
Analysing the appropriate cognitive styles and its effect on strategic innovation in Jordanian universities

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Abstract: The study aimed to analyse and investigate the impact of cognitive styles (knowing style; planning style and creating style) on strategic innovation (strategic visualisation and imagination; generate ideas; evaluation ideas and implementation ideas) in Jordanian universities. The study population consists of Jordanian universities in Amman, while unit of sampling and analysis includes all (80) deans members in Jordanian universities in Amman. Study methodology was the descriptive analytical method, while a questionnaire was the study instrument of which consisted of 50 items. A statistical tool was used to analysis data and to test hypothesis like; mean, standard deviation, one sample t-test, simple and multiple, regression. The study come to a number of results, and to improve the direct impact of cognitive styles (knowing style; planning style and creating style) on strategic innovation (strategic visualisation and imagine; generate ideas; evaluation ideas and implementation ideas), and to confirm that the interest of cognitive styles form a turning point in contemporary management and strategic innovation generates a big difference in the added value.

Keywords: cognitive styles; strategic innovation; Jordanian universities; M19; O39.

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1 Introduction

Being at the forefront of the competitors requires having cognitive styles or the mental power that helps greatly in investing the abilities of the individuals operating in the these organisations till achieving the strategic innovation in the organisations' processes and services (Gunasekaran et al., 2002). It is well known that focuses on the mind's mechanism in producing and viewing the strategic and organisational knowledge (Kamath et al., 2016). While the basis of the cognitive approach is focusing on knowledge, and not on the capital (Kumar and Nagaraju, 2015), and as a result of the intellectual data confirmation of the originality and contemporary of the cognitive approach and its concept in addition to its importance as an approach to use the mind in generating accurate knowledge during its journey towards truth (Harder et al., 2015). One of the reasons which promoted cognitive approach is its reliance on intellectual and integrated methodology which one of its significant components is the availability of assumptions which are used to diagnose the phenomena and analyse its components (Carnabuci and Dioszegi, 2015). The high education sector shares other business organisations' goals in finding a suitable basis for constructing purposeful systems which their activities are believed to be the basic engine employed to achieve the best performance that leads to, knowledge society and growth (Munro, 2003). Therefore, the administrations of this sector exert great efforts in presenting their services in different ways to meet the customers' needs and desires which are changeable and obliged the sector to pay much attention to the cognitive styles that have mental abilities that work in generating, producing and implementing the knowledge in attempt to achieve the strategic innovation (Tece, 2000).

This study helps in deepen and strengthen the organisations administration vision and role in developing the long term strategic innovation. Additionally, this study aims at diagnosing and examining the participants' awareness of the role of the cognitive styles in practical and intellectual field that could be played to affect the strategic innovation by highlighting the role of the cognitive styles to identify the effect in the strategic innovation and the extent of the participants' awareness of this effect (Alnazer et al., 2014).

2 Review of literature

Allinson et al. (2001) assured that the cognitive styles distinguished the individual's way of performance during his treatment to problem achieving the work and the cognitive styles are interchangeable component through which the employees in the organisations can change knowledge to a value represented by services or cognitive products that affect the organisations' level of innovation. While Sadler-Smith and Smith (2004) asserted that the individuals' cognitive styles distinguish them from others in their way of organising their perceptions forming and analysing information about problems in order to reach to a solution. Armstrong and Cools (2009) illustrated that the common ways of analysing the information which individuals typically use when they realise, learn, solve their problems and make their own decisions because the individuals have mental abilities that enable them to help the employees to generate new, appropriate, practical ideas that can be implemented with high level of quality in addition to achieve integration and compatibility between levels of products or services innovation.

Additionally, Allinson et al. (2001) emphasised that the cognitive styles are represented by the preferable method which the individual's acquires from environment revealing his intellectual ability and distinguishing him from others. And Soo et al. (2002) considered the organisations that have more knowledge are more capable to generate new knowledge that help them to make better decisions and get into the innovation which leads them to get higher market share compared with their competitors, while the managers' cognitive styles plays important role in identifying long term success and reflecting the organisation's innovation. King (2000) also showed that the organisations that look for excellence through cognitive styles have higher abilities in identifying mechanisms, problem solving and predicting possible solutions and he considered the real change and the access into innovation requires identifying the appropriate cognitive styles in light of environmental uncertainty.

