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Organizational Change and Organizational Sustainability: The mediating effect of Innovative Human Capital

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Abstrac

The purpose of this paper is to empirically examine the relationships between organizational change and organizational sustainability with the mediating effect of innovative human capital among manufacturing SMEs in the Kurdistan Region of Iraq. A survey questionnaire distributed utilizing a self-administered method is undertaken among 506 SMEs' senior executives. Consequently, 312 sets of questionnaires were successfully collected and used for the analysis. The model was tested using Partial Least Squares (PLS) procedure. Results indicate that organizational change effect on organizational sustainability. However, two out of three dimensions of organizational change such as personal valence and principal support have no significant effect on organizational sustainability. The innovative human capital is found does not play a mediating role in the effect of organizational change on organizational sustainability.

Keywords: organizational sustainability; innovative human capital; self-efficacy; personal valence; principal support.

Cambio organizacional y sostenibilidad organizacional: el efecto mediador del capital humano innovador

Resumen

El propósito de este documento es examinar empíricamente las relaciones entre el cambio organizacional y la sostenibilidad organizacional con el efecto mediador del capital humano innovador entre las PYME manufactureras en la región de Kurdistán en Irak. Se lleva a cabo un cuestionario de encuesta distribuido utilizando un método autoadministrado entre 506 altos ejecutivos de las PYME. En consecuencia, 312 conjuntos de cuestionarios fueron recopilados y utilizados con éxito para el análisis. El modelo se probó utilizando el procedimiento de mínimos cuadrados parciales (PLS). Los resultados indican que el efecto del cambio organizacional en la sostenibilidad organizacional. Sin embargo, dos de las tres dimensiones del cambio organizacional, como la valencia personal y el apoyo principal, no tienen un efecto significativo en la sostenibilidad organizacional. Se descubre que el capital humano innovador no juega un papel mediador en el efecto del cambio organizacional en la sostenibilidad organizacional.

Palabras clave: sostenibilidad organizacional; capital humano innovador; autoeficacia; valencia personal; Apoyo principal.

Introduction

Nowadays, the environment is turbulent and changeable where adaptability is critical for the survival and success of an organization (Fang, Chang, Ou and Chou 2014). The situation, coupled with globalization and the rapid technology development compel the organizations to be more effective in adapt rapid changing to provide superior customer value and respond quickly (Shahsiah and Sepahvand 2016). Smith & Graetz (2011) explain a rationalist approach to organizational change in terms of the gap between what the leader of an organization sees at the present situation and particularly where they would like to have at the end of the change process: "The difference between the two positions then dictates the requirements for change" (Smith & Graetz, 2011). Van de Ven & Poole (2005) refers to the change of organization as a practical observation of the difference in the state, quality or form with time in an organizational entity. The entity may be a job of an individual, an organizational strategy, a workgroup, a product, a program, or the overall organization. This suggests that multiple forms, modes and levels of change can occur. It can occur at different reasons and paces and have positive and negative consequences, that hints, change comes with a price tag (Lee & Alexander, 1999). According to Darcy et al. (2014), SMEs must embrace the changes and dyna

mism of their internal and external environments to ensure such an advantage and to increase the likelihood of sustainability. Although the goal of planned change is to make the organization more efficient and effective, resistance from members of the organization is expected, this negative reaction is high as change occurs with increased stress, pressure, and uncertainty for employees (Abdel-Ghany, 2014; Armenakis & Bedeian, 1999).

Employees readiness is arguably one of the most important factors involved in stakeholder's initial support for change initiatives (Holt, Armenakis, et al., 2007), which in contrast this will generate better organizational improvement and changes lead to long term organizational survival (Barney, 1991; Donaldson, 2001; North, 1990). This means that the reactions and responses of individuals can either help or hinder the change process and gaining an understanding of employees' attitudes toward change can assist the change process (Miller et al., 1994). However, the challenge of managing and implementing change can be analyzed by applying stakeholder theory (Freeman, 1984). Stakeholders inside and outside of the organization tend to be heavily involved before, during and after the change process (Frooman, 1999). Stakeholders hold a central role in organizational change. According to Burke (2013), organizational change includes adopting specifications, plans and approaches to different stakeholders' concerns and expectations. Additionally, Dibella (1992) suggested that if organizations want to become sustainable then they must attain productivity and accountability by continuously responding to their external and internal needs of stakeholders and environments. Moreover, stakeholder theory has described employees' innovation as additional capabilities added to the stakeholders which positively affect the organizational growth, performance, and sustainability (Haefner & Palmié, 2017; Minoja et al., 2010; Short et al., 2012; Steiner, 2008; Watson et al., 2017). As revealed by the empirical study of Shanker et al. (2017) organizational sustainability can only be achieved through the capacity of stakeholders on thinking ahead and finding new solutions toward organizational developments. Employees'

innovation is no longer just a matter of competitive advantage, but a matter of survival. The most successful organizations maintain a clear focus on innovation across all business activities, encouraging innovative behaviors and finding ways to sustain innovation momentum. (Ikeda et al., 2016).

