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Mediating Role Of Employees' Motivation In The Relationship Of HRM Practices And Transformational Leadership With Organizational Commitment Of Employees In The Pharmaceutical Companies Of Pakistan

SUMMARY OF THE DOCTORAL (PHD) DISSERTATION

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1. Brief Summary of the PhD Dissertation

It is evident that the economic crisis have affected all economies around the globe, in one or the other way. Organizations are striving to achieve better performance by increasing the motivation level and commitment of their employees, and by retaining a competent pool of employees (Lee & Chang, 2008, Andrew & Sofian, 2011). Employees can be good contributors to organizational success if they are motivated and have a higher commitment towards their organization. Considering the situation, effective Human Resource Management Practices (HRMP) enable firms to validate their survival by bringing synergy between the employees' interests and organizational interests. These approaches can help in diminishing the existing restrictions to compete better in the volatile corporate world.

It is also true that the importance of leadership cannot be ignored as an abundance of resources only, cannot guarantee the success of an organization. It is the presence of an appropriate leadership style that can serve to bring organizational success (Wang et al., 2014). Leadership defines the relationship of a leader with the followers in a way that the leader influences the attitudes and actions of the followers with the purpose to accomplish the settled goals (Lo et al., 2010), giving opportunities for expansion of the firm and paving ways for being profitable (Ben-Oz and Greve, 2015). Due to the global economic turmoil, the need for finding the right leadership style is more intense and crucial today than it was before (Priest and Gass, 2017) and that is why, leadership styles and strategies are important topics in the business world (Day et al., 2014).

Being a developing country, Pakistan is having a high degree of transition in terms of organizational structures and practices. In the prevalence of such a dynamic environment, there is a lack of sufficient research that can assist in shaping scientific, social, and economic policies. With an intention to make significant contributions, this doctoral dissertation aims to investigate the mediating impact of employees' motivation on the relationship of HR practices comprising of compensation, promotion and performance evaluation, and transformational leadership with the organizational commitment of sales representatives in the pharmaceutical companies of Pakistan. After a thorough review of the existing literature, it was found that little attention is paid to these areas in a developing country like Pakistan. By filling the existing research gap, and making an addition to the existing body of literature, the findings of the current study can be claimed instrumental. The study, being backed by two theories; Herzberg Two-Factor Theory and Social Exchange Theory, make significant theoretical contributions. Furthermore, the findings of this investigation also make noteworthy managerial implications in the industry and the country context of Pakistan.

The investigation is carried out in the pharmaceutical sector of Pakistan only. There are multiple reasons for choosing this sector. Literature presents that no such study has been carried out in the sector. Another reason for choosing this industry is its dynamic nature and significant contributions to the national economy. Furthermore, an integrated approach of the variables in a single model is used which is another addition to the novelty of the study. An attempt to resolve the black-box phenomenon is also a new concept of the study i.e. it highlights the mechanism through which the independent variables (HR practices and transformational leadership) affects the dependent variable (organizational commitment) by investigating the mediation effects of employees' motivation.

An extensive literature review led to the development of a set of seven hypotheses of the study. To test the hypotheses of the study and to find answers to the research questions of this investigation, a quantitative research approach was used. In this regard, primary data was collected through an online survey that was developed by using Google-Form tool. A total of 950 web-based questionnaires were distributed among the sales representatives of different pharmaceutical companies through emails and social media applications like WhatsApp and Facebook. Out of 950 questionnaires, only 327 responses were received that were complete and fit for analysis. A series of steps were followed during the data analysis. Descriptive statistics provided data summarization to illustrate the demographic characteristics of the participants. Along with this, correlations among the chosen variables were described by performing Pearson correlation coefficient analysis. Consequently, Exploratory Factor Analysis (EFA) was performed for factor reduction. Similarly, Confirmatory Factor Analysis (CFA) was conducted to purify the instrument items by examining reliability and validity. Reliability was evaluated by using Cronbach's Alpha while validity was confirmed through convergent and discriminant validity. After verification of the overall model-fit through a set of seven goodness-of-fit indices, Structural Equation Modeling (SEM) was performed to test the hypotheses of the study.