In the other hand, Miao et al. (2010) analysed the effective role of the cognitive style in the nature of the relation between the organisational conflicts in the learning performance and there was effect to the cognitive styles in the strategic decisions in light of the attitudes towards risk. While Armstrong and Cools (2009) check the importance of the cognitive style in identifying the identity of the individuals who have the ability to become successful businessmen in early stages of the growth of their projects. Allinson, et al. (2001) highlighted the importance of the differences among the individuals and their relations to their performance and its effect in making decisions, additionally, he illustrated that these differences are linked with their achieved performance which affects positively their decisions. Nobre et al. (2009) investigated the impact of the cognitive styles in the decisions taken on the organisation during the organisational change. Hough and Ogilvie (2005) diagnosed the expected effect of the cognitive style of the users of technology in their decisions and concluded that the cognitive styles affect positively the decisions taken by the technology users whereas the suitable intellectual capital for every industrial company that helps in achieving compatibility is the highest with the strategic mechanisms of the governance.

Moreover, Gallen (2006) examined the effect of the managers' cognitive styles in the strategic decisions taken concerning the adopted strategy. Also, Hough and Ogilvie (2005) examined the effect of the cognitive styles in the results of the strategic decisions, the effect of the cognitive styles with the intellectual capital in the managers' strategic

behaviour and in the organisation's strategic attitude proposing at the same time practical and realistic model for the cognitive methods in terms of thinking and visualisation.

Berghman (2012) presented the concept of the distinguished strategies used to generate the strategic innovation and he developed a model for the decisions of the strategic innovation through the innovative abilities, which the organisation own goods and services fields. In addition, he discussed the abilities of the available information technology and the organisations' ability to get into the strategic innovation stage. Moreover, Gallen (2006) presented a pioneer model in the strategic innovation to find practical solutions through initiative work and to reveal the innovative strategies that could generate values. Moenaert et al. (2010) discussed the effective factors in making strategic decisions which are linked with producing new products, internal and major external factors and their interaction which affect developing the abilities of the strategic innovation. Kallenberg (2007) also discussed ways by which the academic managers use to affect the strategic innovation although there is an effect and relation between capital management and the strategic innovation processes. Partidario and Vergragt (2002) used the strategic innovation in affecting and motivating towards technological innovative sustainability and the mechanism of activating sustainability of achievement.

3 Cognitive styles

The theory of cognitive styles is one of the theories of the cognitive approach and these styles are important to deal with information and make decisions by the individuals and the variance in these styles is considered one of the common characteristics of the cognitive styles which the individuals adopt to predict with a high degree of accuracy his behaviour in different situations that he passed by. So it is possible to say that the basis of the studies concerning the cognitive styles is the differences between the people. Daft (2013) defined the cognitive styles as being more comprehensive than the knowledge because they are a collection of the individuals' skills and abilities in the activities whether the knowledge was implicit or explicit. And Atkinson (2001) stated that the cognitive styles reflect the individual's distinguished and fixed characteristics in the way of understanding storing and transferring the information which is independent and totally different from intelligence. Piombo et al. (2003) asserted that the cognitive styles are represented by the favourite method which the individual gained and used to treat the acquired information the reveals the individual's intellectual ability and distinguishes him from others. It was pointed to them as individual differences in analysing information concerning specific problem or situation within the mental cognitive abilities' scope to make the appropriate decision whether it was in individual or collective level or the organisation's level as a whole.

Cools and van den Broeck (2008) defined the cognitive styles as the method used by the high administration members to realise a set of complicated variables with different dimensions about critical issues in their organisations and how these information affect their behaviour and decisions and he identified them as the favourite method in addition he identified the individuals' personal characteristics that reveal their process of the information and their intellectual abilities that distinguish them from others.