SMEs in the Kurdistan region of Iraq provide an excellent research case. In fact, the Center for International Private Enterprises (CIPE) declared that in comparison to neighboring countries, the private manufacturing sectors in the Kurdistan region of Iraq, particularly SMEs, are seriously underdeveloped in terms of professional human resources, technology, appropriate knowledge of the

current industrial evolution and production (CIPE, 2007), plus management techniques in tremendous organizational change and transformation of the processes required in spearheading sustainability initiatives (Harmon et al., 2010). At the time that the industrial SMEs in the Kurdistan region constitute about 95.5 per cent of all working businesses, they contribute about 4.08 per cent to the gross domestic product of the region and provide approximately 13,331 jobs. Such a situation forces this region to rely heavily on imported goods, as reported by the Kurdistan Region Government's (KRG) official estimates (Bowen, 2011). Hence, this region shows a declining number of SMEs manufacturer (RDSKR, 2011), as this sector is struggling to maintain and sustain its business running. These low contributions and survival issues of manufacturing SMEs may be a reflection of their weak ability to innovate new products and implement manufacturing processes (RDSKR, 2011). In contrast, SMEs need to have a readiness for better-required changes, while Kurdistan's SMEs suffering their adoption and improvement toward new strategy and modern management in their business (CIPE, 2007; RDSKR, 2014). Furthermore, there is also the absence of studies that discuss organizations in general and the industrial sector in particular of the Kurdistan region and the factors that impact their sustainability (Ali, 2013; Atkinson, 2014; Bowen, 2011; RANDA, 2014). Thus, the current study argues that OC in term of self-efficacy, personal valence and principal support with the enhancement of IHC influence SMEs sustainability in this region.

1 Literature review

1.1 Organizational Sustainability and SMEs

An SME may in many ways be a “scaled-down” version of a large firm and this has been challenged in the literature, and there is a general consensus that SMEs are not just “little big businesses” (Darcy et al., 2014). In fact, they have their own unique features that influence how they manage their operations (Darcy et al., 2014; Kwong et al., 2012; Roper & Scott, 2009). This is in line with the suggestion that due to their particular nature, current organizational sustainability models have to be reconsidered to take cognizance of the unique SME situation in which they operate. Moreover, De Clercq & Voronov (2011) emphasize the role and implications of sustainability in business practices and how they play a significant role in the entrepreneurial/SME domain, in that entrepreneurs have to acquire legitimacy by striking a balance between sustainability and profitability. At the same time, the researchers also consider the continuous challenge faced by SMEs or any new or growing operation in balancing profit and sustainability on an on-going basis.

However, Darcy et al. (2014) proposed a combined SME and HR perspective of OS and its relevance to the SME context. The model emphasizes the relationship between internal HRs behaviors as a possible source of competitive advantage for

SMEs and the long-term sustainability of the business. The model argues that internal stakeholders of the SME are the dominant of organizational sustainability, which means that OS can be achieved in organizations that pay sufficient attention to employee behaviors.

As SMEs need to constantly seize new opportunities to remain competitive, they must have the capacity and readiness to engage in developing new products and to innovate as a core process of “value creation” (Hurmelinna-Laukkanen et al., 2008). Furthermore, manufacturing SMEs, in particular, must constantly enhance their manufacturing processes if they are to achieve long -term sustainability (Lagacé & Bourgault, 2003)

1.2 Organizational Change and Organizational Sustainability

Organizational change has been the interest of formal studies since the 1950s when Lewin (1951) proposed that organizations should have a planned strategy to assist them in adopting change. With time, sustainable studies have tried to understand the detailed change in an organization with the hope to identify a formula that allows organizations in applying successful workplace changes. Private and public organizations are continually faced with the need to change in order to sustain their competitive advantage (Kwahk & Lee, 2008). Moreover, stakeholders have been identified as potential influencers impacting a firm’s engage in sustainability (Brammer et al., 2007; Freeman, 2010; Frooman, 1999; Frooman & Murrell, 2005; Hendry, 2005; Quattrone & Tversky, 1988).

Social scientists, business scholars and psychologists have shown interest in readiness for organizational change as it has become a requirement for organizations who aspire for survival and sustainability in the continuously evolving and highly competitive business environment (Todnem By, 2005). Thus, the study proposes the following hypothesis:

H1: Organizational change has a significant positive effect on organizational sustainability.

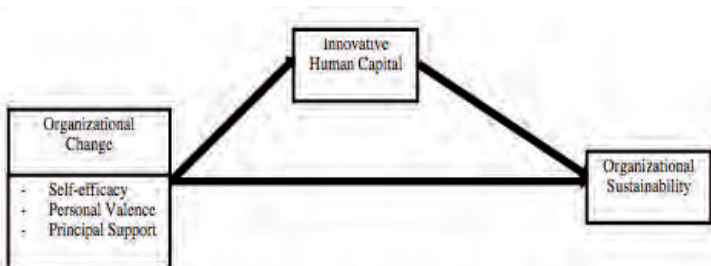


Figure 1. The theoretical framework of the study

Therefore, a stream of literature on organizational sustainability have identified many aspects of organizational change. The present study reviews three important dimensions of organizational change: self-efficacy, personal valence and principal support and their relationship with organizational sustainability.

1.2.1 Self-Efficacy

Core participation of stakeholder in projects of organizational change is an essential factor of success (Peltokorpi et al., 2008; Salminen, 2000). Self-efficacy is thought to be a vital factor that influences the employees' positive readiness to take part in and to support the firm's improvement (Achilles A Armenakis & Stanley G Harris, 2002). According to Bandura (1997, p. 3) self-efficacy as 'beliefs in one's capabilities to arrange and execute the required courses of action in creating given attainments. Bandura (1982) reported that individuals will ignore activities believed to exceed their coping capacities, but will perform tasks of which they judge themselves to be capable. Creating self-efficacy for changing successfully could be the first step in having organizational readiness. So, the employees must believe that they are capable of developing the attitudes needed of required changes, therefore the expectation is higher than the output of the change (Armenakis et al., 2007). To assess readiness for change, it is necessary to be cognizant of the change efficacy of an individual as low levels of change efficacy have been observed to have a negative effect on the readiness for change level (Conner, 1993). The management literature generally agrees that readiness for the improvement of the organization is massively impacted by the self-efficacy of employees through their belief of coping capacity with the improvement (Cunningham et al., 2002; Devos et al., 2007; Rafferty & Simons, 2006).

