

**The Effects of Transformational
Leadership on the Employees Change
Readiness: the Moderating Role of
the Incentive Schemes**

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Abstract:

Nowadays, the dynamic and turbulent environment creates new business strategies and consequently thousands – if not millions – of change projects have been launched all over the world which aim to reform and catch the new modern world. The main corner stone for a successful change is the human being. Actually, human nature always tends for stability and resists change. But the question is; is it an option? The answer is quite clear, “It is not”. Change is inevitable and key factors that affect human readiness for change are important to be investigated and studied. Transformational leadership is one of these factors that may cause change in individuals and social systems, helping in growing and shaping the future success of the company. Also, incentive schemes which describe a system of rewarding success and effort in the workplace may influence the relationship between the transformational leadership and the employees' readiness for change. Therefore, the objective of this research work is to study the effect of transformational leadership on employees' readiness for change and how the incentive scheme within organizations impacts the employees' readiness for change. The Egyptian Oil & Gas sector was selected to be the case study for this research due to the fact that there are massive change projects covering such sector in Egypt. Mixed methods research - quantitative and qualitative methods- is the applied methodology for conducting this research as it provides a better understanding of the research problem than either of each alone. The hypotheses test showed that transformational leadership and all of its components; individualized consideration, intellectual stimulation, inspirational motivation and idealized influence have a positive linear relationship with employee readiness for change. However, financial schemes only act as a moderator between transformational leadership and employee readiness for change but in a negative way, while the moral ones have no moderating effect on such relationship. The

interviews explained this matter by clarifying that the financial incentives in the Oil and Gas sector follow a strict quota system due to budget limitations and in turn, influence negatively the employees' perceptions of unfairness concerning financial incentives distribution policy. Such perceptions impact significantly on their confidence in their managers and consequently affect negatively their readiness for change. Along with the unfair financial incentive schemes, there is no clear scheme of moral incentives in their organizations and that is why it has no impact on the employees' readiness for change. Finally, a well-structured and more efficient financial and moral incentives scheme is recommended to be applied in order to strengthen the impact of the transformational leadership on the employees' readiness for change.

Keywords: *Transformational Leadership- Individualization consideration- Intellectual stimulation- Inspirational motivation - Idealized influence - Incentive schemes - Financial incentives - Moral incentives - Employees change readiness.*

1.Introduction

Organizational change is to shift the organization from one phase to another as change idea focuses on breaking down current structure to create a new one (Chonko, 2004). Change within organizations usually concerned about improvement, restructuring, and reengineering of business process (Bennett, 2001). Organizations change due to internal forces such as management inefficiency and external forces such as technological advancements, market volatility and global economic dynamics (Barnett and Carroll, 1995). This dynamic environment creates new business strategies and thousands – if not millions – of change projects have been launched all over the world on different scales from small firms to even countries which aim to reform and catch the new modern world.

Armenakis and Bedeian (1999) identified three main topics that can enable researchers to study change as a strategic tool to achieving drastic business moves and cope with new market dynamics, these topics are: change context, change process, and change criterion issues. Armenakis *et al.* (1999) added that change projects have always been considered from a macro perspective in other words from a system-oriented perspective (Judge *et al.* , 1999).

Despite the macro perspective of change projects, many researchers introduced the micro perspective of change and have stressed on the role of individuals to implement change (Armenakis *et al.*, 1993; Lau and Woodman, 1995; Greenhalgh *et al.*, 2004). Accordingly, “change in the individual organizational member’s behavior is at the core of organizational change” (Porras and Robertson, 1992).

Researchers also emphasized that many change projects fail because change leaders often underestimate the central role that individuals play in

the change process and stressed that individuals are not passive recipients within the change process but actors who usually interpret and react to what is happening in their business environments (Greenhalgh *et al.*, 2004; Hall and Hord, 1987; Isabella, 1990; Lowstedt, 1993).

Wide literature review is performed and showed that Transformational leadership is a key factor for stimulating employees' readiness for change. This has been emphasized by different researches where incentives are one of the important elements to motivate employees for contributing their best effort to create innovation, generate ideas and be an active member in change projects whether these incentives are financial or non-financial (Aktar *et al.*, 2012). They added that organizations must set the incentive system whether it is extrinsic or intrinsic carefully as it has a direct impact on performance and employee readiness to align with organization's goals.

However, questions like; "How transformational leadership impacts the degree of employees' readiness for change?" and "How incentive schemes affect the relation between transformational leadership and employees' readiness for change as moderator and to what extent?" need to be investigated and answered.

The objective of this research work is to answer these questions and study the effect of transformational leadership on employees' readiness for change and how the incentive scheme within organizations impacts the employees' readiness for change.

Different key elements within transformational leadership have been considered i.e.: Individualized Consideration, Intellectual Stimulation, Inspirational Motivation and Idealized Influence. While Incentive scheme as a moderator has been investigated considering two main elements financial

and moral incentives. A model has been generated and tested through a mixed methods research described in details within this research paper.

The Egyptian Oil and Gas sector was selected to be the case study for this research work due to the fact that there is a massive change projects covering all of the governmental and joint venture oil and gas companies operating in Egypt which mainly aim to modernize this sector. This modernization project is a part of Egypt strategic plan 2030 to reform its economy and transform Egypt to be an Energy Hub for Europe and neighbor countries.

2. Literature review

2.1 Transformational Leadership

According to Burns, (1978) who initially presented the idea of transforming leadership, it is a process in which "leaders and followers work cooperatively to be moved up to a higher level of morale and inspiration. Transforming leadership means generating notable changes in people's life and organizations since it reshapes perceptions and values, and changes expectations and objectives of employees. Therefore, it is mainly concentrating on the followers' needs and values. In other words, transformational leaders aim to satisfy the followers' higher needs, which, in turn leads to a positive relationship between leader and follower in terms of reciprocal and shared set of values and ethics (Burns, 1978).

Transforming leaders are idealized in the sense that they are working in favor of the team, organization and community. Afterwards, Bass (1985), extended the work of Burns (1978) by explaining the psychological mechanisms of transformational leadership and how it could be measured, as well as how it impacts the follower motivation and performance through their

idealized influence, intellectual stimulation, inspirational motivation and individualized consideration. Consequently, the followers can come up with the leaders' unique and distinctive ways to work and to adjust the work environment to support being successful. This concept was also developed by Bass and Avolio (1994) and had been very prominent over the last decades; they proposed that such innovative leadership style helps in improving the organizational effectiveness through challenging and motivating the entire organization. Recently, transformational leadership can be defined as a process of creating and enhancing a corporation between leaders and followers in order to reach a common vision, in accordance with shared values (McCloskey, 2010).

The result of transformational leadership is individual, group, and organizational achievements beyond expectations. It is built upon some innovative ideas of leadership and supposed to respond to the turbulent environment. Transformational theory defines leadership as broader than event-oriented exchanges between leaders and followers. It views leadership more generally as a process of leader-follower engagement in the context of the organization or community. This means that leaders and followers are bound together in a mutually inspiring partnership and thus focused on motivating each other (McCloskey, 2010).

2.2 Elements of Transformational Leadership

Transformational leadership encourages followers by granting individualized consideration, stimulating intellectually, motivating through inspiration, , and acting as a role model, for their needs and goals which introduces the main pillars of such leadership style (Hill, N.C., 2013; Bass and Avolio, 1994):

2.2.1 Individualized Consideration – the degree to which the leader acts as a mentor, showing support, empathy and challenge to their team members according to each one needs in order to enhance the irwill and aspirations for self -development and self- motivation. They keep on open communication with the followers and always listen to their concerns and needs. Also, this element includes the need for respect and celebrates each follower's contribution he/she makes to the team. Transformational leadership style gives high concern to providing individual feedback and recognition, as well as ensuring that each team member knows that his or her voice is valued in the organization.

2.2.2 Intellectual Stimulation – the degree to which the leader develops the team through taking risks and responding to followers' ideas. Here, leader can stimulate and encourage creativity and innovational abilities of the followers through sharing and thinking independently in the decision making process and identifying unique solutions for problems they may face. For such a leader, learning is so valuable concept and unpredicted situations are considered as good opportunities to learn through which the followers ask questions, think deeply and find out the most suitable means to accomplish their tasks. The idea behind such leadership style is to challenge the current organizational culture for the purpose of determining ways to improve the organizational practices and procedures. Through changing the established norms, the transformational leadership strengthens the followers' level of creativity, and fosters open-mindedness toward new avenues for learning.

2.2.3 Inspirational Motivation – the degree to which the leader sets a unique vision that inspiring to the followers. Leaders with inspirational motivation challenge followers with high expectations about future goals, and provide meaning for the current tasks.

Inspirational motivation of the leader is supported by his/her communication skills that make the vision clear and understandable. The followers are willing to exert more effort to carry out their delegated tasks and responsibilities appropriately as they are encouraged and optimistic about the future whereas their leaders believe in their distinctive abilities. Furthermore, those who follow such leadership style are aware that their entire team needs to be on the same level of passion and enthusiasm in order to ensure highest efficiency and productivity levels.

2.2.4 Idealized Influence – the transformational leader is supposed to have a charismatic personality and strong ethical beliefs to be considered as a role model for the followers who gains their respect and trust (Judge and Piccolo, 2004). Transformational leaders do not lead by predetermined commands; they lead by acting as an example and through their strong compliance to transformational leadership practices. They are able to gain the followers' trust and respect which in turn inspires them to show their best abilities. Miceski *et al.*, (2014) argued that charismatic leaders are considered as the critical reason behind the business success as it plays an important role in leading the employees to achieve mission, vision and the organizational goals.

2.3 Employee Readiness for Organizational Change

Change became in the last decade an inevitable business need for organizations that plans to sustain and compete in the market. Change became a tool that is used to expand organizations, solve business issues and assist in conquering challenges that face organizations due to fierce competition, mergers and acquisitions which generate new competitors. Adding to that the emergence of new technologies, emerging business fields

with their associated risks & opportunities and new management and leadership approaches (Madsen *et al.*, 2005).

Organizational change can be defined as shifting the organization from one state to another by disassembling the existing system to build a new one (Chonko, 2004). Barnett and Carrol (1995) described organizational change as a transformation process that is function in time which has the ability to transform the organization's state from one point to another. Accordingly, organizational change can be defined as organizational transformation. This transformation might vary in its magnitude whether it is small or large but all of which care about changing business processes reengineering or improvement (Bennett, 2001).