The cognitive styles are linked with the form of activity practiced by the individual not the content and the amount of this activity. In other words, they refer to the individuals' ways of thinking and solving problems facing them. They are general

cross-sectional or stable dimensions that exceed the traditional limits characterised by stability and relative constancy and this does not mean that they are non-adjustable or changeable. In fact, they do not change fast in the ordinary individual's life, additionally, they are bipolar with connected distribution starts from one of these bipolar and ends in the other and everyone has its own characteristics and value in light of special circumstances, the real value of the bipolar is recognised by its adaptation to life circumstances and the individual's ability to do specific tasks, (Piombo et al., 2003).

The importance of the cognitive styles highlights the necessity to pay much attention to the individual as a source of thought and continuous creativity rather than treating him as one of the elements of production. The cost of this individual should be decreased by knowing how to get benefit of his physical abilities and skills (Daft, 2013), because of the important role of the human in general and the managers in particular in making decisions that rely on their mental abilities to make the necessary organisational change (Cassia et al., 2012), and this is compatible with the requirements of the changing environment requirements and the increased environment complication, in addition, it motivates the organisations to pay attention to the external environment because it is not only a source of opportunities and threats but it is also a source of great cognitive fortune that enable leaders to generate organisational knowledge (Khafaji, 1996).

The concept of the cognitive styles used in this study refers to the method which the high administration members in the population of the study use to realise specific set of variables with multi dimensions about critical issues in their organisations and how these information affect their behaviour and decisions (Cools and van den Broeck, 2008). Additionally, the cognitive style concept means the method by which the individuals know the motives and how this information can be used to affect their behaviour. In other words, it is a way of performance that distinguishes the individual during his treatment to the issues facing him in his daily life which reflect his character's individual differences in the personal preference that is shown in the mental and cognitive activities.

The cognitive styles in this study will be measured by the following dimensions:

- knowing style: it is the style which is characterised by its reliance on facts and accurate details about issues in the universities
- planning style: it is the style which is characterised by its reliance on setting the issues in the right and ordered structure and organisation
- creating style: it refers to the style that tends to spread and try out its ideas.

4 Strategic innovation

Berghman (2012) assured that strategic innovation requires industry stability, adoption of market research, strategic analysis of the external environment and the diagnosis of the change and the opportunities and threats within a frame of the organisational points of strength and weakness so as to achieve the organisation's goals and develops its vision towards future, additionally, the organisation should be ready to implement the innovative ideas within its culture and its different abilities in different levels arranged according to priorities and the qualified persons are prepared to implement these innovative ideas under a leadership that coordinates the organisation's sub innovative activities and keep creating innovative opportunities taking into account the speed in

producing new products to the markets before other competitive organisations did, whoever, it should diagnose critical points relying on benchmark and compare it with the best applications of other organisations and seek for continuous development and adaptation (Gallen, 2006).

Cassia et al. (2012) shows that strategic innovation represents generating growth strategies, a set of different classifications of products and services in addition to business models that work on changing the content of the competitive process and generate new value to the customers, employees and the organisation, he also stated that strategic innovation in the organisation confirms using the comprehensive approach in achieving businesses within multi levels which assures the integration between the traditional and innovative approaches in forming business strategy. Lendel and Varmus (2011) defined the strategic innovation as the organisation's creative approach in choosing the best methods that help in achieving the goals and developing the organisation's innovative abilities. It is also a guide controls the process of making decisions concerning ways of using the organisation's resources to achieve its creative goals which affects generating its own competitive advantage. Ekanayake and Abeysinghe (2010) confirmed that strategic innovation is the framework that presents information to the organisation about when and how it should abandon selectively and/or change its strategies and goals in order to focus on the operational processes in the future.

Nunta et al. (2012) assured that strategic innovation determines how and to which degree that organisation should use innovation in implementing its strategies and improving its levels of performance and the dimensions of the strategic innovation focus on the customers' needs which are integrated from transferring, development, focusing on the basic needs in general and the cognitive society's messages in particular and therefore it is a mechanism used to generate value and change the traditional model into modern one.