Holt, Armenakis, et al. (2007) include efficacy as a vital variable in their model of change readiness and explain it as 'the belief that the change can be implemented'. They identified that one of the factors related to employee's job satisfaction, intentions to leave and affective commitment was efficacy. Thus, self-efficacy generally refers to the belief of a person that they have the capacity of performing a significant activity, with strong self-efficacy being related to performance and persistence, whereas inadequate self-efficacy is related to fail on an activity (Stajkovic & Luthans, 1998).

According to Stajkovic & Luthans (1998), there is a specific weighted average correlation between work-related performance and self-efficacy and competitive advantage. With time, the substantial influence of self-efficacy beliefs on the functioning and behavior of an individual within the settings of an organization, and their value of prediction has been highly confirmed by various practical researches; see (Bakker, 2011) for better work performance and a

review; see (Bandura, 1997). The belief of self-efficacy are a well-known predictive value of concepts for job performance and has been established repeatedly (Bakker, 2011; Bakker & Demerouti, 2008; Stajkovic & Luthans, 1998). Moreover, self-efficacy is thought to be the entrepreneurs' personal trait that affects the performance of small-firm (Poon et al., 2006).

In the context of organizational change, little studies have directly examined the association between organizational sustainability and self-efficacy. Nevertheless, since self-efficacy from the internal stakeholder's perspective has been closely associated with support for strategic change, performance improvement, competitive advantage, and sustainability, as presented in the empirical studies of Alessandri et al. (2015); Antoncic et al. (2016); Luszczynska et al. (2005). This leads to the following hypothesis:

H1a: Self-efficacy has a significant positive effect on organizational sustainability.

1.2.2 Personal Valence

Actions of stakeholder are strongly affected by existing incentives in resisting or promoting change (Peltokorpi et al., 2008). If change is meant to be permanent then incentives of employees must be sufficient during the process of change (Gibbons, 1998). Realizing the present condition and having clearly defined goals (O'Toole Jr, 1993) are the minimum necessities for motivation for change in the organization. Participation is driven by employees' assumed change benefits and the perceived risk of not reaching goals. Therefore, personal valence indicates to the extent to the feeling of employees that he or she will benefit from implementing the improvement initiative either implicitly (rewards, satisfaction) or explicitly (promotion, money, time off), depending on the value of the individual (Kavaliauskaite & Jucevičius, 2010; Self & Schraeder, 2009).

Thus, personal valence is considered to be vital factors that accelerate the positive readiness of employees to support improvement (Achilles A Armenakis & S. G Harris, 2002). If the outcome of the improvements as perceived by the employees is negative in bringing in benefits for their self-interest, then the improvement is likely to receive little or no support (Achilles A Armenakis & Stanley G Harris, 2002). Personal valence refers to an individual's evaluation of the advantages of change for his or her part (Oreg et al., 2011). When individuals realize that change is more beneficial for them, it helps them to stay competitive in the market and make them more willing to execute the change process. Once employees understand and witness the beneficial effect of change, they become ready for the active execution of their tasks (Siddiqui, 2011). The intensity of employees' reaction to change initiatives is proportional to the extent to which the goals of the intervention match their goals and the

expected changes in their position. Thus, the motivation of employees in participating in the change or in hindering the implementation is highly influenced by their assumptions about the conceivable changes.

Therefore, personal valence improves firms' survival, competitive position and overall performance (Neves, 2009; Siddiqui, 2011; Vroom, 1964). The probability level of achieving firms' goals refers to attitudes and decisions of employees based majorly on consideration or sub-optimization of the overall advantages of the change. Positive/negative valence results in a corporate action such as economic strength and concern, social strength and concern, and environmental strength and concern. (Marcus et al., 2015). In the context of organizational change, no research has directly studied the connection between personal valence and organization sustainability. Nevertheless, the above literature plus empirical studies by Andersen (2008); Holt, Armenakis, et al. (2007); Holt, Bartczak, et al. (2007); Sedikides (1992) make it clear that personal valence has a great benefit on organizational sustainability as personal valence from the internal stakeholder's perspective has been closely associated with support for strategic change, performance improvement, survival and competitive advantage. In this sense, the following hypothesis is suggested:

H1b: Personal valence has a significant positive effect on organizational sustainability.

1.2.3 Principal Support

Persuasion of change and transformation of organizations is difficult. Various change initiatives fail due to the resistance of internal stakeholder. During the process of change, the prevailing resistance might surprise managers or the anticipated advantages of the project might turn out to be overestimated (Peltokorpi et al., 2008). Thus, principal support plays an important role in this change and defined as the extent to which the top leaders, respected peers, and immediate manager, explain that they are in favor of the change of the organization. According to Armenakis et al. (2007), the dimension labelled 'principal support' reflects the extent to which the change recipients' readiness depends on, or impacted by the concern or support of 'principal other' (e.g., colleagues, immediate superior, the change agents, opinion leaders, etc.).

From different levels of principal support, this study focused on top or executive managers' support only, which represent an internal stakeholder that support the whole organization including other principal support such as immediate superior and colleagues toward successful organizational change to achieve organizational sustainability.