This dissertation has been successful in answering all the research questions and empirically testing all the hypotheses of the study by encapsulating a detailed statistical procedure. The empirical results presented that both of the predictors (HRMP and TL) significantly influence OC. It is also empirically demonstrated that HRMP and TL have strong association with the employees' motivation. The findings also showed that employees' motivation can engender organizational commitment among the sales representatives of various pharmaceutical companies. Lastly, it was found that the employees' motivation partially mediates the relationship of HRMP and TL with OC, thus exploring the mechanism through which HRMP and TL can improve OC of employees. Based on concrete empirical findings, it can be concluded that this dissertation expands the existing body of literature, and carries solid theoretical and practical implications. Furthermore, the dissertation holds a series of new scientific results.

2. Motivation and Problem Statement

Organizational commitment of employees is critical for organizational success, especially in the current global business environment characterized by intense competition, rapid innovation, demographic changes, and transitional economies. Organizations need committed employees who are willing to go the extra mile to achieve organizational goals and objectives, and safeguard the firms from additional costs of recurring recruiting initiatives. Human Resource Management Practices (HRMP), Transformational Leadership, and Employee Motivation play a significant role in enhancing employee commitment towards the organization. Effective HRMP and TL can create a positive work environment, foster employees' motivation and engagement, and ultimately lead to higher levels of organizational commitment. In today's fast changing business environment, focusing on these approaches can ensure committed workforce which is inevitable for firms to adapt to changes, innovate, and remain competitive (Ahmad et al., 2019, Keskes et al., 2018, Korir and Kipkebut, 2016). It is evident that Pakistan's economy is gradually transitioning from agriculture-based-economy to a semi-industrial economy. Along with the advancements in existing industries, the statistics show the emergence of new industries (Pakistan Bureau of Statistics, 2021, January 04). Jobs are getting complex and competition is becoming more intense. Consequently, organizations are facing the associated challenges like higher turnover rate, absenteeism, and lower individuals' productivity and performance. To overcome such challenges,

organisations must evaluate their HRMP and leadership approaches to improve organizational commitment of individuals by bringing synergy between employees' needs and organizational goals, and coping appropriately with the wider organizational expansion, diversification and competition (Budhwar and Debrah, 2001, Naeem et al., 2019, Paracha et al., 2012, Schuler, 1992). In this regard, the current study aims to investigate the mediating effect of employee motivation on the relationship of HRMP and TL with Organizational commitment of employees (sales representative) in the pharmaceutical industry of Pakistan.

The current investigation can be justified on the basis of numerous grounds. Studies concerning HRMP and its role in improving OC of employees are rare in developing countries because majority of such studies are carried out in advanced economies (Afiouni et al., 2014, Khilji, 2003, Khilji and Matthews, 2012, Naeem et al., 2019, Vaiman and Brewster, 2015). Investigating these practices in the context of Pakistan will not only assist in devising strategies to improve the organizational commitment of employees but can also help in alleviating the rhetoric-reality gap of HRM practices in the country (Afiouni et al., 2014, Khilji and Matthews, 2012). Similarly, the impact of TL on OC is widely investigated in developed economies (Bučiūnienė and Škudienė, 2008, Dunn et al., 2012, Gillet and Vandenberghe, 2014, Luo et al., 2017), it is highly demanded to carry out such investigations in a less developed county like Pakistan to make such organizational policies that can improve the perception and commitment level of individuals (Bodla and Nawaz, 2010, Khan et al., 2009). Additionally, majority of the studies show the direct relationships of HRMP and TL with OC (Bučiūnienė and Škudienė, 2008, Bushra et al., 2011, Cherif, 2020, Eliyana and Ma'arif, 2019, Lamba and Choudhary, 2013, Paşaoğlu, 2015) however, this study also takes employee motivation as a mediating variable which can help to resolve the black-box phenomenon by highlighting the sequential mechanism through which HRMP and TL can engender OC among employees (Boselie et al., 2005). Furthermore, this study utilizes a novel and integrated model by focusing on an unexplored industry of Pakistan (pharmaceutical industry) as such investigation is inexistent in the literature.