Guisado-Gonzalez et al. (2012) classified the strategic innovation according to strategic perspective into proactive and strategic innovation as the organisations tend to be highly interested in research and development in addition to have high level of advanced technology and be initiative at the same time while organisations are interested in the effective strategic innovation where they focus on protecting the technology they have, and its market share in addition to have quick response to meet any changes or development in the markets and the technology. Moreover, organisations care of the incremental innovation and its level of risk is low. Whereas in the interactive strategic innovation the organisations are just followers focusing on processes and procedures, keep looking for opportunities with low risk and imitate effective processes of innovation. But in the negative strategic innovation the organisations keep waiting till they are asked to change their products or services.

The strategic innovation variable in this study refers to finding new strategies as growth and products creativity in addition to proposing business models that create value added to the beneficiaries and achieving primacy over competitors. And the strategic innovation variable is measured by the following dimensions (Sadler-Smith and Smith, 2004):

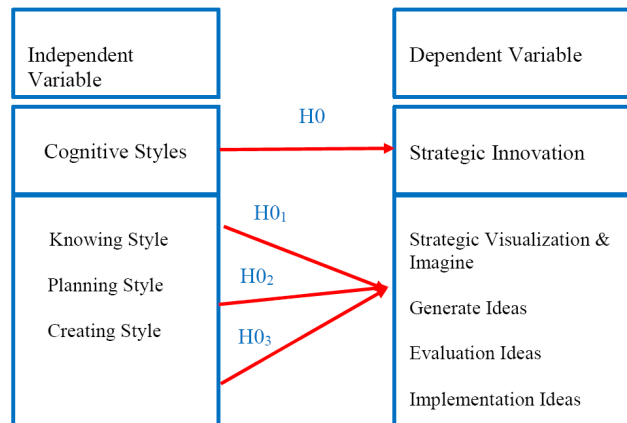
- strategic visualisation and imagine: refers to identify the current intellectual models of the high administration members and the people who work on forming the holistic strategy of the organisation

- generate ideas: which refers to generating creative options as possible through relying on a variety of great number of ideas through multi approaches as brainstorming, innovation and creating new products
- evaluation ideas: refers to distinguishing between the appropriate ideas that are applicable through the accurate evaluation of the ideas so as to get the appropriate one
- implementation ideas: which refers to the selection of the appropriate applicable ideas as the high administration spreads the new ideas and concepts in all around the organisation.

5 Problem of the study

The cognitive approach is considered one of the modern management issues that help in achieving the organisation's goals and invest in its available intellectual abilities through paying attention to its cognitive styles that help in achieving the strategic innovation (Cools and van den Broeck, 2008). Because of the assumed role of the cognitive styles in achieving the strategic innovation, particularly in universities, and the great importance of the high education sector and its strategic role in increasing rates of the social and economic growth and encouraging competition, it was necessary to highlight the role of the universities as a place represents the society's cognitive styles and the administrative, intellectual and cognitive structure (Kallenberg, 2007), and so the problem of the study is represented by examining the appropriateness of cognitive styles in achieving the strategic innovation in the Jordanian universities.

Figure 1 The effect of cognitive styles in achieving the strategic innovation (see online version for colours)



6 Model of the study and its hypotheses

The model of the study presents the study's variables. It shows an initial and qualitative visualisation of the correlations between these variables. The cognitive styles are

measured based on what has been identified by (Cools and van den Broeck, 2008) through measuring knowing, planning and creating styles. Whereas strategic innovation was measured based on Sniukas (2007) through strategic visualisation and imagine, generating ideas and evaluation and implementing ideas.

7 Main and sub hypothesis

- HO There is no direct statistical significant effect to the knowing, planning and creating styles in the strategic innovation in the Jordanian universities at ($\alpha \leq 0.05$).
- HO₁ There is no direct statistical significant effect to the knowing style in the strategic innovation at ($\alpha \leq 0.05$).
- HO₂ There is no direct statistical significant effect to the planning style in the strategic innovation at ($\alpha \leq 0.05$).
- HO₃ There is no direct statistical significant effect to the creating style in the strategic innovation at ($\alpha \leq 0.05$).