Armenakis & Bedeian (1999) explained principal support to be designed for giving information and convince members of the organization that the leaders are committed to succeeding in implementing change. This is particu

larly vital if there are pieces of evidence of past change efforts getting bogged down or failed from achieving goals. So, the members of the organization try understanding the true support of the change. When organization's member find themselves in a changed condition, they will try to understand (or make sense) by accumulating information from perceived reliable sources and from observation of the present and past events (Hambrick & Brandon, 1988). And so, the tendency of employees to be ready when they believe that they will get the support they deserve from top management, and subsequently accept the change initiative, where they decide to provide the necessary support. (Hambrick & Brandon, 1988). Peer support and immediate supervisory of the change initiative are worthy of attention, but the implementation of change in an organization is generally started from the senior manager's responses contribute to gain an understanding of the initiative that goes in the minds of the members of an organization (Covin & Kilmann, 1990).

Therefore, a study by Holt, Armenakis, et al. (2007) senior managers is considered as having a significant influence on change readiness. Consistent change behaviors and principal support by upper management are vital for a successful outcome of change (Beer et al., 1990). Covin & Kilmann (1990) verified eight themes that negatively affect the application on a large-scale improvement program. 'Lack of management support' is one of the themes. To improve the employee readiness to organizational change, top managers play a key part (Neves, 2009), where, top managers encourage the adopting of change, stressing on the criticality of the change, commitment in adopting the change and clarifying the hint that organization is going through change (Holt, Armenakis, et al., 2007).

Eventually, principal support from top management perspective provides organization improvement in its survival, penetrate new markets, launch new ways in conducting business and overall performance (Badaracco, 2002; Fink & Resnick, 2001; Wolford, 2011). In the context of organizational change, no previous study has directly studied the relationship between principal support and organization sustainability. Nevertheless, the above literature supported with empirical studies by Al Shaar et al. (2015); Holt, Armenakis, et al. (2007); Worley & Doolen (2006), proven the significant effect of principal support on organizational sustainability, as principal support from the internal stakeholder's perspective has been closely associated with support for strategic change, performance improvement, survival and competitive advantage. Therefore, the hypothesis regarding principal support and organizational sustainability is postulated as follows:

H1c: Principal support has a significant positive effect on organizational sustainability.

1.2.4 Innovative Human Capital

Innovation has a vital part in the survival of a firm (Cefis & Marsili, 2006) and is commonly known as the commercial implication of new knowledge and the application of ideas. Parallel with the growing awareness of the policymakers of the contribution of human capital in academic research, innovation increased also (Grant, 1997). Growth and success have a positive association with human capital, whilst innovation of that human capital is the key to this success (Jegade et al., 2016). According to De Winne & Sels (2010), who expands innovation theory to include the concept of innovative human capital as a competitive advantage. Simultaneously, the standard measure of human capital is extended by developing a far-reaching and a unique concept of innovative human capital.

Due to the literature of innovation which indicates the important part played by individuals in innovation and highlights the necessity of realizing their contribution to the innovation activities of the firm (Lundvall, 2009). Human capital is a vital role in innovation (McGuirk et al., 2015). Human capital is a central component of the growth of the economy (Storper & Scott, 2009). Thus, it is clear to understand that IHC could be explained by two overlapping theories (stakeholder and resource based-view theory). Where RBV reflects employees' skills and knowledge as intangible resources to generate greater innovation capability. While this great innovation is represented by the internal stakeholders and their role in the success of the organization.

This study aimed at specific training and tacit knowledge to explain innovative human capital, due to their important role in identifying the level of human capital innovation. Becker (1993) tested the investment consequences of a person's knowledge and skills as well as training. He describes capital as, shares in a company or money in the bank, but he adds that knowledge and training courses are also investments in the human or the individual. There is no widely accepted measure of human capital in the literature, though tacit knowledge and training have long been considered good proxies (Romer, 1990).

According to Becker (1993), general training increases trainee's productivity, while specific training can be known as training has no effect on the trainee productivity that would be required in other firms and leads to greater productivity of margins for the firm providing the training. In his seminal human capital study, it differentiates between specific and general human capital; general human capital relates to skills and knowledge that are easily transferable, whereas specific human capital relates to skills and knowledge that are less transferable and have narrower application scope. Investment in specific

training might be expected to increase productivity (Malcomson, 2015). It has been found that specific training can improve specific skills and knowledge without decreasing productivity and increase innovation capability (Thiele Schwarz et al., 2016).

Furthermore, research contends that knowledge can be present in the form of both explicit and tacit knowledge (Polanyi, 1966). Explicit knowledge is codified and can be easily communicated and transferred (Anand et al., 2010; Nonaka, 1994). In contrast, tacit knowledge is implicit, hard-to-conceptualize and subjective, and is part of an individual's experiences; it is evidenced in behavior or actions and is often highly ambiguous (Schoenherr et al., 2014; Venkitachalam & Busch, 2012). It develops interactively over time through shared experience, and the inherent "know how" is reflected in individual skills that result from learning by doing (Mooradian, 2005). The philosopher Polanyi (1966) described tacit knowledge as "knowing more than we can tell" or as "knowing how to do something without thinking about it." In this vein, (Von Krogh et al., 2000) proposed that tacit knowledge, not explicit knowledge, is generally the main source of a firm's innovation. Therefore, knowledge, and more specifically 'tacit knowledge' is at the heart of innovation and competitiveness (Hartono & Sheng, 2016; Sheng et al., 2015). The reasoning underlying this statement is that new ideas come from creativity and that, especially at the beginning the creative process, creativity is related with individuals' ideas seeded from tacit knowledge (Pérez-Luño et al., 2018; Pérez-Luño et al., 2016).