Based on the mentioned research gaps in the literature on HRMP, TL, EM and OC in the context of Pakistan, this investigation intends to research these areas by underpinning two theories; Herzberg Two-Factor Theory and Social Exchange Theory (SET). Although, the scope of this study is limited to the pharmaceutical industry of Pakistan, its findings can be instrumental, not only for the target industry but also for other industries in the country to revisit and re-engineer their HR and leadership policies to enhance the commitment level of personnel.

2.1 Research Objectives

This doctoral dissertation aims to investigate the mediating impact of employees' motivation on the relationship of HR practices and transformational leadership with the organizational commitment of sales representatives in the pharmaceutical companies of Pakistan. In order to achieve aims of the study, the following objectives are established:

a) To explore the effect of Human Resource Management Practices on Organizational Commitment of the employees.
b) To examine the impact of Transformational Leadership on Organizational Commitment of the employees.
c) To identify the relationship between Human Resource Management Practices and employees' motivation.
d) To examine the impact of Transformational Leadership on employees' motivation.

e) To find out if employees motivation can engender Organizational Commitment among the individuals.
f) To analyze the mediating effect of employees' motivation in the relationship of Human Resource Management Practices with Organizational Commitment of employees.
g) To investigate the mediating effects of employees' motivation on the relationship of Transformational Leadership with Organizational Commitment of employees.

2.2 Research Questions

To achieve the mentioned research objectives, the present study seeks to answer a set of the following research questions:

RQ1. What is the relationship between Human Resource Management Practices and Organizational Commitment of employees working in the pharmaceutical companies of Pakistan?

RQ2. What is the relationship of Transformational Leadership with Organizational Commitment of employees working in the pharmaceutical companies of Pakistan?

RQ3. What is the impact of Human Resource Management Practices on motivation of employees working in the pharmaceutical companies of Pakistan?

RQ4. What is the impact of Transformational Leadership on motivation of employees working in the pharmaceutical companies of Pakistan?

RQ5. What is the impact of employees' motivation on the Organizational Commitment of employees working in the pharmaceutical companies of Pakistan?

RQ6. Does employees' motivation mediate the relationship of Human Resource Management Practices with Organizational Commitment of employees working in the pharmaceutical companies of Pakistan?

RQ7. Does employees' motivation mediate the relationship of Transformational Leadership with Organizational Commitment of employees working in the pharmaceutical companies of Pakistan?

2.3 Scope of the Research

The scope of this study is limited to pharmaceutical companies operating in Pakistan. The study focuses on several areas and processes simultaneously. The investigation is designed to examine if the HRMP and transformational leadership can play a role in promoting the motivation level of employees that can further engender organizational commitment among the personnel. Based on the existing literature and relevance to the context of the study, HRM practices are evaluated by using three practices encapsulating compensation, promotion and performance evaluation (Mattummathodi and Moosafintavida, 2020, Shahani, 2015), transformational leadership is measured by utilizing four dimensions namely; idealized influence, inspirational motivation, intellectual stimulation and individualized consideration (Gao and Bai, 2011, Luo et al., 2017, Malik et al., 2017, Udin, 2020) while organizational commitment is gauged by using a tri-component model comprising of affective, continuance and normative commitment (Jain and Duggal, 2018, Shahnawaz and Juyal, 2006, Suksod and Cruthaka, 2020, Uraon, 2018). Unlike in the developed economies, HRM practices and transformational leadership are rarely investigated in a developing country like Pakistan. In this regard, the present investigation fills an existing

research gap. Moreover, the study pays attention to the pharmaceutical industry of Pakistan only as this sector has not been investigated previously. In such matters, the findings of this study can help the firms that are operating in the industry to devise a conducive HR and leadership policy.