Organizational change projects are increasing dramatically and the need for such projects increased nowadays due to global economy downturns, globalization effect, skillful employees' shortage and the dramatic political changes across the globe. All of these factors urge top managers in this business era to embrace change and get more than aware of the necessity of continuous business transformation to ensure having competitive edge and sustain successful business (Rowden, 2001).

Susan *et al.* (2005) emphasized that readiness for change is not a rigid component within the organization system as it may differ due to the type of change, the external or internal conditions, and the distinctiveness of change agents and potential adopters. Such differences if not considered means that the organization has low readiness but behavioral science researches showed that the probability of a successful change project is significantly reduced if readiness at its lower levels.

Ebyet *al.* (2000) stated that in order to be ready for change or in other words have organizational readiness to change, Individual employees must be also ready for change. Bernerth (2004) confirmed that researches showed that employee readiness is a critical factor in the success of change projects or in other words transformational projects. Therefore, organizations and their employees shall be in constant state of readiness (Rowden, 2001).

Organizational change is usually interpreted to be messy and dramatic (Gleick, 1987; Abrahamson, 2000) as the transformation from the state “known” to “unknown” generates the feel of anxiety, ambiguity and threat. These feelings or perceptions are developed by the employees during change projects which might result to the feel of uneasiness to learn new tricks, tense and resist to the whole idea of change. Therefore, it is crucial to understand that employees are humans who have different socio-demographic characteristics, different levels of knowledge and experience and different motivational preferences added to that different values and attitudes (Ilgen and Pulakos, 1999). However, not taking all of these differences into consideration within the planning phase for change projects, failure will occur unquestionably. So the main concern is to recognize and consider employees behavior as Porras and Robertson (1992; p.724) stated: “change in the individual organizational member's behavior is at the core of organizational change”.

Tetenbaum (1998) and Cunningham *et al.* (2002) stressed on the fact that organizations have to consider employee readiness as a pivotal factor for a successful change project. In fact, Change is mainly dependent on employees as when organizations plans for changes, employees are the ones who are responsible to understand, embrace and implement this plan. So if

they are not ready for it, failure will take place no matter how the change is important or crucial for the organization.

Bernerth (2004) stated that “Readiness is more than understanding the change. Readiness is more than believing in the change. It is a collection of thoughts and intentions toward the specific change effort”. Therefore, readiness may be conceptualized as the belief, intention and attitude towards the degree of change required (Armenakis *et al.*, 1993; Rafferty and Simons, 2006; Susanto, 2008). Available literature confirmed this and showed that employee readiness is focused on employee attitudes, behaviors, and perceptions and beliefs which are dependent on employees experience, interest and expectations (Armenakis *et al.*, 1993; Ilgen and Pulakos, 1999; Bernerth, 2004).

According to Arnold *et al.* (1995:167) “Attitudes reflect a person’s tendency to feel, think or behave in a positive or negative manner towards the object of the attitude”. Eby *et al.* (2000); Martin (1998); and Kotter (1996) explained that attitudes and behavior are directly proportional to a change project; if positive the probability of success increase and vice versa. Volka *et al.*, (2003) argued that employee perception varies when exposed to be faced by change as employee may get pleased or irritated, excited or anxious. Therefore, employee readiness directly affects organizational change project objectives and hence needs to be evaluated carefully.

2.4 Incentive Schemes

Incentive Schemes are used to motivate, promote or encourage specific actions or behavior by a specific group of people during a defined period of time. They are mainly used in business management to motivate employees. In other words, they are management tools that essentially contribute to a firm's effectiveness by influencing individual or group behavior. All

businesses use different incentive schemes to encourage high levels of performance. Such schemes can be categorized into financial incentives and moral incentives (Ogutu, 2014).

2.4.1 Financial Incentives

Incentives whether it is financial, or moral are mainly set to encourage employees within organization through pushing their limits to higher levels of performance, boost their ability to develop business skills and balance between their self-interest and organization objectives (Al-Nsour, 2012).

According to Jadallah (1997), financial incentives are defined as all types of payment related to the increase of performance and productivity. Following expectancy theory of Vroom (1964), Cadsby *et al.*, (2007) and Trevor *et al.*, (2012) highlighted that incentives relate the organizations' goals to employee's prospects of enhancing their life standard which reflects directly on his/her performance. Cadsby *et al.*, (2007) showed that it is not necessarily that employees' interest gets aligned with organization goal and incentives role is to motivate employees and get them aligned with the organization ones.

Change projects specifically usually require dramatic moves and target challenging goals and hence financial incentives play a quite important role to motivate employees and get them aligned with change plans. But this is not always the case, as applying quota system for financial incentives - where employees are categorized qualitatively based on performance and bonuses partially or might totally deprived from their bonus- may not be the optimum approach to consider. Locke (2004) showed that "83% of companies with a pay-for-performance system said that their incentive plan was only somewhat successful or not working at all."Therefore, financial incentives play a key

role in achieving organizational change objectives through getting employees motivated and ready for drastic changes.

2.4.2 Moral Incentives

Moral incentives are those which related to the aspects of psychological needs and have no direct relationship with monetary values. They are mainly based on respect of a human being who has feelings, hopes and aspirations. Also, moral incentives can be considered as a set of motives aimed at achieving emotional and psychological needs for employees by treating them appropriately and getting rid of negative work environment through raising their spiritual enhancement (Al-Nsour, 2012) .If the employees behave as others expect them to, they may expect the respect of the others and enjoy a sense of acceptance and self-esteem. In contrast, if they behave unsuitably or act negligently, they may experience negative moral incentives in terms of unpleasant feelings of blame, shame or criticism (Johnson, 2005). Moreover, moral incentives are directly related to work environment of the firm, such as leadership styles, working conditions and involvement in decision making process. Consequently, positive moral incentives cause raise of employees' spirit such as job enrichment, holidays, health insurance, job security, sense of belonging, and generally, moral distinguishing. (Elumah, *et al.*,2016). Most authors agree that the value of moral incentives mostly has been undervalued and that is why much of the recent literature gives substantial consideration to such area (Mathauer and Imhoff, 2006).

3. Hypotheses Development

3.1The impact of transformational leadership on employee change readiness

One of the important techniques to influence employees' behavior towards their readiness of change is the transformational leadership (OregandBerson,2011; Bommer, *et al.*, 2005; Herrmann *et al.*, 2012).

Actually, the transformational leaders have the ability to set a positive vision about the change which deserves to be pursued by the followers. However, the mechanisms to enhance the impact of transformational leadership on the followers' readiness to change are still unclear as there are little practical indications for identifying such mechanisms (Seo *et al.*, 2012; Kark and Van Dijk, 2007). Actually, transformational leadership has been positively linked to employees change readiness as proved by Herrmann *et al.*, (2012). They obtained data from employees who were working in an organization experiencing an actual change progression. Results revealed that employees are more ready to changes especially in light of transformational leadership. Also, Herold *et al.*,(2008) examined the relationship between transformational leadership and followers' commitment to a certain change initiative as a function of the followers' personal impact of the changes. They found that transformational leadership is more strongly related to followers' change commitment, especially when the change had significant personal impact. In other studies, it is proved that transformational leadership negatively relates to employee cynicism toward change (CTC) and CTC climate, i.e. the followers' resistance towards the change can be critically reduced (DeCelles, *et al.*, 2013). As well, the study of Chou, (2015), provides an additional confirmation on the significant role of transformational leadership in influencing behavioral support of employees for organizational change. Moreover, Parry (2011) also argued that leadership and organizational change are interrelated together. Also, some studies are focusing on the indirect but positive relationship between transformational leadership and the followers' readiness for change as illustrated in studies conducted by Bono and Judge, (2003). They found a positive relationship between transformational leadership and followers' self-concordance in a

natural work context. In consistent with (Ghadi, *et al.*, 2013; Christian et al.,2011; Zhu, et al., 2009), the followers of the transformational leader are achieving greater engagement with their workin accordance with self-concept-based theory which impacts positively on their confidence to face any obstacles may occur during the change process (Schaufeli, *et al.*, 2002). Accordingly, the following hypothesis can be concluded;

H1: The transformational leadership has a positive impact on the employees' readiness for change

The following section presents the impact of each component of transformational leadership on the employee change readiness:

3.1.1 Individualized consideration and the employees' readiness for change

Individualized consideration means the consideration of each follower's individuality through which transformational leaders connect priorities of each one with the objectives of organizational development (Ogola *et al.*, 2017).Conger, (2014) focused on the role of individualized consideration in the followers readiness towards the change is through involving them into the transformation process of the organization. This needs to identify the followers' wishes, values and abilities in a proper manner to motivate them individually. Awareness of the followers' different needs, wishes, and values, helps in directing all of them towards supporting the followers' change readiness process (Conger, 2014). Also, through individualized consideration, transformational leaders can support the followers in managing their individual goals, and in turn developing their personal growth (Bass, 1999). Todo so, transformational leaders make sure that followers are fully motivated and ready to cope with any critical situation that may occur

during the change process (Herrmann *et al.*, 2012; Bommer *et al.*, 2005). Moreover, if changes are not well-planned or recognized on the individual level, they cannot be carried out successfully on the organizational level. Hence, individualized consideration plays an important role in the success of organizational changes and the followers' readiness to accept such changes (Van den Heuvel *et al.*, 2010; Kim *et al.*, 2010). Accordingly, the following hypothesis is proposed:

H1.1: The individualized consideration has a positive impact on the employees' readiness for change

3.1.2 Intellectual stimulation and the employees' readiness for change

Transformational leaders revise the organizational routines to encourage their followers towards creativity and innovativeness of solving problems, enhance their readiness towards change and to execute the organizational change appropriately (Jung *et al.*, 2003; Bass, 1999). Moreover, Jung *et al.*, (2003), clarified that there is a direct and positive relationship between transformational leadership and innovation-supporting organizational climate. Several indications support such relationship. First, transformational leaders are not satisfied with the desired performance acquired through the contractual agreements. They go beyond that by involving the followers' personal values into the collective identity of the organization. This means increase the followers' understanding of the desired outcomes, raise their performance expectations, and increase their willingness and readiness to accept the necessary organizational changes (Jung *et al.*, 2003; Conger and Kanungo, 1998). Furthermore, by sustaining an organizational environment that fosters the creative efforts of the employees and helps in the dispersion of learning and knowledge, transformational

leaders can significantly improve organizational creativity (Yukl, 2001) and in turn, the followers' readiness for any changes occurs in favor of their organization. Thus the following hypothesis is proposed:

H1.2: The intellectual stimulation has a positive impact on the employees' readiness for change

3.1.3 Inspirational motivation and the employees' readiness for change

Inspirational motivation occurs when transformational leaders clarify the anticipated and required future and illustrate how to achieve its goals. Therefore, transformational leaders can show the followers the necessity and the actual value of the planned change and motivate them to achieve such changes (Shamir *et al.*, 1993). They also create a positive vision of such change showing its benefits and the significant role it plays in the success of organizational changes (Faupel and Süß, 2018; Kim *et al.*, 2010; Woodman and Dewett, 2004). One way to influence employees' readiness of change is through their inspirational motivation which has been shown to affect their attitudes positively towards change (Bommer, *et al.*, 2005; Herrmann *et al.*, 2012). Lack of communicating the prospective change implementation and the inability to motivate the followers towards accepting such changes are cited as barriers. Leaders' inspirational motivation skills are demonstrated in actions and processes that enhance the followers' readiness towards change, further strengthening the relationship between their behaviors and the effectiveness in implementing change. Moreover, in order to cope with the continuous changes in technology, to accelerate decision making process and to improve the abilities of adapting changes, transformational leaders should not only plan, organize, and carry out work processes in complex organizations but also they have to motivate the employees to make them

ready for the change process. In conclusion, within the organizational change context, the leaders must create a work environment that supports the employee motivation to emphasize the followers' readiness for organizational change (Gilley, *et al.*, 2009). Accordingly, the following hypothesis is proposed;

H1.3: The inspirational motivation has a positive impact on the employees' readiness for change

3.1.4 Idealized influence and the employees' readiness for change

Charismatic transformational leader can facilitate team processes and outcomes in terms of their role in enhancing the followers' readiness for any required organizational change (Conger and Kanungo, 1998). Nohe *et al.*, (2013) proposed that there is a significant relationship between the followers' perceptions of charismatic leaders and their readiness, sequentially their commitment to change. Practically, the unsuccessful organizational changes are mainly due to; the failure of the employees to be ready for change (Kotter, 1996); the leaders fail to clarify the shared organizational vision to the employees, and the employees resistance of change. All of these reasons can be avoided through the idealized influence of the transformational leaders over the employees and also the organization as a whole (Weiand Baroto, 2016; Baum *et al.*, 2001). The main issue of organizational change is attracting all of the main members of the organization to accept the new vision, and working on achieving it in light of its uncertainty and higher risk. Thus the leader has to be able to carry out this turbulent process of change supported by complete trust and commitment of all organizational members (Creamer & Amaria, 2012). The charismatic leaders' influential acts such as communicating a strong vision can easily develop the followers' capabilities

to achieve it through the following aspects; a) understanding opportunities and constraints of the organization, b) keeping positive social relationships through respecting the followers' needs, and c) empowering them to implement the shared vision (Cardon *et al.*, 2005; Jacobsen and House, 2001; Conger *et al.*, 2000). Accordingly, the following hypothesis can be concluded

H1.4: The idealized influence has a positive impact on the employees' readiness for change

3.2 Incentives scheme influence as moderator between transformational leadership and employee readiness for change

According to Palmer (2012), Incentive systems specially the performance-based one leads employees to exert more effort and enhance their attitude in doing their job significantly. As employees, perform better when they are aware that they will be rewarded for their work. Lock *et al* (2008) emphasized that organizations cannot rely on employees skills only to perform in a satisfying manner unless there is an incentive system that stimulates and motivates them. Many researchers stressed on the idea that employee will exert their maximum efforts when they have a feeling or trust that their efforts will be rewarded by the management. (Aktar,*et al*, 2012). They also added that employees expect financial and non-financial incentives as a reward for their services and efforts. Yousaf *et al.*, (2014) stated that there are two types of positive incentives, financial and non-financial and may also be defined as extrinsic and intrinsic incentives. Luthans *et al.* (2000) categorized incentives as tangible and non-tangible. Luthans *et al.* (2000) added that that both tangible rewards such as incentives, bonuses, promotions, job security and intangible rewards like appreciation, positive

attitude from employer and job rotation shall be applied efficiently to boost performance and employees attitudes towards the organization. Accordingly, positive incentive scheme is mainly composed of financial incentives and moral incentives that directly impact employees' attitude towards their readiness for change. Both types of incentives play fundamental role in encouraging employees and get them align to organizations objectives, Yousaf *et al.* (2014). Therefore, the following hypothesis is proposed:

H2: Incentives scheme moderates the relationship between transformational leadership and employees' readiness for change.

3.2.1 Financial incentives scheme as a moderator between transformational leadership and employee readiness for change

Yousaf *et al.*(2014) illustrated different types of financial incentives such as bonuses, transportation allowances, medical coverage, life insurance and other benefits like paid vacations and discount cards. Financial incentives are ranked as the best tool to create motivation within other types of incentives as people need money to accomplish their goals and fulfill basic needs of life accordingly financial incentives motivate employees more than any other incentive (Rynes *et al.*, 2014). Bohlander *et al.* (2004) emphasized that, people who are wealthier, have more power in the community to those who have less money. That is the reason that money is often viewed as a sign of personal success and achievement. Bohlander *et al.* (2004) concluded that financial incentives are dominant in satisfying employees' non-financial needs such as power, position and belongingness to the organization and hence impact employees' readiness to achieve company goals. Shahet *al.*(2017) stated that in any organization, employees show their skills and offer their capabilities as an exchange for financial rewards. Hence robust

financial incentives system have a direct influence on employee performance, attitude and readiness for change. Wruck (2000) stressed that financial incentives can occupy a key role in motivating change because they are supposed to defeat organizational inertia and resistance to change. Therefore, it is beneficial to measure the impact of financial incentives on employees' readiness for change. Accordingly, the following hypothesis is generated:

H2.1: Financial incentives scheme moderates the relationship between transformational leadership and employees' readiness for change

3.2.2 Moral incentives scheme as a moderator between transformational leadership and employee readiness for change

Although the significant role that the transformational leadership plays in influencing the followers' performance and their readiness for change, the impact of such role is of little value if the employees are not well-motivated to exert mental and physical effort in their work. However, they will only exert such efforts if they believe that their individual interests are consistent with those of the company. Consequently the company can make a mutual investment in their well-being in terms of reasonable moral compensation system which will impact positively on their readiness for any unexpected change may take place (Maiga and Jacobs, 2003). Moral rewards involve giving praise or positive feedback for the followers work. (Ogutu, 2014) emphasized that praising people morally for their work leads to greater integration between the influence of transformational leadership and the followers' task interest and performance which enhance the motivation for accomplishing work or for achieving the required performance standards. Also, Perry *et al.*(2006) emphasized that financial incentives are not always the key factor for employees' readiness to perform or in other words to

change. Nelson *et al.*(2003) added that intrinsic (moral) factors i.e. recognition and admiring are considered keys for enhancing employees' performance and readiness for change. According to this moral incentive influence on transformational leadership and readiness for change shall be investigated and the following hypothesis is generated:

H2.2: Moral incentives scheme moderates the relationship between transformational leadership and employees' readiness for change.

4. Objectives of the study

There are two main objectives of this study;

4.1 To study the impact of transformational leadership on the employees' readiness for change

This paper attempts to present a comprehensive picture of how the transformational leadership and its main components (Individualized Consideration, Intellectual Stimulation, Inspirational Motivation, and Idealized Influence) can influence employees' readiness for changes in their organizations through the detailed literature review presented in this study. Through presenting each component of transformational leadership, hypotheses are formulated and analyzed in details in the discussions, realizing that each of these components is considered as an influential factor on the employees' readiness for change.

4.2 To study the moderating impact of incentive schemes on the relationship between the transformational leadership and the employees' readiness for change.

The impact of incentive schemes involves both; the financial and the moral incentives. Actually, the lack of the appropriate incentives may negatively affect the employees' performance and consequently weaken their

productivity at work which decreases the chances of attaining the promising goals of the institution (Palmer, 2012). Incentives are considered as the most important factors that motivate employees to exert more efforts and directing their capabilities towards achieving the organizational goals which may be managing the change process in an efficient way (Gana and Bababe, 2011). Accordingly, the conceptual framework of the study can be illustrated as follows:

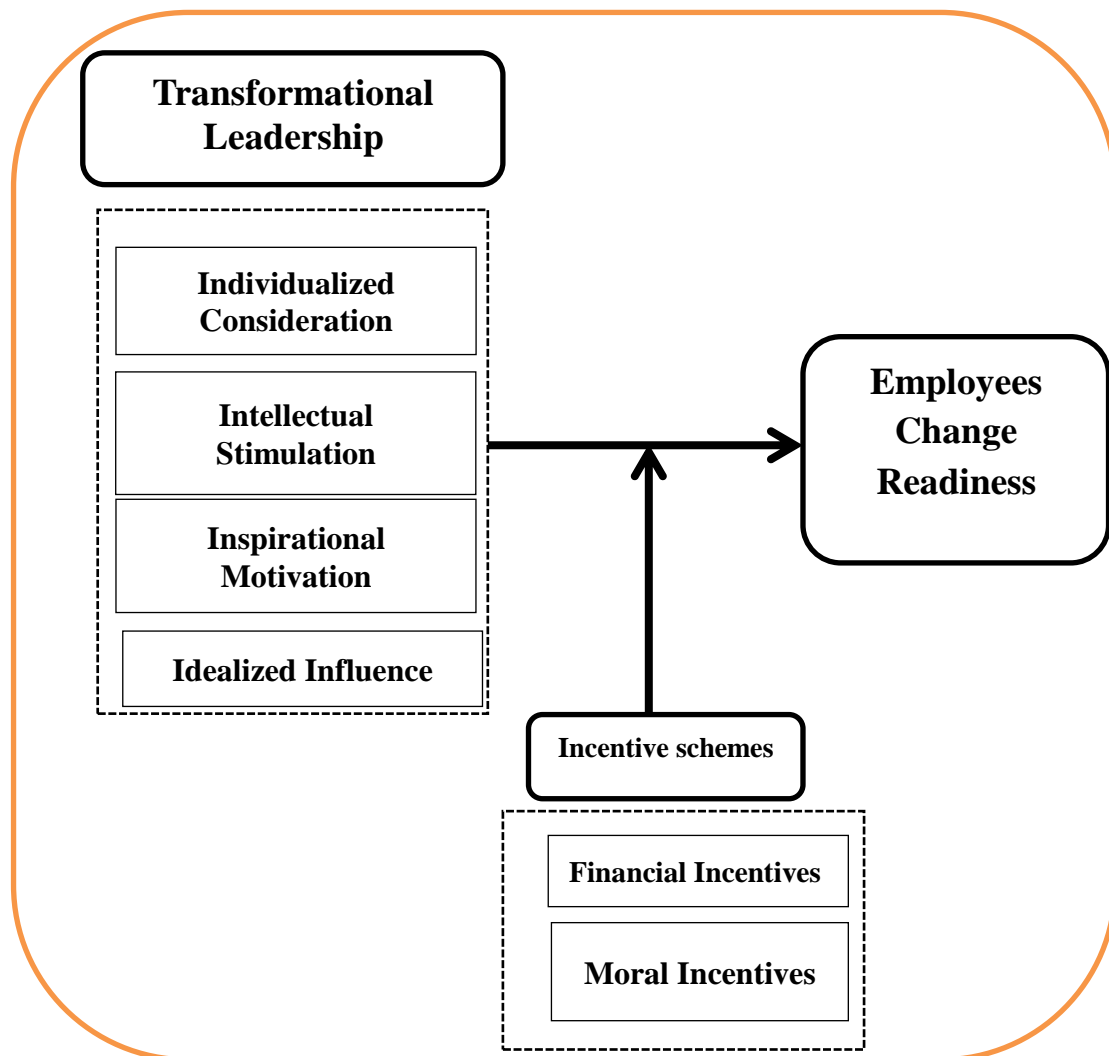


Figure (1): The Conceptual Framework of Research

5. Methodology

5.1 Instrument development and validation

A survey questionnaire is designed to study the impact made by the transformational leadership on employees' readiness for change. Thus the instrument measures four components of transformational leadership which are; individualized consideration, intellectual stimulation, inspirational motivation, and idealized influence. In addition to the employees' readiness for change and the incentives schemes in terms of financial or moral incentives so as to identify the moderating impact of incentive schemes on the employees' readiness for change. The respondents are asked to rate each item on a five-point Likert scale, ranging from (5) strongly agree to (1) strongly disagree with regard to different statements that measured the previous variables. It is 52-item questionnaire¹ which is designed based on the research conceptual framework to collect data from the Oil and Gas companies included in the sample. The questionnaire represents 3 sections; section (1) includes the transformational leadership statements with its main components. Section (2) includes the statements of the employees' readiness for change. Section (3) includes the statements of the financial and moral incentives scheme.

5.2 Sampling and data collection

Simple random sampling was applied to select the respondents from middle managerial level of the organizations at the Oil and Gas sector which approximately counts (11300) middle managers across the sector¹. Middle managers level is selected because it includes the main players of any change project as they are the main link between top management and employees.

¹ - See Appendix (A)

¹ - <http://www.petroleum.gov.eg>

Furthermore, they are usually responsible to conduct the vision of top management and to align their subordinates with organizations' strategic objectives. A total of 350 questionnaires are distributed and 283 valid ones are collected with a response rate of 81% approximately. Also, interviews are conducted with 30 participants of the middle-management level.

5.3 Method used

Mixed methods research is applied here in order to combine both; the qualitative and quantitative approaches for more in- depth understanding of the proposed conceptual framework of the study. Mixed method here is considered "multiphase" as the researchers collect and analyze data via quantitative approach then, qualitative one is applied in order to explain the results from the participants views. *Mixed methods design*: explanatory sequential design is applied as the quantitative data collection and its analysis takes place first, followed by qualitative data collection and analysis. (Johnson et al., 2007).

6. Statistical Analysis

The aim of this section is to test the hypotheses of this research, which are:

H1: The transformational leadership has a positive impact on the employees' readiness for change

H1.1: The individualized consideration has a positive impact on the employees' readiness for change

H1.2: The intellectual stimulation has a positive impact on the employees' readiness for change

H1.3: The inspirational motivation has a positive impact on the employees' readiness for change

H1.4: The idealized influence has a positive impact on the employees' readiness for change

H2: Incentive schemes moderates the relationship between transformational Leadership and Employees Change Readiness

H2.1: Financial incentives scheme moderates the relationship between transformational Leadership and employees' readiness for change

H2.2: Moral incentive schemes moderates the relationship between transformational leadership and the employees' readiness for change

6.1 Data Analysis Techniques

- **Building indicators:** Each indicator is calculated by adding the scores of the questions which are related to certain indicator, and then this sum is divided by the number of related questions. These created indicators are used in testing the hypotheses. The created indicators are

- Transformation leadership.
 - Individualization consideration
 - Intellectual stimulation
 - Inspirational Motivation
 - Idealized influence
 - Incentive schemes
 - Financial incentives
 - Moral incentives
 - Employees change readiness
- **Alpha- Cronbachis** used to determine the extent of the scale reliability and self-validity. For reliability of the variables, Cronbach's Alpha test was used to evaluate the stability of the questionnaire and reliability of the measures. Cronbach's alpha takes values between 0 and 1. The nearer the Cronbach's alpha to 1, the better the stability of the

questionnaire is. Precisely, we say that the questionnaire is stable if Cronbach's alpha scores are greater than 0.5.

- **Correlation Analysis:** correlation analysis aims to know the direction and the strength of a relation between each two variables. In this study Pearson correlation coefficient is used to measure the correlation between two ordinal variables. It assesses how well the relationship between these two variables can be described using a monotonic function. A perfect spearman correlation of +1 or -1` occurs when each of the variables is perfect correlated to the other. When the coefficient is positive the relation is direct while when it's negative then there is an inverse relation. It takes values between -1 and 1. The relation is weak if absolute value of coefficient between 0 and 0,3, moderate if it is between 0.3 and 0.6 and strong if it is greater than 0.6. We decide on whether there is a significant relation at 95% confident or not if the p-value is less than 0.05.
- **Stepwise regression analysis** is used to examine which item of the transformation leadership items have significant effect on employees change readiness, and to asses which of these items has the highest effect on employees change readiness.
- **SEM (AMOS) Analysis of a Moment Structures** is used as a technique for the Structural Equation Modeling which is used to estimate the proposed framework.

6.2 Reliability and intrinsic validity for research dimensions

The following table presents the result of Cronbach's alpha measure and average inter-item correlation.

Table (1) Reliability and intrinsic validity of study variables

Item	Number of Questions	Reliability measure	Intrinsic validity
• Inspirational Motivation	6	0.74	0.521
• Individualization consideration	5	0.885	0.607
• Intellectual stimulation	5	0.87	0.573
• Idealized influence	5	0.853	0.537
• Transformation leadership	Average of 4 structures	0.94	0.525
• Incentive schemes	Average of 2 structures	0.836	0.4715
• Financial incentives	8	0.847	0.509
• Moral incentives	9	0.825	0.434
• Employees change readiness	14	0.804	0.527

From the above table it is clear that the survey is reliable as the Cronbach's alpha and average inter-item correlation coefficient for most of the items greater than 0.5. Hence the researchers concluded that construct validity for the survey is acceptable.

6.3 Summary of Descriptive statistics for independent, moderator, and dependent variables

Table (2) Summary of Descriptive statistics

	Mean	Std. Deviation	C.V
Inspirational Motivation	2.992	.686	22.91%
Individualization consideration	3.126	.791	25.29%
Intellectual stimulation	2.846	.851	29.91%
Idealized influence	3.059	.947	30.94%

Table (2) Cont'd

	Mean	Std. Deviation	C.V
Transformation leadership.	3.006	.712	23.68%
Incentive schemes	3.228	0.6865	21.26%
Financial incentives	3.264	.738	22.62%
Moral incentives	3.192	.635	19.89%
Employees change readiness	3.978	.402	10.11%

According to descriptive statistics, it can be concluded that:-

- The two most homogeneous dimensions are: employees change readiness, and moral incentives, with a coefficient of variation (10.11%), and (19.89%) respectively.
- The two most heterogeneous dimensions are: intellectual stimulation, and idealized influence, with a coefficient of variation (29.91%), and (30.94%) respectively.
- The mean for all dimensions are approximately between 3 and 4 indicates that on average the respondents agree and neutrally agree to the questions that measured these dimensions.

6.4 Correlation analysis

The correlation between the study's variables are presented in the following table:

Table (3) Correlation analysis

	Individualized consideration	Intellectual stimulation	Inspirational motivation	Idealized influence	Transformational leadership	Financial incentives	Moral incentives	Employees change readiness	Incentive schemes
Individualized consideration	1	0.639	0.711	0.788	0.893	0.343	0.32	0.556	0.3315
		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Intellectual stimulation	0.639	1	0.517	0.715	0.824	0.533	0.336	0.253	0.4345
	0.00		0.00	0.00	0.00	0.00	0.00	0.01	0.01
Inspirational motivation	0.711	0.517	1	0.667	0.836	0.261	0.378	0.236	0.3195
	0.00	0.00		0.00	0.00	0.01	0.00	0.01	0.01
Idealized influence	0.788	0.715	0.667	1	0.92	0.548	0.469	0.64	0.5085
	0.00	0.00	0.00		0.00	0.00	0.00	0.00	0.00

Table (3) Cont'd

	Individualized consideration	Intellectual stimulation	Inspirational motivation	Idealized influence	Transformational leadership	Financial incentives	Moral incentives	Employees change readiness	Incentive schemes
Transformational leadership	0.893	0.824	0.836	0.92	1	0.491	0.44	0.488	0.4655
	0.00	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Financial incentives	0.343	0.533	0.261	0.548	0.491	1	0.707	0.534	0.8535
	0.000	0.000	0.006	0.000	0.000		0.000	0.000	0.000
Moral incentives	0.32	0.336	0.378	0.469	0.44	0.707	1	0.447	0.8535
	0.001	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Employees change readiness	0.556	0.253	0.236	0.64	0.488	0.534	0.447	1	0.4905
	0.00	0.01	0.01	0.00	0.00	0.00	0.00		0.00
Incentive schemes	0.3315	0.4345	0.3195	0.5085	0.4655	0.8535	0.8535	0.4905	1
	0.000	0.008	0.014	0.000	0.000	0.000	0.000	0.00	

From the above table, it is clear that there is significant positive correlation between all variables of the study, this with confident 95% as the p-value for all correlation coefficients less than 0.05, also the correlation coefficients range approximately between 0.3 to 0.9. These relationships between variables are ranging from weak to strong relationship.

