are selected as samples, and each one is re-encoded within a short time interval. The codes assigned at the two time intervals are then compared for each of the interviews. The test-retest method is used to evaluate the researcher's coding stability. In each of the interviews, codes that are similar at the two intervals are marked as "Agreement" and non-similar codes are marked as "Disagreement". The intra-coder reliability at two time intervals is thus calculated as (Kual, 1996)",

$$\text{Intercoder reliability}\% = \frac{2\times\text{number of agreements}}{\text{total number of codes}} \text{ x } 100\% \quad (1).$$

The results of the coding phase are given in Table 2:

Table 2. Calculation of inter-coder reliability

No.	Interview	Total number of codes	number of agreements	number of disagreements	inter-coder reliability
1	P2	86	34	26	79%
2	P6	79	31	22	78%
Total		165	65	48	78%

According to Table 2, the total number of codes recorded by the researcher and his co-worker is 165; the total number of agreements between codes is 65; and the total number of disagreements at these two time intervals is 48. Based on the abovementioned equation, the inter-coder reliability in this study was estimated to be 78%. Given the fact that this value is greater than 60%, the coding reliability is confirmed (Khastar, 2009).

5.6 VALIDITY OF INTERVIEWS

Three criteria of creditability, transferability, and trustworthiness were considered for evaluation (Khastar, 2009). To achieve each of these criteria, the following measures were adopted:

1. Creditability: The researcher enhanced the creditability to an acceptable extent through spending enough time, verifying the research process by eight experts, using two codecs to coders for multiple interview samples to ensure the inter-coder reliability, and posing objective and measurable questions such as writing a domain memo and a reminder in Excel forms.

2. Transferability: To ensure the transferability of the research findings, three experts in the field of the organization, who did not participate in the research, were consulted on the study findings.

3. At all stages of the process, in order to establish trustworthiness, the details of the research and the notes were recorded.

5.7 MODEL TESTING

In order to test the research model, a structural equation model with partial least squares approach was used. Before interpreting the model, the model appropriateness should be confirmed in the three aspects (measurement model, the structural model and general model) to rely on its results. In other words, the model validity and reliability must be proved. For

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this purpose, the Cronbach's alpha, composite reliability, and convergent validity were used in the measurement model, as presented in Table 3.

Table 3. Validity and reliability of the measurement model

Criterion	Convergent Validity	Composite reliability	Cronbach's alpha
Environmental uncertainties	0.657	0.919	0.895
Strategic gap	0.678	0.926	0.906
Confidence-seeking Discourse	0.716	0.909	0.869
Gap analysis	0.713	0.908	0.867
Manager's attributes	0.696	0.918	0.886
Ethical constraints	0.619	0.822	0.658
Attention to strategic issues	0.767	0.908	0.851
Stakeholder's involvement	0.697	0.901	0.849
Evidence-Based Decision Making	0.674	0.925	0.902
Organizational Culture	0.756	0.939	0.919
Organizational resources & facilities	0.831	0.936	0.9
Scientism	0.69	0.897	0.845
Coalition	0.621	0.867	0.795
Strategic orientation	0.685	0.866	0.769

After confirming the appropriateness of the measurement model, we should examine the structural suitability of the model. To this end, *cv.red* and *cv.com* indices used (Table 4):

Table 4. Fit of the structural model

Structures	The coefficient of determination (R^2)	CV.Red	CV.Com
Coalition	0.223	0.128	0.641
Confidence-seeking discourse	0.123	0.084	0.715
Environmental uncertainties		0.657	0.657
Ethical constraints		0.616	0.616
Evidence-based decision making	0.396	0.244	0.592
Gap analysis	0.238	0.166	0.708
Attention to strategic issues	0.153	0.106	0.616
Organizational Culture		0.756	0.756
Organizational resources & facilities		0.831	0.831
Managers' personality attributes		0.696	0.696
Scientism	0.211	0.078	0.704
Stakeholder's involvement	0.226	0.137	0.492
Strategic gap		0.678	0.678
Strategic orientation	0.217	0.067	0.358

Finally, the general fit of the model is mentioned. In the least-squares models, the GOF index, which should be greater than 0.3, was used. This index is calculated according to Equation 2 for the present model as follows and represents the appropriateness of the general model:

$$GOF = \sqrt{Communalities \times R^2} = 0.342 \quad (2)$$

After confirming the fit of the model at three levels, the structural equation model developed by SmartPLS software is presented and explored the research hypotheses, Figure 3.