Therefore, previous studies have revealed that organizational change positively affects innovative human capital (Extra, 2007; Hage, 1999; Kesting & Parm Ulhøi, 2010; Nelson & Winter, 2009). Bell (2009) defines innovation capabilities as "the capabilities needed to imagine, develop and implement new configurations of product and process technology and to implement changes and improvements to the overall firm". Organizations that cut communication, filter news and do not have a planned change management process can intensify people's fear about change and kill the spirit of innovation in them (Hage, 1999). Change promotes and catalysis innovation and a healthy economy, and avoids organizational complacency (Extra, 2007; Hayes, 2014). Organizations are facing unprecedented change as a result of both significant growth and pressure to have an increased focus on innovation, and organizational effectiveness (Cleary, 2003) In this sense, the following hypothesis is suggested:

H2: Organizational change has a significant positive effect on innovative human capital.

At the same time, previous literature has also revealed that IHC has been empi

rically proved by (Abdul Kohar, 2013; Belenzon & Schankerman, 2015; Chang, 2011; Jiménez-Jiménez & Sanz-Valle, 2011; Mahmoud et al., 2016; Wan et al., 2005) and theoretically by (Jarle Gressgård et al., 2014; King et al., 1994) its important part in sustainable influence and performance of a firm. Further, Raymond & St-Pierre (2010) argued in their empirical study that innovation has long been regarded as the major factor in SME survival. While, the most successful organizations maintain a clear focus on the innovation of employees across all business activities, encouraging finding ways and innovative behaviors and to innovate sustainable momentum (Ikeda et al., 2016). The opportunities to innovate for sustainability received vast attention with the Brundtland report in 1987 (Klewitz & Hansen, 2014). Application of the concept of sustainability through the field of human innovation, it is arguable that sustainable innovations are innovations which increase or maintain the overall capital stock (social, environmental, economic) of a company (Hansen et al., 2009). In sum, sustainability puts a normative demand on innovation to become more socially and environmentally benign and, simultaneously, gives a new inventive source and competitive advantage (Hansen et al., 2009). This leads to the following hypothesis:

H3: Innovative human capital has a significant positive effect on organizational sustainability.

Thus, businesses have come to realize that the adoption of innovation is intended to ensure the adoption of organizational change to maintain or improve performance (Mahmoud et al., 2016). Firm survival and success depend on adaptability and innovation, necessitating continuous organizational change (Nesterkin, 2013). Overall, the literature suggests that employees innovation positively affects the long-term success of firms because it enhances organizational flexibility, willingness of and successful change, and introduction of new products while decreasing organizational inertia (Calantone et al., 2002; Damanpour, 1991; Hult et al., 2004; Low et al., 2007; Yamin et al., 1999; Zahra & Covin, 1993). Therefore, this study used innovative human capital as the mediating variable in the relationship between organizational change and organizational sustainability among SMEs in the Kurdistan Region of Iraq. Based on the discussion above, this study proposed the following hypothesis:

H4: Innovative human capital mediates the relationship between organizational change and organizational sustainability.

2 Methodology

2.1 Data Collection and Sample

A self-administered questionnaire was conducted to gather data from the industrial SMEs' senior executives operating in the Kurdistan region of Iraq, in the provinces of Erbil, Sulaimany, and Duhok. The survey was conducted from

early January 2019 to the end of March 2019. The targeted population of this study includes eight groups of manufacturing SMEs. They are machinery and equipment, construction materials, food industry, electric industry, non-metal industry, metal industry, textiles industry, and paper industry. The 2605 manufacturing industrial SMEs make up the population of this study. SMEs in the Kurdistan region is defined according to the World Bank, as published in the International Finance Corporation report, whereby enterprises with 1-19 employees are considered to be small enterprises. Enterprises with 20-99 employees are considered as medium enterprises. Large enterprises are those that hire 100 employees or more (IFC, 2011). Stratified sampling used in this study given to its accuracy, lack of bias, and the ability to obtain generalizable results. Since the respondents from Kurdish origin, the questionnaire was translated into the Kurdish language based on Brislin (1970) method, then sent to two bilingual experts (English/Kurdish) to ensure that the texts of these two versions were consistent. Then, another bilingual expert translated it back from the final Kurdish version to the English language to eliminate the differences. Based on Krejcie & Morgan (1970), it is adequate to select a minimum sample of 338 manufacturing SMEs from the whole research population. Furthermore, the sample size of this study complied with the rule of thumb by Roscoe (1975, as cited (Sekaran, 2003), who stated that the appropriate sample size for most research should be larger than 30 and smaller than 500. Secondly, a priori power analysis of G*Power was also used to estimate the appropriate sample sizes based on some statistical parameters (Faul et al., 2007). Using twelve predictors, a medium effect size convention of 0.15, and a significance level of 5%, this study obtained a sample size of 184 at the statistical power of 0.95. Thus, the final analyzed data of 312 SMEs were deemed sufficient.

2.2 Measurements

Each investigated construct was measured in the questionnaire using a seven-point Likert scale, where 1 was determined for “strongly disagree” ranging to 7 for “strongly agree.” Content validity was performed by reviewing the related literature extensively in addition to interviewing the experts in the academic field. OS was measured using a 14-item scale adapted from Abdul-Rashid et al. (2017); Eccles et al. (2014); Hami et al. (2016); Wang et al. (2018). Whereas, self-efficacy was measured via a 4-item scale adapted from Holt, Armenakis, et al. (2007); Lehman et al. (2002). likewise, the personal valence scale includes 4 items adapted from Armenakis et al. (2007); Holt, Armenakis, et al. (2007). Similarly, principal support was measured via a 4-item scale adapted from Holt, Armenakis, et al. (2007). Finally, IHC was measured using an 8-item scale adapted from Dobni (2010); Kehoe & Wright

(2013); Leskovar-Spacapan & Bastic (2007); Salavou et al. (2004); Sun et al. (2007); Talke et al. (2011).