8 Methodology

The analytic descriptive approach was used describe the respondents' responses and analyse data, the causative approach was also used to identify the effect of the cognitive styles in achieving the strategic innovation. The population of the study consisted of Jordanian universities while the sample of the study consisted of all nine public and private Jordanian universities in Amman city. The unit of sampling consists of all the members of the councils of deans in the universities (all deans, presidents, vice presidents).

The instrument of the study was the questionnaire which designed to collect appropriate data to test the study model, which consisted of 50 items, and 80 questionnaires were collected back and analysed. A statistical tool were used to analysis data and test hypothesis like; mean, standard deviation, one sample t-test, simple and multiple, regression.

9 Data analysis and hypotheses testing

The means and standard deviations were used to describe and analyse the cognitive styles and the strategic innovation in the Jordanian universities in Amman. T test was also used to check the significance of the item and its importance, Table 1 illustrates the level of the cognitive styles as the means ranged from (4.146) to (4.354), and the general mean of the cognitive styles was (4.25), the knowing cognitive style came first with a mean (4.354) and standard deviation (0.357) followed respectively by the planning cognitive style with a mean (4.250) and standard deviation (0.427), and creating cognitive style with a mean (4.146) and a standard deviation (0.505).

Table 1 Description of the deans' perception towards study variables

Variables of study		<i>M</i>	<i>Std</i>	<i>t</i>	<i>Sig</i>	<i>Sig rank</i>	<i>Sig level</i>
Independent variable cognitive styles	Knowing style	4.354	0.357	34.057	0.00	1	High
	Planning style	4.250	0.427	26.313	0.00	2	High
	Creating style	4.146	0.505	20.428	0.00	3	High
	Cognitive styles	4.250	0.352	31.919	0.00		High
Dependent variable strategic innovation	Strategic visualisation	4.348	0.607	19.980	0.00	1	High
	Generate ideas	3.995	0.622	14.396	0.00	2	High
	Evaluation ideas	3.958	0.651	13.230	0.00	3	High
	Implementation ideas	3.898	0.705	11.460	0.00	4	High
	Strategic innovation	050.0	0.579	16.313	0.00		High

The means of the strategic innovation variable as showed in Table 1 ranged from (3.898) to (4.348) and the general mean of the strategic innovation level was (4.05). Strategic imagination and visualisation came first with a mean (4.348) and standard deviation (0.607) whereas ideas generation came second with a mean (3.995) and standard deviation (0.622) followed respectively by the ideas evaluation with a mean (3.958) and standard deviation (0.651), and ideas implementation with a mean (3.898) and standard deviation (0.705).

Table 2 Multiple regression of cognitive styles in strategic innovation

	<i>r</i>	<i>r</i> ²	<i>F</i> *	<i>DF</i>	<i>Sig</i>	<i>Cognitive styles</i>	<i>β</i>	<i>t</i> *	<i>Sig</i>	
Strategic innovation	0.711	0.506	26.257	Regression	3	0.00	Knowing	0.683	4.686	0.00
				Remains	77	Planning	0.480	3.868	0.00	
				Total	80	Creating	0.277	3.211	0.02	

Note: *Table value of $t = 1.99$, $F = 18.51$ at level of significance ($\alpha \leq 0.05$).

Multiple regression analysis was used to test the major hypothesis and examine the effect of the cognitive styles dimensions (knowing, planning, creativity) in the strategic innovation in the Jordanian universities, Table 2 illustrates the results of multiple regression analysis as the correlation coefficient (r) was (0.711) at ($\alpha \leq 0.05$) while (r^2) was (0.506) indicating that (0.506) of the changes in the strategic innovation attributed to the change in level of the interest in the cognitive style and its types. Additionally, the β value was (0.638) to knowing cognitive style followed respectively by planning cognitive style (0.480) and the creating cognitive style (0.277) and this means that the increase with one degree in the interest in the cognitive styles (knowing, planning, creativity) leads to an increase in the knowing cognitive style (0.638), planning cognitive style (0.480) and the creating cognitive style (0.277).