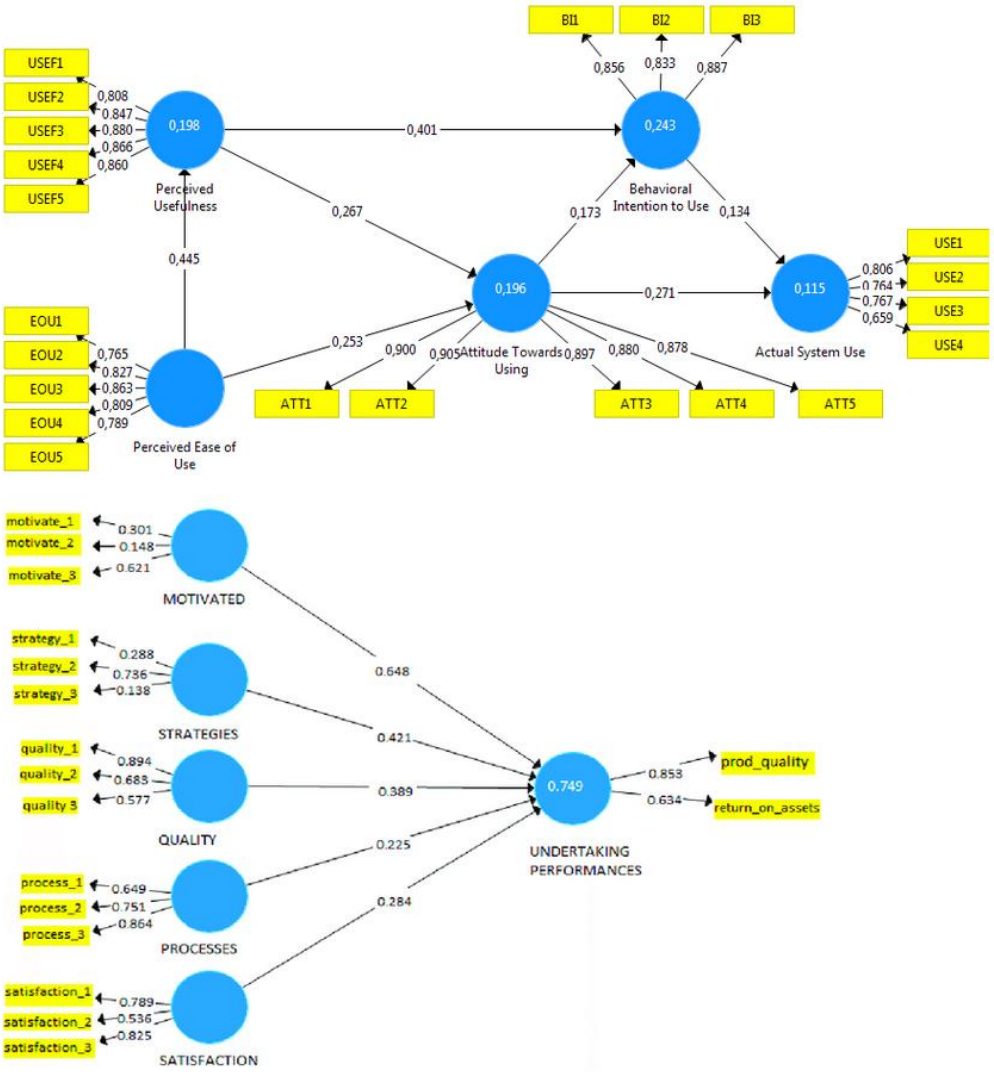

Figure 3: Structural equation model.