3 Analysis and Findings

In order to investigate the theoretical framework of the study, this study employed the two-stage approach the outer model and the inner model. This approach has been followed based on many scholars' recommendations such as Fernandes (2012); Hair Jr et al. (2016); Henseler et al. (2009). In the first stage, the evaluation of the measurement model or the outer model was conducted to ensure construct reliability and validity. This includes undertaking three investigations namely, content validity, convergent validity and discriminant validity. In the second stage, the structure model or the inner model was conducted to test the model quality. This can be done by investigating the following tests: R-square values, predictive relevance of the model and the significance level of path coefficient. Partial least squares (PLS) software was utilized using the bootstrapping algorithm to test this study's hypotheses.

3.1 Outer model analysis

3.1.1 Measurement Model Results for First Order

According to Hair Jr et al. (2017), for assessing the measurement model, researchers have to examine the internal consistency which includes the Cronbach's Alpha and the composite reliability. In addition, the assessment includes the convergent validity which includes the indicator reliability (Factor loading) and the average variance extracted (AVE). The last step in assessing the measurement model is also to examine discriminant validity. Table 1 summaries the criteria for assessing the measurement model and the threshold for each criterion.

Cronbach's alpha of all the variables was calculated. It is found that all the Cronbach's alpha for all the variables are greater than the cutoff value of 0.70 indicating that the variables' reliability in term of Cronbach's alpha is met. For the composite reliability, the analysis showed that the value of composite reliability for all variables is greater than 0.70 indicating that the composite reliability is achieved.

To achieve convergent validity, the indicator reliability (factor loading) for all the variables were checked. one item had loading less than 0.70 indicating that it does not capture the variables that it is supposed to measure. An item from social (OSSO5) were removed. The indicator reliability for all other items is greater than 0.70. indicating that the items capture their related variables. The average variance extracted (AVE) was calculated for all variables. Result of assessment of measurement model in Table 1 shows that the AVE values for all variables are greater than 0.50 indicating that more than 50% of the variation in the variables can be explained by the items.

Table 1. Internal Consistency and Convergent Reliability

First order	Items	Factor loading	Cronbach's Alpha	CR	AVE
Principal Support	Senior executives always put all their support behind organizational changes.	0.823	0.881	0.918	0.737
	Senior executives have always encouraged all employees to embrace organizational changes.	0.829			
	Senior executives have always stressed the importance of organizational changes.	0.885			
	Senior executives are always committed to organizational changes.	0.896			
Personal Valence	Organizational changes are always beneficial to employees.	0.891	0.915	0.940	0.797
	Organizational changes always require employees small effort compared to the benefits will result for them.	0.875			
	Organizational changes are always accompanied by better career opportunities for employees.	0.905			
	Organizational changes always lead to increased employees' self-fulfillment.	0.898			
Self-Efficacy	The company's employees are always capable to handle the changes that are initiated.	0.885	0.915	0.940	0.797
	The company's employees are always provided with the necessary training to successfully implement the changes.	0.900			
	Company's employees always enjoy high self-confidence in their jobs after changes being made.	0.905			
	Company's employees always have the appropriate skills that match the required changes.	0.882			
Training	The company's training programs enhance the generation of new ideas.	0.835	0.812	0.877	0.641
	The company's training programs drive creative	0.719			

First order	Items	Factor loading	Cronbach's Alpha	CR	AVE
	collaboration.				
	The company's training programs build self-efficacy for creativity.	0.841			
	The company defines training needs based on the skills required for innovation behavior.	0.800			
Tacit Knowledge	Employees' knowledge gained from past experiences promotes unexpected product innovations.	0.872	0.891	0.925	0.754
	Employees frequently share their past experience to increase suggesting ideas for new opportunities.	0.852			
	Employees' knowledge used in the company is highly complex, which been gained through first-hand experiences.	0.889			
	Employees know-how is the source of innovation in the company.	0.861			
Economic	The company has a good profitability advantage in its sales.	0.854	0.875	0.910	0.670
	The company has a competitive advantage in its brand value.	0.877			
	The company has good production capacity.	0.737			
	The company has the ability to save the cost of energy consumption.	0.853			
	The company maintains good product quality.	0.761			
Environmental	The company policy adopts the reduction of energy consumption.	0.878	0.877	0.916	0.730
	The company reduces non-renewable resources usage.	0.857			
	The company has the initiative to reduce the negative environmental impact of its products.	0.852			
	The company policy adopts the reduction of solid waste.	0.832			
Social	The company has an equal opportunity policy for all	0.821	0.850	0.899	0.690

First order	Items	Factor loading	Cronbach's Alpha	CR	AVE
	employees.				
	The company maintains successful relationships with the surrounding community.	0.805			
	The company improves work safety.	0.839			
	The company has a collaboration policy in respect of (e.g., people with special needs, immigrants, minorities).	0.857			

According to Hair Jr et al. (2017), to achieve the discriminant validity the square root of the AVE values should be greater than the correlation with other variables. In other words, the bold and underlined values in Table 2 should be greater than the values in their rows and columns. Achieving this indicates that the variables have discriminant validity. In Table 2, the discriminant validity of the first order variables is presented. It can be seen that all the bold and underlined value (square root of AVE) are greater of the correlation with other variables. Thus, can be concluded that the discriminant validity of the first order variables was achieved

Table 2. Discriminant Validity of First Order Variables

	Economic	Efficacy	Environmental	Social	Support	Valence
Economic	<u>0.818</u>					
Efficacy	0.376	<u>0.893</u>				
Environmental	0.554	0.451	<u>0.855</u>			
Social	0.525	0.404	0.766	<u>0.830</u>		
Support	0.242	0.355	0.246	0.254	<u>0.857</u>	
Valence	0.255	0.445	0.376	0.383	0.598	<u>0.892</u>

3.1.2 Measurement Model Results for Second Order

Similar procedures were conducted to assess the second order variables' reliability and validity. Table 3 shows the assessment of the measurement model for second order variables. It shows that all the criteria for the measurement model were achieved indicating that the model has acceptable reliability and validity.