6.5 Testing the research hypotheses

- **Testing the hypotheses of the relationship between the transformational leadership and employees change readiness**

To answer the following hypotheses one stepwise regression analysis is used:

H1: The transformational leadership has a positive impact on the employees' readiness for change

H1.1: The individualized consideration has a positive impact on the employees' readiness for change

H1.2: The intellectual stimulation has a positive impact on the employees' readiness for change

H1.3: The inspirational motivation has a positive impact on the employees' readiness for change

H1.4: The idealized influence has a positive impact on the employees' readiness for change

In order to test these hypotheses, we need to estimate the following model

$$\mathbf{Transformational\ leadership} = \beta_0 + \beta_1 IC + \beta_2 IS + \beta_3 IM + \beta_4 II$$

Where:

- IC is the individualized consideration
- IS intellectual stimulation
- IM is inspirational motivation
- II is idealized influence.

Regression Model Summary

As shown in Table (4), using a stepwise multiple regression on the collected sample resulted in the following:

- All the predictors are significant in the proposed theoretical model.
- R value of 0.783 indicates the degree of correlation between the employees change readiness and the dimensions of transformation leadership
- R^2 value of 0.614 indicates the fit of the model. The proposed model could infer 61.4% of the total variance in employees change readiness
- Adjusted R^2 is 0.599 with 0.015 less than R^2 value, which indicates a low redundancy in choosing the predictors of the model.

Table(4)Summary of the stepwise regression model

R	R Square	Adjusted R Square	Std. Error of the Estimate
.783	.614	.599	.25483

ANOVA Test Results

- ANOVA results are summarized in table (5). According to the listed results, the variance analysis can be explained as follows:
- The p-value equals 0.000 which is significant value (less than 0.05). This means that the proposed model predicts the dependent variable better than the intercept-only model (model with no predictors).
- The F-value of 40.891 supports that the model explained variance is greater than the unexplained variance.

Table (5) Results of ANOVA test

	Sum of Squares	df	Mean Square	F	Sig.
Regression	10.621	4	2.655	40.891	.000
Residual	6.688	103	.065		
Total	17.310	107			

Coefficients Summary

Table (6) summarizes the included variables listed with their significance and coefficients. The VIF value shows no evidence of collinearity, this is because all VIF for all variables are less than 10. The significance of the included variables is less than 0.05 which indicates that the 4 dimensions of transformational leadership have significant influence on the employees change readiness, this with confidence level (95%). According to the following table we can conclude that:

- *Idealized influence* has significant impact on employees change readiness, this with confidence level 95%. The p value is 0.000 (less than 0.05) and β coefficient equals (0.389), which means accepting the alternative hypothesis H1.1. Thus, there is a positive linear relationship between *idealized influence* and employees change readiness. When the *idealized influence* changes by one unit, the *employees change readiness* changes by (0.389) units given that all other independent variables are constant.
- *Intellectual stimulation* has significant impact on employees change readiness, this with confidence level (95%). The p value is 0.000 (less than 0.05) and β coefficient equals (0.229), which means accepting the alternative hypothesis H1.2. Thus, there is a positive linear relationship

between *intellectual stimulation* and employees change readiness. When the *intellectual stimulation* changes by one unit, the *employees change readiness* changes by (0.229) units given that all other independent variables are constant.

- *Inspirational motivation* has significant impact on employees change readiness, this with confidence level (95%). The p value is 0.000 (less than 0.05) and β coefficient equals (0.219), which means accepting the alternative hypothesis H1.3. Thus, there is a positive linear relationship between *inspirational motivation* and employees change readiness. When the *inspirational motivation* changes by one unit, the *employees change readiness* changes by (0.219) units given that all other independent variables are constant.
- *Individualized consideration* has significant impact on employees change readiness, this with confidence level 95%. The p value is 0.000 (less than 0.05) and β coefficient equals 0.264, which means accepting the alternative hypothesis H1.4. Thus, there is a positive linear relationship between *individualized consideration* and employees change readiness. When the *individualized consideration* changes by one unit, the *employees change readiness* changes by 0.264 units given that all other independent variables are constant.
- The dimension with the highest effect is the *idealized influence* while the lowest effect is the *inspirational motivation*.

Table (6) coefficient summary

	Unstandardized Coefficients		Standardized Coefficients	T	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	3.334	.120		27.740	.000		
Idealized influence	.389	.048	.915	8.025	.000	.288	3.466
Intellectual stimulation	.229	.045	.450	5.060	.000	.474	2.109
inspirational Motivation	.219	.042	.463	5.144	.000	.464	2.156
Individualized consideration	.264	.065	.451	4.089	.000	.309	3.240

Depending on the above analysis with confidence level 95%, the following hypotheses are accepted:

H1: The transformational leadership has a positive impact on the employees' readiness for change

H1.1: The individualized consideration has a positive impact on the employees' readiness for change

H1.2: The intellectual stimulation has a positive impact on the employees' readiness for change

H1.3: The inspirational motivation has a positive impact on the employees' readiness for change

H1.4: The idealized influence has a positive impact on the employees' readiness for change

Consequently, the estimated model can be explained as follows;

Transformational leadership

$$= 3.334 + 0.264 * IC + 0.229 * IS + 0.219 * IM + 0.389 * II$$

- **Testing the moderating effect of incentive schemes**

To test the following hypotheses of the moderating effect of the incentive schemes with their components; financial and morale incentives, structural equations model by using AMOS can be applied:

H2: Incentive schemes moderates the relationship between transformational Leadership and Employees Change Readiness

H2.1: Financial incentive schemes moderates the relationship between transformational Leadership and Employees Change Readiness

H2.2: Moral incentive schemes moderates the relationship between Transformational Leadership and the Employees Change Readiness

To test the hypothesis “**H2: Incentive schemes moderates the relationship between transformational Leadership and Employees Change Readiness**”. The following path analysis diagram of the moderating effect is shown in figure (2), and then the regression weights (estimates) of the proposed model are illustrated in table (7).

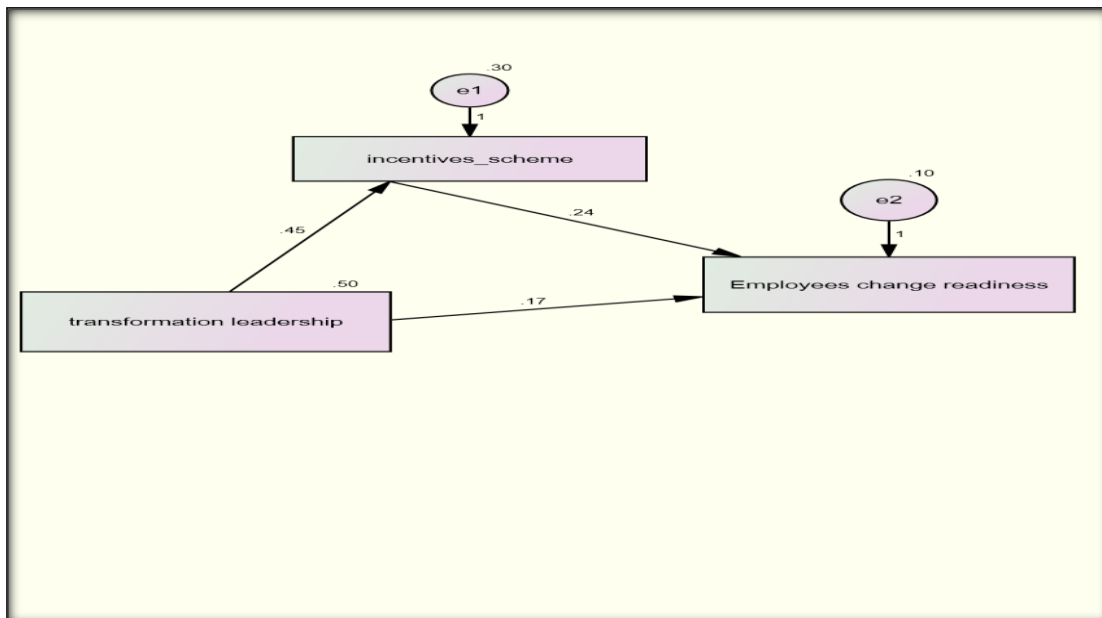


Figure (2): Path analysis diagram of incentive schemes as a moderator

Table (7):Regression Weights: (Group number 1 - Default model) Part I

	Estimate	S.E.	C.R.	P
Incentives scheme ← Transformational leadership	.451	.074	6.058	***
Employees change readiness ← Transformational leadership	.165	.051	3.234	.001
Employees change readiness ← Incentive schemes	.245	.057	4.272	***

From table (7) we can conclude that there is a significant relation between transformational leadership and incentive schemes, as well there is a significant relation between incentive schemes and employees change readiness. The direct effect of transformational leadership on employees change readiness is 0.165 while the indirect effect is $0.245 \times 0.451 = 0.1104$. This means that incentive schemes have significant effect on the relation between transformational leadership and employees change readiness. However, such effect is an inverse one. In other words, applying more incentive schemes weakens the relation between transformational leadership and employees change readiness. This means that *incentive schemes moderates the relationship between transformational Leadership and Employees Change Readiness*. The following path analysis diagram of the moderating effect of the incentive schemes' components; financial and moral ones is shown in figure (3), and then the regression weights (estimates) of the proposed model's illustrated in table (8).