The calculated (F) value which was (26.275) is significant at ($\alpha \leq 0.05$); this result was confirmed by the calculated (t) value for every type of the cognitive styles adopted in this study which showed significant level of the effect of every style at ($\alpha \leq 0.05$). Accordingly, there is direct statistical significant effect of the cognitive styles (knowing, planning, and creating) in the strategic innovation in the Jordanian universities at ($\alpha \leq 0.05$).

Table 3 Simple regression of knowing cognitive style in strategic innovation

	<i>r</i>	<i>r</i> ²	<i>F</i> *	<i>DF</i>	<i>Sig</i>	β	<i>t</i> *	<i>Sig</i>	
Strategic innovation	0.659	0.435	60.734	Regression	1	0.00	0.596	7.793	0.00
				Remains	79				
				Total	80				

Note: *Table value of $t = 1.99$, $F = 18.51$ at level of significance ($\alpha \leq 0.05$).

And to test the first sub-hypothesis, a simple regression analysis was used to check the effect of the knowing cognitive style in the strategic innovation. Results as it is illustrated in Table 3 showed that (r) was (0.659) at ($\alpha \leq 0.05$) and (r^2) was (0.435) which indicates that (0.435) of the changes in the strategic innovation due to the change in the level of interest in the knowing cognitive style. Additionally, the β value was (0.596) which means that the increase with one degree in the interest in the knowing cognitive style causes an increase in the level of the strategic innovation (0.596). The calculated (F) value which was (60.734) was significant at ($\alpha \leq 0.05$); this significance was confirmed by the calculated (t) value which showed the significance of the degree of the knowing cognitive style at ($\alpha \leq 0.05$). Accordingly, there is direct statistical significant effect to the knowing cognitive style in the Jordanian universities in Amman at ($\alpha \leq 0.05$).

Table 4 Simple regression of planning cognitive style in strategic innovation

	<i>r</i>	<i>r</i> ²	<i>F</i> *	<i>DF</i>	<i>Sig</i>	β	<i>t</i> *	<i>Sig</i>	
Strategic innovation	0.636	0.405	53.733	Regression	1	0.00	0.862	7.334	0.00
				Remains	79				
				Total	80				

Note: *Table value of $t = 1.99$, $F = 18.51$ at level of significance ($\alpha \leq 0.05$).

And to test the second sub-hypothesis, a simple regression analysis was used to check the effect of the planning cognitive style in the strategic innovation. Results as it is illustrated in Table 4 showed that (r) was (0.639) at ($\alpha \leq 0.05$) and (r^2) was (0.405) which indicates that (0.405) of the changes in the strategic innovation due to the change in the level of interest in the planning cognitive style. Additionally, the β value was (0.862) which means that the increase with one degree in the interest in the planning cognitive style causes an increase in the level of the strategic innovation (0.862). The calculated (F) value which was (53.733) was significant at ($\alpha \leq 0.05$) and this significance was confirmed by the calculated (t) value which showed the significance of the degree of the planning cognitive style at ($\alpha \leq 0.05$). Accordingly, there is direct statistical significant effect to the planning cognitive style in the Jordanian universities in Amman at ($\alpha \leq 0.05$).

Table 5 Simple regression of creating cognitive style in strategic innovation

	<i>r</i>	<i>r</i> ²	<i>F</i> *	<i>DF</i>	<i>Sig</i>	β	<i>t</i> *	<i>Sig</i>	
Strategic innovation	0.347	0.120	10.792	Regression	1	0.002	0.398	3.285	0.002
				Remains	79				
				Total	80				

Notes: *Table value of $t = 1.99$, $F = 18.51$ at level of significance ($\alpha \leq 0.05$).