Table 3. Reliability and Convergent Validity of Second Order Variables

Second order	First order	First order loading on second order	Cronbach's Alpha >0.70	Composite Reliability >0.70	Average Variance Extracted (AVE) >0.50
Organizational change	Principal Support	0.795	0.908	0.923	0.500
	Personal Valence	0.862			
	Self-Efficacy	0.747			
Innovative human capital	Training	0.891	0.893	0.915	0.574
	Tacit Knowledge	0.922			
Organizational sustainability	Economic	0.818	0.920	0.932	0.514
	Environmental	0.893			
	Social	0.875			

For the discriminant validity, Table 4 shows that the values underlined and bold are greater than the cross loading indicating that the second order variables have discriminant validity.

Table 4. Discriminant Validity of Second Order

	Organizational Change	Organizational Sustainability	Strategic Decision	Technological Capability
Organizational Change	<u>0.703</u>			
Organizational Sustainability	0.503	<u>0.716</u>		
Strategic Decision	0.477	0.648	<u>0.753</u>	
Technological Capability	0.462	0.606	0.600	<u>0.709</u>

After achieving all the criteria for assessing the measurement model for first and second order variables, Figure 2 presents the final measurement model of this study. Numbers between the items and the first order variables refer to the indicator loading (factor loading) while numbers between the first order and the second order variables refer to the loading of first order variables on second order variables. Further, the numbers inside the variables refer to the r-square.



Figure 2. Measurement Model

3.2 Inner Model Analysis

After the establishment of the goodness of the measurement model, assessing the structural model is conducted. Hair Jr et al. (2017) suggested that for a reflective model, the coefficient of the determinant (R-square), the predictive relevance (Q2) and path coefficient (β) must be examined. In the model where the second order constructs included, the explanatory power is 0.258 for the organizational sustainability and 0.267 for innovative human capital indicating that 25.8% and 26.7% of the variation in organizational sustainability and innovative human capital respectively can be explained by the second order variables. In the direct effect model of the first order variables, the coefficient determinant for organizational sustainability is 0.513 indicating that 51.3% of the variation in organizational sustainability can be explained by the first order variables.

The direct effect model of innovative human capital on organizational sustainability showed that the value of the coefficient of the determinant is 0.384 indicating that the innovative human capital can explain 38.4% of the variation in the organizational sustainability. In the mediating model of innovative human capital between the second order variables and organizational sustainability, the coefficient determinant increased to 0.472 for organizational sustainability and 0.281 for innovative human capital. This indicates the mediating model can explain 47.2% of the organizational sustainability and 28.1% in the innovative human capital. Table 5 present the results of R square.

Table 5. Coefficient of Determinant

Model	Dependent variables	
	Organizational sustainability	Innovative human capital
Direct effect of the second order	0.258	0.267
Direct effect of the first order	0.313	Nil
Direct effect of innovative human capital on organizational sustainability	0.384	Nil
Mediating effect model	0.472	0.281

Further, Table 6 shows the results of predictive relevance analysis. It shows that predictive relevance (Q^2) for organizational sustainability indirect effect of second order (0.119), direct effect model of the first order (0.127) and effect of innovative human capital on organizational sustainability (0.165) indicating that the variables are all greater than 0 and able to predict the organizational sustainability. The table also shows that the predictive relevance of the innovative human capital in the mediating effect model is 0.162 and in the direct effect model of second order variable is 0.216 and these values are greater than zero (0) supporting the notion that the variables are able to predict the innovative human capital.

Table 6. Predictive Relevance

Model	Dependent variables $Q^2 > 0$	
	Organizational sustainability	Innovative human capital
Direct effect of second order	0.119	0.161
Direct effect of the first order	0.127	Nil
Direct effect on innovative human capital on organizational sustainability	0.165	Nil
Mediating effect model	0.216	0.162

Then the path coefficient is examined. Hair Jr et al. (2017) suggested examining the significance level of each path (hypothesis) by conducting PLS Bootstrapping algorithm. The path coefficient was examined in this study for the direct effect model of the second order, the direct effect model of the first order, and the mediating effect of innovative human capital.

Figure 3 shows the direct effect of second order variables on organizational sustainability. It can be seen that the effect of organizational change on organizational sustainability and innovative human capital on organizational sustainability is significant. Whereas, the path coefficient of organizational change in innovative human capital was insignificant.

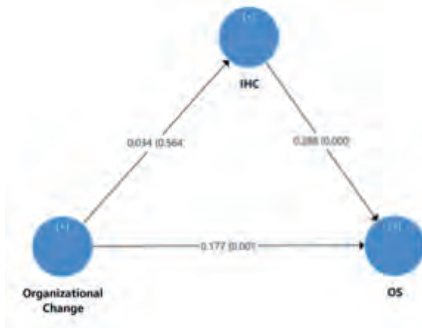


Figure 3. Direct Effect of Second Order Variables

For the path coefficient of the first order variables (sub-variables) on organizational sustainability, Figure 4 shows that the only significant positive relationship was explained by the effect of self-efficacy on organizational sustainability. The path coefficients of personal valence and principal support are not significant.