5.8 STANDARD AND SIGNIFICANT COEFFICIENTS

Regarding the outputs in the form of standard and significant coefficients, it could be concluded that all research relationships were approved. Given that the t-value is greater than 1.96, the above hypotheses are thus approved. On the other hand, to show the intensity of the effect after confirming the hypotheses, one can indicate the path coefficient presented in the standard state chart. In fact, this section confirms the model provided by the grounded theory.

6. DISCUSSION

Decision-making practices in organizations can help people to become more effective in dealing with complexity and uncertainty. To sum up the present research findings on the evidence-based decision making concept, we can state that evidence-based decision making process involves a systematic diagnosis, careful and accurate evaluation, and subsequently the dissemination of using the research findings to influence managerial decisions, whose continuity is shaped by changes in management standards causing positive impacts on decision making. In order to apply this approach to management practices, evidence-based education must begin to evolve, making changes to the curriculum and modifying its

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structure based on evidence-based decision-making. As Harrison (1996), Oiriana (2014), and Mintzberg (1976) noted, in order to begin strategic decision-making in an organization, the pathology must first be performed based on the existing and desired situations of the organization, taking into account the external and internal environment. This would result in the identification of strategic issues in the organization and stimulate the need for transparent and stable decision-making. In response to this behavioral needs demonstrated by the organization based on the model derived from the grounded theory in this study, a strategic decision-making is evidence-based if it is made in accordance with strategic planning based on internal and external evidence and critical assessment.

In order to get to the point of using evidence-based solutions, the managers should first become aware of the process converting scientific evidence into practice (Rousseau, 2006). According to Stacey (2011), the dissemination of evidence-based knowledge does not automatically lead to its implementation so that a large number of researchers seek to develop an implementation knowledge. In this regard, a scientific study reveals what additional strategies are needed to create a better understanding of the best practice. They proved that organizational structure and culture play a significant role in making the best practice happen and that further research on the provision of evidence-based organizational incentives is necessary to make necessary changes in managers' behaviors (Stacey, 2011). According to Barends et al. (2017), the barriers that lead the managers not to involve research findings in their decisions and practices are their lack of time to read texts, the view that managers have limited understanding of scientific research, and the belief that scientific articles are unreadable (unintelligible). Moreover, Howard and Liang (2011) identified eight barriers to using informed decision-making processes, including lack of time, irrelevancy of management research, lack of adequate financial resources to support better practices, unavailability of thematic management research, lack of managers' support from management research in decision making, managers' inability to identify up-to-date and relevant research, organizational policies, and managers' incompetence in finding, interpreting, and applying research findings which are relevant to the decisions. McCormick (2010) discusses the consideration of ethical factors in managerial decision-making, and states that ethical considerations should be the key to evidence-based decision-making process. The findings of Baba and Hakem Zadeh (2013) showed that there are different ethical considerations at the individual, organizational and institutional levels, which may affect the final selection. According to Hudkinson (2012), a thoughtful and intelligent way is needed to select which decision components to focus more or less. Evidence and information about functional context and problem are critically evaluated. According to Briner and Rousseau (2014), evidence is not always perfect in reality and can lead to misleading. That is why all evidence must be critically evaluated regardless of whether it has been obtained from the decision maker's professional experience or derived from scientific research. In other words, the accuracy of the evidence and their relevance to the subject of the decision should be carefully and regularly evaluated in a critical manner. Briner and Walsh, 2014) believe that evidence-based decision making involves making decisions based on information or data collected from inter-organizational sources or

external scientific research and that critical assessment of the data is to assess them before they are used in decision making. Evidence-based decision-making seeks to make decision-making models in the organization always be on the basis of provability and the participation of all groups to bring the best outcomes.

7. CONCLUSION

This study develops an evidence-based decision-making model in insurance companies, fundamental and applied in terms of its objective and mixed exploratory research with regard to its nature. In the qualitative part, twenty directors of insurance companies and policy-making experts were selected through purposeful and snowball sampling. Moreover, one hundred seventy directors of active insurance companies participated in the quantitative part to test the model. Structural equation approach and data-based theory was used to analyze the data. An evidence-based strategic decision-making model was developed according to Strauss and Corbin's paradigm model. The relationships among the research variables were examined using the partial least squares method and the validity of the relationships has been confirmed.

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