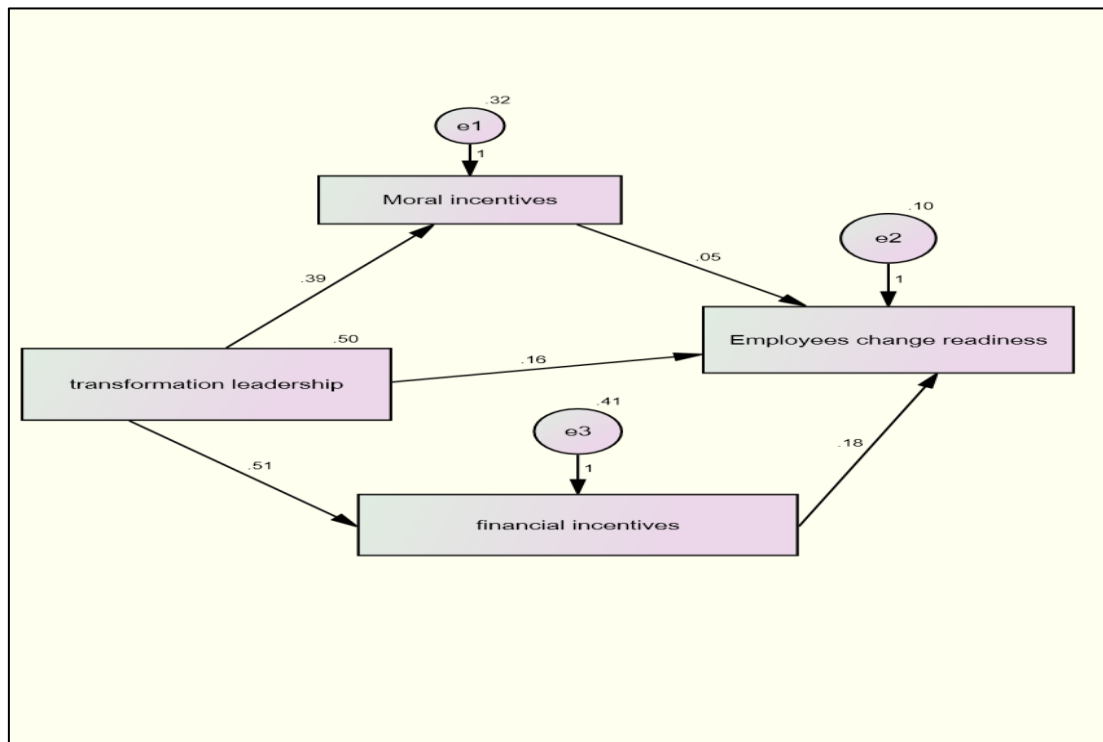


Figure (3): Path analysis diagram of financial and moral incentives as moderators

Table (8): Regression Weights: (Group number 1 - Default model) Part II

	Estimate	S.E	C.R	P
Moral incentives ← Transformational leadership	.392	.077	5.064	***
Financial incentives ← Transformational leadership	.509	.087	5.826	***
Employees change readiness ← Financial incentives	.181	.049	3.721	***
Employees change readiness ← Moral incentives	.055	.055	1.003	.316
Employees change readiness ← Transformational leadership	.162	.055	2.962	.003

From table (8) we can conclude the following:

- There is a significant relation between transformational leadership and financial incentives; as well there is significant relation financial incentives and employees change readiness. The direct effect of transformational leadership on employees change readiness is 0.162 while the indirect effect is $0.509 \times 0.181 = 0.092$. This means that financial incentives have an inverse significant effect on the relation between transformational leadership and employees change readiness. This means that increasing financial incentives weaken the relation between transformational leadership and employees change readiness. This means that *financial incentive schemes moderates the relationship between transformational Leadership and Employees Change Readiness.*

- There is significant relation between transformational leader ship and moral incentives, but there is no significant relation between moral incentives and employees change readiness. This means that moral incentives have no significant effect on the relation between transformational leadership and employees change readiness. This mean that *Moral incentive schemes does not moderate the relationship between Transformational Leadership and the Employees Change Readiness*

Depending on the above analysis, the following hypotheses are accepted:

H2: Incentive schemes moderates the relationship between transformational Leadership and Employees Change Readiness

H2.1: Financial incentive schemes moderates the relationship between transformational leadership and employees change Readiness

However, H2.2 which stated that: Moral incentive schemes moderate the relationship between transformational leadership and the employees change readiness is rejected.

Goodness of fit

Table (9) The goodness of fit Indices for the estimated SEM

Chi-square	53.61
Degree of freedom	1
Level of significance	0.000
Normed chi-square	1.505
NFI	0.95
RFI	0.999
IFI	0.897
TLI	0.942
CFI	0.962

From table (9) the researchers concluded that all the goodness of fit measures of the model show that all indicators are at the acceptable limits, especially NFI (Normed Fit Index), RFI (Relative Fit Index), IFI (Incremental Fit Index), TLI (Tucker Lewis Index), and CFI (Comparative Fit Index) as they are close to one, and normed Chi-square with cut-off values are less than 5. The fit measures indicate to the goodness of fit of the proposed framework and its ability to measure the relationship between transformational leadership and employees' change readiness in the existence of the moderator; incentive schemes.

7. The Study Findings

7.1 Quantitative Phase Findings

In order to enable the researchers to analyze the results and then, drive the conclusion logically, the results can be summarized as follows:

- Transformational Leadership has a positive linear relationship with Employee Readiness for Change. (H1 accepted)
- The main determinants of transformational leadership which are; Individualized Consideration, Intellectual Stimulation, Inspirational

Motivation, Idealized Influence have positive linear relationship with Employee Readiness for Change. (H1.1, H1.2, H1.3, H1.4 accepted).

- It is clear from the statistical analysis that “Idealized Influence” (H1.4) has the highest influence within the transformational leadership elements.
- Incentive scheme (Financial & Moral) acts as a moderator between Transformational Leadership and Employee readiness for change however, it negatively moderates this relationship. (H2 accepted)
- Only Financial Incentives moderates the relationship between Transformational Leadership and Employee readiness for change but in a negative way. (H2.1 accepted)
- Moral Incentives have no impact on the relationship between Transformational Leadership and Employee readiness for change. (H2.2 rejected)

The summary of the results showed that hypotheses H1, H1.1, H1.2, H1.3 and H1.4 are supported as assumed, while hypotheses H2 and H2.1 are supported, however, in a negative way whereas H2.2 is rejected.

7.2 Qualitative Phase Findings

To better understand the previous results, the interviews with 25 participants are conducted. These interviews provide more evidence for the findings and more confidence in the study.

Three principal axes have been considered during the interviews:

- Investigate the key characteristics that shall exist in managers to get the employee ready to change and participate positively in change projects.
- Investigate employees’ perception concerning the degree of fairness in financial incentives distribution among employees to clarify the responses received on certain questions.

- Investigate the scheme of moral incentives within the industry selected for the study. Three main results have been concluded from the interview:

Firstly, all interviewees emphasized on the importance of transformational leadership as an essential factor that enables them to accept and embrace the idea of change. They were asked during the interview to spot out the key factor or character that shall exist in their managers to make them aligned with change projects objectives, most of them stressed that their alignment and commitment to change increase as long as their leader has a charismatic character and a rigor ethical standards. One participant stated "*I fthe transformational leadership characteristics are there in my manager, this will make me feel confident and secured when working with such type of leaders*". Another participant stated "*I may feel trust, admiration, loyalty, and respect toward the transformational leader*". This actually is aligned with the research result (H1.4) as previously discussed about the degree of charismatic character and ethical standards.

Secondly, Interviewees stated that financial incentives follow a strict quota system that shall be followed due to budget limitations. This in return clarifies the responds concerning fairness of distributing bonuses on employees despite the fact that it might not be a matter of fairness, it is a matter of perception as usually companies set definite criteria for financial incentives distribution that follows level of seniority, years of experience, years of services, performance, clients feedback ... etc.

The perception of unfairness -which in most cases might be a false feeling- impact significantly employees' confidence in their managers and consequently affects negatively their feeling of leadership and consequently their readiness to change. This consequently clarifies logically the results of

(H2) and (H2.1) which stated that the financial incentive schemes are considered as a moderator but in a negative way.

Thirdly, during the interviews, most of the participants stated that "*moral incentives are required but never replace the fair financial incentives*". They also emphasized that moral incentive is mainly linked from their point of view to the personnel qualities and the culture of the organization and there is no clear scheme of moral incentives in their organizations. This was surprising to the researchers as this directly spot the light on the efficiency of the moral incentive schemes within this industrial sector and that it needs a lot of redesign to influence employees' readiness for change. Accordingly, this clarifies the results accompanied with hypothesis (H2.2) which is rejected as proved that the moral incentives cannot be consider as a moderator for the relationship between the transformational leadership and the employees readiness for change.

7.3 Connecting the Quantitative and Qualitative Findings

Overall, the qualitative component sheds additional light on the quantitative findings by providing further understanding of the positive relationship between the transformational leadership and the employees' readiness for change. Moreover, the qualitative findings explain the negative impact of the financial incentive scheme as a moderator of this relationship whereas the moral incentives have no impact on the relationship between transformational leadership and the readiness for change.

8. Discussion

The results of the mixed methods analysis indicate that the independent variables; the transformational leadership and its components; Individualized Consideration, Intellectual Simulation, Inspirational Motivation, Idealized Influence have a significant impact in determining the readiness of

employees for change. (The β coefficient implies that the idealized influences component affects up to 39 per cent as a determinant of employee readiness for change which is supported by the interviews conducted subsequently). This indicates to the significance of transformational leadership characteristics as they provide the employees with more healthy work environment and better interactive relationships with the followers.

These results are also supported by the literature of (McCloskey, 2010) who emphasized on the mutual inspiring partnership between the leaders and the employees and created by the transformational leadership. This means that the leader supports the employees to work in healthy work environment and the targets are clearly defined. Consequently, it helps the employees to work effectively and accept the challenges with common mission and shared values. Also, it is consistent with Judge and Piccolo (2004) who emphasized on the charismatic personality and strong ethical beliefs to be considered as a role model for the followers who reciprocally gains their respect and trust.

In contrast with Czaja, J. (2015), sometimes transformational leaders may be considered as narcissistic ones who succeed through their belief in themselves rather than a belief in others. This may have a negative effect on the followers' trust in the appropriateness and benefits of the change and impact inversely on their readiness to change and simply push them to cease participation. In other words, if the followers feel that the leaders have hidden agenda or any sign of manipulation, their trust will be destroyed which is necessary for this style of leadership to be effective. Also, transformational leadership requires close and frequent communication with followers to maintain a personal touch and continually reinforce the company's vision. However, failure to communicate regularly and closely with the followers may lead them to lose interest and may erode the positive impact of transformational leadership on their readiness for change.

The moderation of incentive schemes is also very important issue to be focused on as it gives more directions to the organizations towards improving the employees' readiness for change. Consequently, the transformational leader can utilize them to give far better performance in such area. Actually, the study proved that the incentive schemes had an inverse impact on the relationship between the transformational leadership and employees' readiness for change. That was consistent with Kuznetsova, (2015) who proved that the incentive schemes have a negative impact on the employees because of the failure in the schemes design and the biased ways of assessing the actual employees' performance. Moreover, she recognized the negative attitude of the staff towards the incentive schemes due to the inequality of their application. Such inequality can harm the followers' performance as all of them know that managers and employees are doing the same jobs but receiving different levels of financial incentives. Moreover, in existence of unfair financial incentive schemes, the moral ones have little value as the followers feel unfairness and therefore moral motivations will not work with them. Furthermore, Grant and Singh, (2011) stated that the main concern about the financial incentives is about their negative impact in terms of unintentional consequences such as unethical behavior, frustration, disappointment and high turnover rate. In other words, when strong financial incentives are in place, many followers may cross the ethical boundaries to get them, persuading themselves that the ends justify the means.