And to test the third sub-hypothesis, a simple regression analysis was used to check the effect of the creating cognitive style in the strategic innovation. Results as it is illustrated in Table 5 showed that (r) was (0.347) at ($a \leq 0.05$) and (r^2) was (0.120) which indicates that (0.120) of the changes in the strategic innovation due to the change in the level of interest in the creating cognitive style. Additionally, the β value was (0.398) which means that the increase with one degree in the interest in the creating cognitive style causes an increase in the level of the strategic innovation (0.398). The calculated F value which was (10.792) was significant at ($a \leq 0.05$) and this significance was confirmed by the calculated t value which showed the significance of the degree of the creating cognitive style at $a \leq 0.05$. Accordingly, there is direct statistical significant effect to the creating cognitive style in the Jordanian universities in Amman at ($a \leq 0.05$).

10 Results discussion

From the respondents' perspective, result of current study came to support our argue that cognitive styles affect strategic Innovation which aligned with some literature, results showed that the level of importance of cognitive styles in the Jordanian universities was high with a mean (4.250) also results illustrated that the level of importance of strategic innovation in the Jordanian universities was high with a mean (4.05).

Moreover, universities' management at Jordan recognised of existence of the knowing style, planning style and creating style as a cognitive styles dimension, also they feel the availability of strategic visualisation, generating ideas, evaluating ideas and implementing ideas, as strategic innovation dimensions. Results also proved that there was direct statistical significant effect of the cognitive styles in the strategic innovation in the Jordanian universities at $a \leq 0.05$. Additionally, there was direct statistical significant effect of the knowing planning, creating cognitive styles in the strategic innovation in the Jordanian universities at $a \leq 0.05$.

We found that generating ideas and ideas implementation are both critical aspects of the strategic innovation, Miron-Spektor et al. (2011) pointed out the same, beside, Hough and Ogilvie (2005) also revealed the effect of cognitive styles in the strategic decisions, we also stated an individual-level of cognitive style since it affect the strategic innovation (Chakraborty et al., 2008), on the other hand our results agreed with Gallen (2006) which showed that the managers' cognitive styles affect the strategic decisions along with D'Agostino (2009), we and Allinson et al. (2001), proved that the persons' individual differences were linked with their achieved performance which affect positively their decisions. Besides, our results also come in line with results of Khafaji (1996), which illustrated that there was statistical significant effect of the flexible cognitive styles in the strategic decisions.

11 Recommendations

We support the phenomena behind on the premise that being innovative requires good management to generate and creative ideas, the extent to which this ability converts into a management overall innovative performance may vary depending on his or her efficacy in implementing those ideas.

We suggested that the most innovative universities are those whose have strong connections between their management, since the level of the mentality of the managers or cognitive of universities' management affect the way the universities set up their strategic vision, in the other hand universities could use scientific research as motivated programs to acquire cognitive styles to enhance the strategic innovation required to face challenges that facing the universities.

Universities may screaming or generating new styles of learning that could leads to variety of cognitive styles that could be achieved and used in the universities, and paying much attention to the cognitive processes and the individuals' social interaction concerning information organisation which the mind receives and uses later to interpret things and choose the appropriate situations, the more concentration on enhancing the cognitive styles in the universities because they are considered a distinctive way of performance that distinguishes the employees in the universities during their treatment of the information and the problems that are possible to face in their try to achieve the goals.

Universities' management should develops the confidence of the employees with advanced cognitive styles and motivate them to get benefit of them to achieve a higher level of progress, and they have to adopt the cognitive styles as a part of its daily work through surveying new creative opportunities and evaluating them to choose the best. The universities also should provide physical and moral support to the selected idea and they are committed to implement it as a basis for competition among the employees, similarly, its necessity to have specialised and professional team in the universities which its goal is to manage the cognitive activities within specific criteria that suit the type of work and the colleges' needs.

A lot of future work could be driven from this study starting from analysing the cognitive styles along with knowledge management to see how they interact between each other to affect strategic innovation, besides, analysis the differences in cognitive styles and strategic innovation between public and private universities, and we may test such relationships in different industries.

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