Figure 4. Direct Effect of First Order Variables on Organizational Sustainability

Therefore, Table 7 summarizes the result of this study’s hypotheses. The unexpected results are the inability to support the direct significant relationship between PV and OS ($\beta = 0.055, t=1.016, p >0.310$), PS and OS ($\beta = 0.027, t =0.594, p >0.552$), and OC and IHC ($\beta = 0.034, t=0.568, p >0.570$) and the indirect effect presented by the mediating role of IHC in the relationship between OC and OS ($\beta = 0.010, t=0.550, p >0.583$). The expected results are presented in the main relationship between OC and OS ($\beta = 0.173, t=3.315, p >0.001$), the first sub- relationship between SE and OS ($\beta = 0.150, t=3.228, p >0.001$) and IHC and OS ($\beta = 0.288, t=4.428, p >0.000$).

Table 7. Results of the Structural Inner Model

H	Path	β	Sfd	T Statistics	P Values	Supported
H1	Organizational Change -> Organizational Sustainability	0.173	0.052	3.315	0.001	Yes
H1a	Self-Efficacy -> Organizational Sustainability	0.150	0.047	3.228	0.001	Yes
H1b	Personal Valence -> Organizational Sustainability	0.055	0.054	1.016	0.310	No
H1c	Principal Support -> Organizational Sustainability	0.027	0.045	0.594	0.552	No
H2	Organizational Change -> Innovative Human Capital	0.034	0.060	0.568	0.570	No
H3	Innovative Human Capital -> Organizational Sustainability	0.288	0.065	4.428	0.000	Yes
H4	Organizational Change -> Innovative Human Capital -> Organizational Sustainability	0.010	0.018	0.550	0.583	No

4 Discussion and Conclusion

The current study achieved the objective by examining the effect of organizational change (OC) in the context of self-efficacy, personal valence, and principal support on organizational sustainability (OS). This study also achieved the second objective of examining the mediating role of innovative human capital (IHC) in the relationship between OC and OS. The results showed that OC in overall had a significant effect on OS. However, two out of three components of OC, which are personal valence and principal support are not significant predictors of organizational sustainability, while self-efficacy was the only dimension that found to be significantly associated with the organizational sustainability. Moreover, the result also showed that IHC is the variable with no mediating effect in the relationship between organizational change and organizational sustainability.

The results are unexpected since the researcher hypothesized a significant relationship between organizational change with its three dimensions and organizational sustainability, as well as a significant mediating impact of IHC in the relationship between OC and OS. However, the result of the impact of OC on OS was identical to the study hypothesis following the findings of the previous studies carried out by Darcy et al. (2014) and Todnem By (2005). Similarly, the result of the first dimension of OC (self-efficacy) and its impact on OS is similar to the results of studies by Bakker (2011) and Stajkovic & Luthans (1998) who claimed that there is a significant weighted average correlation between self-efficacy and work-related performance and competitive advantage. This fact is supported by the conclusion offered by (Poon et al., 2006) who found that self-efficacy is viewed as a personal trait of entrepreneurs and employees that impacts small-firm performance. Whereas, personal valence was found to be an insignificant predictor of SMEs sustainability

unlike to what was hypothesized by this study. However, the result is similar to the result of a study by Dali (2018) who found a weak relationship between compensation and organization performance. In another word, it is claimed that the effect of personal valence cannot be realized directly on the SMEs performance, which might have an indirect effect through other components. Likewise, principal support is also found to has an insignificant effect on OS. This result is a disagreement with the study hypothesis. While it is agreed with the result of Crawford (2005) who found there is no statistically significant relationship between senior management support and workplace performance. Thus, according to the results of the direct relationships of this study indicate that OC in overall has a significant effect on OS, at the same time the statistical test of OC dimensions indicates that only self-efficacy, individually, has a strong effect on the SMEs sustainability. As for the indirect relationship, there was no mediating effect of IHC in the relationship between OC and OS, in contrast to what this study hypnotized. This result, however, may be attributed to the fact that the innovative capacity of manufacturing SMEs in the Kurdistan region is weak in implementing SMEs required changes. According to the result of Chrisman et al. (2015), who found that the level of innovation capability varies according to the companies' nature, environment and governance with respect to the nature of the market (Chrisman et al., 2012; Zellweger, 2007). Linking to this study the weaken role of innovation capability as a mediator may come from the nature of this region which generate a competitive market that is satisfied with imitating other developed markets and business, as this region suffering the lack of management techniques in formulating its strategy and plans (Harmon et al., 2010).

The above discussion implies that the SMEs should pay more attention to organizational change in the context of self-efficacy, as self-efficacy could be the important first step to develops a sense of employees' readiness toward any changes which will result in achieving organizational sustainability. The current study bridges the gap in the literature by proposing a new model for the very first time and thereby contributes significantly to the body of knowledge by examining the OC and its dimensions on SMEs sustainability with the mediating effect of innovative human capital in the context of Kurdistan region, Iraq. The majority of the extant literature utilized models investigating the impact of organizational change on firms' performance, competitive advantage and survival (Al Shaar et al., 2015; Tims et al., 2014; Zhou, 1998), while, no studies have directly examined the relationship between organizational change with its three dimensions and organizational sustainability. In addition, current studies show that innovative human capital has not been studied as an influential variable in this relationship. It can also raise the awareness that OC in overall is significantly affected SMEs sustainability. The results of the study

are based on the data collected from senior executives of manufacturing SMEs so that they can be generalized to similar sectors. The future research can employ a longitudinal approach as this study employed as a cross-sectional research design which involved collecting data at one point of time. It can be conducted in other contexts such as in other sectors or countries which may provide more understanding about the relationship between organizational change and organizational sustainability. The future study can employ moderators on the link between OC and OS and even between IHC and OS which may explain the relationship better. It can also examine organizational change with different other dimensions which may have significant predictors on organizational sustainability.

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