On the contrary to (Yousaf *et al.*, 2014; Palmer, 2012; Lock *et al.*, 2008; Aktar *et al.*, 2012) who emphasized on the significant impact of incentive systems (financial and non-financial) specially the performance-based ones. They argued that these incentives schemes motivate the followers to exert more effort and enhance their attitude in doing their jobs significantly and accepting any required changes. They concluded that both types of incentives

play central role in encouraging employees and get them align to organizations objectives. Also, as Rynes *et al.*,(2004) concluded that financial incentive is the most important motivator that increases employee performance and productivity by 42% to 49% according to their survey.

9. Conclusion

The above study emphasizes the importance of transformational leadership and also identifies various aspects of it; Individualized Consideration, Intellectual Stimulation, Inspirational Motivation & Idealized Influence. The implications involve significant impact of transformational leadership and its components on the employees' readiness for change as the employees emphasized that qualities of their leaders are crucial to boost their readiness for change.

Concerning the moderating factor; the incentive scheme with its two elements financial and moral, it was concluded that financial incentives moderate the relation between transformational leadership and employee's readiness for change but in a negative way. This unexpected result is justified after interviewing the respondents and concluded that employees' perception of unfairness – due to the current quota and unequal pay systems– impact significantly on their confidence towards their managers and their readiness for change is affected inversely. Consequently, unstructured moral incentive scheme has no impact on the employees' readiness for change because it is accompanied with applying unfair financial incentive scheme which erode the returns of the moral incentives.

10. Recommendations

According to the above conclusions, and referring to the change projects across the Egyptian Oil & Gas sector, it is recommended to generalize the application of transformational leadership concept for all of the

projects' heads who intend to go in a major change in their projects. Such change may take place intentionally to develop the business operations or unintentionally because of business environment reasons such as the occurrence of uninsured catastrophes, economic downturn, strategic alliances, etc.....Transformational leadership can highly support the change projects success especially in the tough times, and to get the followers headed in the same direction. Also, a well-structured and more efficient financial and moral incentives scheme is recommended to be applied in the Egyptian Oil and Gas sector. So it can strengthen the impact of the transformational leadership on the employees' readiness for change which eventually results in a successful change project. Such scheme has to provide the followers with opportunities to make choices, to develop work and to build meaningful interpersonal connections instead of the current rigid quota system which impact negatively on the employees' readiness for change.

11. Limitations of the study and suggestions for further research

Some specific features of this study have to be carefully considered when interpreting the results. First, this study focused on a specific sector; Oil and Gas sector in Egypt, which means that the sample well reflects the characteristics of the companies of such sector only. However, findings may change when other sectors in Egypt are considered which may result in different findings and conclusions. A second limitation regards the composition of the sample: data pertain to middle management level only which may affect the findings of this study. Last but not least, further researches may be conducted after changing the current incentive schemes in the Oil and Gas sector to determine whether new incentive schemes have a significant impact on the employees' readiness for change.

References:

- Abrahamson, E. (2000), "Change without Pain", *Harvard business review*, 78(4): 75-79.
- Al-Nsour, M.(2012), "Relationship between Incentives and Organizational Performance for Employees in the Jordanian Universities", *International Journal of Business and Management*,7(1):78-89.
- Armenakis, A. A., andBedeian, A. G. (1999), "Organizational change: A review of theory and research in the 1990s." *Journal of Management*, 25(3): 293-315.
- Armenakis, A. A., Harris, S. G., andMossholder, K. W. (1993), "Creating readiness for organizational change." *Human Relations*, 46(6): 681-703.
- Arnold, J., Cooper, C., and Robertson, I. (1995)."Work Psychology: Understanding Human Behavior in the Workplace", *Pitaman Publishing*, London.
- Barnett, W.P. and Carroll, G.R. (1995), "Modelling Internal Organizational Change", *Annual Review of Sociology*, 21(1):217.
- Bass, B. M,(1985), "Leadership and Performance", *N.Y. Free Press*.
- Bass, B.M. andAvolio, B.J. (Eds.). (1994). "Improving organizational effectiveness through transformational leadership". *Thousand Oaks, CA: Sage Publications*.
- Baum, J. R.; Locke, E. A., and Smith, K. G. (2001). "A multidimensional model of venture growth", *Academy of management journal*, 44(2): 292-303.
- Bennett J. L. (2001), "Change Hygiene", *HR Magazine*, 46(8): 149.
- Bernerth, J. (2004), "Expanding our understanding of the change message", *Human Resource Development*, 1:36-52.
- Bohlander, G. and S.Snell, (2004), "Managing Human Resources", *Mason: Thompson*, 13th ed.
- Bommer, W., Rich, G., and Rubin, R. (2005)."Changing attitudes about change: Longitudinal effects of transformational leader behavior on employee cynicism about organizational change".*Journal of Organizational Behavior*, 26(7): 733–753.

Bono, J. E.; and Judge, T. A. (2003). "Self-concordance at work: Toward understanding the motivational effects of transformational leaders". *Academy of Management Journal*, 46(5): 554–571.

Burns, J. M. (1978). "Leadership". New York: *Harper and Row*.

Cadsby, C. B.; Song, F. and Tapon, F. (2007), "Sorting and incentive effects of pay for performance: An experimental investigation", *Academy of Management Journal*, 50(2): 387– 405.

Cardon, M. S.; Zietsma, C.; Saporito, P.; Matherne, B. P., and Davis, C. (2005). "A tale of passion: New insights into entrepreneurship from a parenthood metaphor". *Journal of Business Venturing*, 20: 23–45.

Chonko, L.B. (2004), "Organizational readiness for change, individual fear of change, and sales manager performance: an empirical investigation", *Journal of Personal Selling and Sales Management*, 24(1): 7-17.

Chou, P. (2015). "Transformational leadership and employee's behavioral support for organizational change" *Journal of Management and Administrative Sciences Review*, 3(3): 825–838.

Christian, M. S., Garza, A. S., and Slaughter, J. E. (2011). "Work engagement: A quantitative review and test of its relations with task and contextual performance". *Personnel Psychology*, 64(1): 89–136.

Conger, J. A. (2014). "Addressing the organizational barriers to developing global leadership talent". *Organizational Dynamic*, 43: 198-204.

Conger, J. A., and Kanungo, R. N. (1998), "Charismatic leadership in organizations", *Sage Publications*.

Conger, J. A.; Kanungo, R. N. and Menon, S. T. (2000). "Charismatic leadership and follower effects". *Journal of Organizational Behavior*, 21:747–767.

Creamer, W. P. and Amaria, P. (2012), "The Effect of Business Transformation and Innovation Economics on Sustainable Corporate Competitive Advantage", *Research in Business and Economics Journal*, 6(1).

Cunningham, C. E.; Woodward, C. A.; Shannon, H. S., and MacIntosh, J. (2002), "Readiness for organizational change: A longitudinal study of

workplace, psychological and behavioral correlates”, *Journal of Occupational and Organizational Psychology*, 75:377–392.

Czaja, J. (2015) “The Trouble with Transformational Leadership”.*Demand Media*. Retrieved from <http://smallbusiness.chron.com/trouble-transformational-leadership-21793.html>

DeCelles, K. A.; Tesluk, P. E.; and Taxman, F. S. (2013). "A field investigation of multilevel cynicism toward change". *Organization Science*, 24(1): 154–171.

Eby, L.T.; Adams, D. M.; Russel, J. E. A.; and Gaby, S. H. (2000), “Perceptions of organizational readiness for change: Factors related to employees’ reactions to the implementation of team-based selling”, *Human Relations*, 53 (3): 419-442.

Elumah, L., Olaniyi I., Shobayo, P. (2016). "The Impact of Financial and Moral Incentives on Organizational Performance: A Study of Nigerian Universities". *Arabian Journal of Business and Management Review*, 6:255.

Faupel, S. and Süß S. (2018). "The Effect of Transformational Leadership on Employees during Organizational Change – An Empirical Analysis", *Journal of Change Management*, 627–659.

Gana, A. B. and F. B. Bababe (2011), "The Effects of Motivation on Workers Performance (a case study of Maiduguri Flour Mill Ltd., Nigeria.)", *Continental J. Social Sciences*, 4(2): 8 –11.

Ghadi, Y. M.; Fernando, M. and Caputi, P. (2013). "Transformational leadership and work engagement: The mediating effect of meaning in work". *Leadership & Organization Development Journal*, 34(6):532–550.

Gilley, A.; Gilley, J. W. and McMillan, H. S.(2009). "Organizational Change: Motivation, Communication, and Leadership Effectiveness", *Performance improvement quarterly*, International Society for Performance Improvement, 21(4):75–94.

Gleick, J. (1987), "Chaos: Making a New Science", *Sphere Book Ltd*, London.

Grant, A. and Singh J. (2011). "The Problem with Financial Incentives — and What to Do About It", *Knowledge @Wharton*. Retrieved from:

<http://knowledge.wharton.upenn.edu/article/the-problem-with-financial-incentives-and-what-to-do-about-it/>

Greenhalgh, T.; Robert, G.; Macfarlane, F.; Bate, P.; Kyriakidou, O. (2004), "Diffusion of innovations in service organizations: Systematic review and recommendations." *Milbank Quarterly*, 82(4): 581-629.

Hall, G. E., and Hord, S. M. (1987). "Change in schools: Facilitating the process". New York, NY: State University of New York Press.

Herold, D., Fedor, D., Caldwell, S., & Liu, Y. (2008). "The effects of transformational and change leadership on employees' commitment to a change: A multilevel study". *Journal of Applied Psychology*, 93 (2): 346–357.

Herrmann, D.; Felfe, J.; Hardt, J. (2012). "Transformational leadership and commitment to change: Stressors and resources as relevant context factors". *German Journal of Work and Organizational Psychology*, 56(2): 70–86.

Hill, N.C., (2013). "Four components of the transformational leadership style". Retrieved from: <http://passionforfreshideas.com/personalgrowth/components-transformational-leadership-style/>

Ilgén, D.R., and Pulakos, E.D. (1999), "Employee performance in today's organizations". In D. R. Ilgen, and E.D. Pulakos (Eds.) *The changing nature of performance: Implications for staffing, motivation, and development*: 1-8. San Francisco: Jossey-Boss.

Isabella, L. A. (1990), "Evolving interpretations as a change unfolds: How managers construe key organizational events." *The Academy of Management Journal*, 33(1): 7-41.

Jacobsen, C., and House, R. J. (2001). "Dynamics of charismatic leadership: A process theory, simulation model, and tests". *The Leadership Quarterly*, 12: 75–112.

Jadallah, M. (1997), "The Impact of Incentives in Raising the Efficiency of Workers". *Management Development*, 56(51): 34-46.

Johnson, P. M. (2005). "A Glossary of Political Economy Terms". Retrieved from: <http://www.auburn.edu/~johnspm/gloss/incentive>.

- Johnson, R. B.; Onwuegbuzie, A. J.; and Turner, L. A. (2007). "Toward a definition of mixed methods research". *Journal of Mixed Methods Research*, 1(2): 112-133.
- Judge, T. A., Thoresen, C. J., Pucik, V., & Welbourne, T. M. (1999), "Managerial coping with organizational change: A dispositional perspective." *Journal of Applied Psychology*, 84(1): 107-122.
- Judge, T. and Piccolo, R. (2004). "Transformational and transactional leadership: A meta-analytic test of their relative validity". *Journal of Applied Psychology*, 89(5): 755–768.
- Jung, D., Chow, C., and Wu, A. (2003). "The role of transformational leadership in enhancing organizational innovation: Hypotheses and some preliminary findings". *The Leadership Quarterly*, 14(4): 525–544.
- Kark, R., & Van Dijk, D. (2007). "Motivation to lead, motivation to follow: The role of the self-regulatory focus in leadership processes". *Academy of Management Review*, 32(2): 500–528.
- Kim, T. G.; Hornung, S.; Rousseau, D. M. (2010). "Change-supportive employee behavior: Antecedents and the moderating role of time". *Journal of Management*, 37(6): 1664–1693.
- Kotter, J. P. (1996), "Leading change." Boston, MA: *Harvard Business School Press*.
- Kotter, J. P., and Schlesinger, L. A. (1979), "Choosing strategies for change" *Harvard Business Review*, 57(2), 106-114.
- Kotter, J.P. (1996), "Leading Change", *Harvard Business School Press*, Boston.
- Kuznetsova, A. (2015). "The impact of a 'Financial Incentive Program on Employee Performance: The HRC Helsinki case".
- Lau, C. M., and Woodman, R. W. (1995), "Understanding organizational change: A schematic perspective." *Academy of Management Journal*, 38(2):537-554.
- Line, R. (2005), "The structure and function of attitudes towards organizational change", *Human Resource Development Review*, 4: 8-32.

- Locke, E. A. (2004), "Linking goals to monetary incentives". *Academy of Management Executive*, 18(4):130–133.
- Locke, H. S. and T. S. Braver (2008), "Motivational Influences on Cognitive Control: Behavior, Brain Activation, and Individual Differences". *Cogn. Affect. Behav. Neurosci.* 8(1):99-112.
- Lowstedt, J. (1993), "Organizing frameworks in emerging organizations: A cognitive approach to the analysis of change." *Human Relations*, 46(4): 501-526.
- Luthans, K.(2000) "Recognition: A Powerful, but often Overlooked, Leadership Tool to Improve Employee Performance", *The Journal of Leadership Studies*, 7, (1): 32-39.
- Maiga, A. S and Jacobs, F. A., (2003). "The effects of benchmarking and incentives on organizational performance: a test of two-way interaction, 11, *Advances in Management Accounting*, Published online: 09 Mar 2015: 85-107.
- Martin, M.M. (1998), "Trust Leadership", *Journal of Leadership and Organizational Studies*, 5(3): 41-49.
- Mathauer , I. and Imhoff , I. (2006). "Health worker motivation in Africa: the role of non-financial incentives and human resource management tools". *Human Resources for Health*, 4, 24.
- McCloskey, M. W. (2010). "What is transformational leadership?" Retrieved from:
<http://people.bethel.edu/~pferris/otcommon/TransformationalLeadership.pdf>
- Miceski, T.;Nikoloski, K.;Stojovska, N. (2014), "Charismatic leadership as major source of competitive advantage for small and medium enterprises", Paper presented at the *International Conference on SMEs Development and Innovation: Building Competitive Future of South-Eastern Europe*:545-550.
- Shah ,N.;Irani, Z.; Sharif, A. M. (2017) "Big data in an HR context: Exploring organizational change readiness", *Journal of Business Research*, 70: 366–378.
- Nelson, D.L. and Quick, J.C. (2003), "Organizational Behaviour: Foundation, Realities and Challenges" (4th ed.), Australia: *Thomson South-Western*.

Nohe, C.;Michaelis, B.;Menges, J. I.; Zhang, Z., and Sonntag, K. (2013)."Charisma and organizational change: A multilevel study of perceived charisma, commitment to change, and team performance". *The Leadership Quarterly*, 24, 378–389.

Ogola, M. G. O.; Sikalieh, D.; Linge, T. K., (2017)."The Influence of Individualized Consideration Leadership Behaviour on Employee Performance in Small and Medium Enterprises in Kenya", *International Journal of Business and Social Science*,8(2):163-173.

Ogutu, W. K., (2014), "Perception of the influence of incentives on employee job performance in the ministry of education in Kenya", *Published master of business administration*, university of Nairobi, Kenya.

Oreg, S., andBerson, Y. (2011)."Leadership and employees' reactions to change: The role of leaders' personal attributes and transformational leadership style". *Personnel Psychology*, 64(3): 627-659.

Palmer, W. (2012),"Incentive and Disincentive: Will They Affect Performance."

Parry, K.W. (2011), "Leadership and Organization Theory", In: Hughes, M. (2015). Leading changes: Why transformation explanations fail, *Leadership*: 1-21.

Perry, J. L., D. Mesch (2011),"Motivating Employee in New Governance Era: The Performance Paradigm Revisited".

Perry, J.L., Mesch, D., &Paarlberg, L. (2006) 'Motivating Employees in a New Governance Era: the Performance Paradigm Revisited', *Public Administration Review*, 66: 505-514.

Porras, J. I., and Robertson, P. J. (1992), "Organizational development: Theory, practice, and research. In M. D. Dunnetteand L. M. Hough (Eds.)," *Handbook of industrial & organizational psychology* (2nd ed., 3: 719–822). Palo Alto, CA: Consulting Psychologists Press.

Rafferty, A. E., and Simons, R. H. (2006)."An examination of the antecedents of readiness for fine-tuning and corporate transformation changes". *Journal of Business and Psychology*, 20, 325–350.

Rowden, R.W. (2001), "The learning organization and strategic change", *S.A.M. Advanced Management Journal*, 66(3):11-24.

Rynes, S.; Gerhart, B.; and Minette K. (2004), "The importance of pay in employee underestimated in boosting the organizational motivation: Discrepancy between what people say and what they do", *Human Resource Management*, 43(4): 381-394.

Yousaf, S.; Latif ,M.;Aslam S. and Saddiqui, A. (2014), "Impact of Financial and non-Financial Rewards on Employee Motivation", *Middle-East Journal of Scientific Research*, 21 (10), 1776-1786.

Schaufeli, W. B.;Salanova, M.; González-Romá, V.;and Bakker, A. B. (2002)."The measurement of engagement and burnout: A Two sample confirmatory factor analytic approach,*Journal of HappinessStudies*, 3:71–92.

Seo, M. G.; Taylor, M. S.; Hill, N. S.; Zhang, X., Tesluk, P. E., andLorinkova, N. M. (2012). "The role of affect and leadership during organizational change".*Personnel Psychology*, 65(1): 121–165.

Aktar, S.;Sachu ,M. K.; Emran, M. (2012)," The Impact of Rewards on Employee Performance in Commercial Banks of Bangladesh: An Empirical Study", *IOSR Journal of Business and Management*, 6(2): 9-15.

Shah, N.;Irani, Z.; and Shah, S. (2009), "Readiness for Organizational Change: The Impact of Employees Affective and Individual Commitment", *International Journal of Human Resources Management*.

Shamir, B.; House, R. J.;and Arthur, M. B. (1993)."The motivational effects of charismatic leadership: A self-concept based theory". *Organization Science*, 4(4), 577–594.

Susan R. Madsen, Duane Miller and Cameron John.(2005), "Readiness for Organizational Change" *Western Academy of Management*.

Susanto, A. B. (2008). "Organizational readiness for change: A case study on change readiness in a manufacturing company in Indonesia". *International Journal of Management Perspectives*, 2: 50–61.

Tetenbaum, T. J. (1998). "Shifting paradigms: From Newton to chaos".*Organizational Dynamics*, 26: 21–32.

- Trevor, C., Reilly, G., & Gerhart, B. (2012), "Reconsidering pay dispersion's effect on the performance of interdependent work: Reconciling sorting and pay inequality", *Academy of Management Journal*, 55(3): 585–610.
- Vakola, M.;Tsaousis, I.;and Nikolaou, I. (2003), "The role of emotional intelligence and personality variables on attitudes towards organizational change", *Journal of Managerial Psychology*, 19: 88-110.
- Van den Heuvel, M.; Demerouti, E.; Bakker, A. B.; and Schaufeli, W. B. (2010)."Personal resources and work engagement in the face of change". In J. Houdmont,& S. Leka (Eds.), *Contemporary occupational health psychology: Global perspectives on research and practice*: 124–150. Oxford, UK: Wiley-Blackwell.
- Vroom, V. H. (1964), "Work and motivation", New York: Wiley.
- Wei, N. R. and Baroto, M. B.(2016). "Relationship of Charismatic Leadership and Organizational Change on Business Transformation among Malaysia Small and Medium Enterprises (SMES)".*International Journal of Innovation and Business Strategy (IJIBS)*, 6(2), 10-26.
- Woodman, R. W., and Dewett, T. (2004)."Organizationally relevant journeys in individual change".In M. S. Poole, and A. H. Van De Ven (Eds.), *Handbook of organizational change and innovation*, 32–49. Oxford, UK: Oxford University Press.
- Wruck, K. H. (2000), "Compensation, incentive, and organizational change: Ideas and evidence from theory and practice. In M. Beer & N. Nohria (Eds.), *Breaking the code of change*" *Harvard Business School Press*, Boston :269-305.
- Yukl, G. (2001). "Leadership in organizations". Upper Saddle River, NJ: Prentice-Hall.
- Zhu, W., Avolio, B. J., and Walumbwa, F. O. (2009)."Moderating role of follower characteristics with transformational leadership and follower work engagement".*Group and Organization Management*, 34(5): 590–619.