Furthermore, the current study is using an integrated approach, showing the relationship of two independent variables i.e. HRMP and transformational leadership with one dependent variable i.e. organizational commitment of employees. Utility of such an integrated methodology is inexistent in the available literature. To address the dilemma of the black-box phenomenon, employees' motivation is taken as a mediator to investigate the mechanism of the causal effect. Furthermore, a comprehensive and complex model has been tested in this empirical study by using a series of analyses that encompasses reliability and validity, Exploratory Factor Analysis (EFA), Confirmatory Analysis (CFA) and Structural Equation Modeling (SEM). Findings of the study can be of high value for researchers, practitioners, and students who are interested in the areas of HRM practices, transformational leadership, motivation, and organizational commitment of employees.

3. Theoretical Framework

This study examined the mediating effect of EM on the relationship of HRMP and TL with OC by using SEM technique. As shown in Figure 1, the latent variable of HRMP is evaluated by using three observed variables or indicators namely; compensation practice, promotion practice, and performance evaluation practice. Similarly, TL is examined through four indicators including; idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Furthermore, OC is assessed by three indicators comprising affective commitment, continuance commitment, and normative commitment. All these indicators of the investigated variables were chosen on the basis of literature evidence, its due importance, higher degree of relevance and robust validity. However, EM is studied as an observable variable without using any indicator, based on the evidence from the literature.
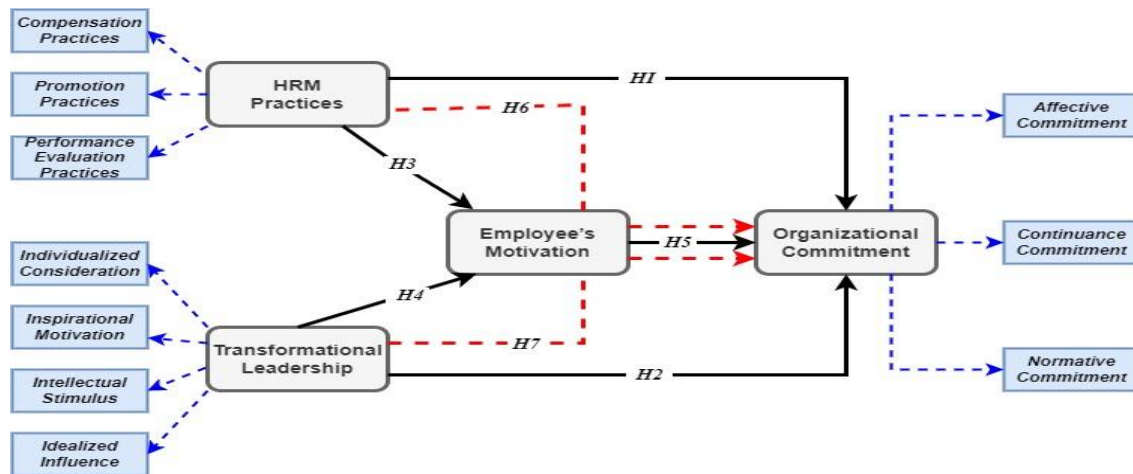

Figure 1. Conceptual Model of the Study

Source: Designed by the author

4. Methodology

4.1 Research Design

The noteworthy purpose of a research design is to demonstrate how the research questions and the data are inter-related, and what measures and instruments can be used in the advent of answering those research questions (Zhang, 2001). A quantitative methodology is used in this study because it is an appropriate approach to test the hypotheses and find the relationship between independent and dependent variables (Sekaran and Bougie, 2016). Primary data was collected through survey questionnaires because the survey method is an efficient and economical way to collect data for a quantitative research, and it also helps to generalize the results with respect to a given population (Creswell and Creswell, 2017).

4.2 Population and Sample of the study

Population of the current study included 4972 sales representatives working in different pharmaceutical companies of Pakistan. (Pakistan Pharmaceutical Manufacturers' Association, 2021, January 07). It is not reasonable and economical to include the whole population in the study; therefore, a sample was selected which can represent the whole population (Sekaran and Bougie, 2016). For this study, a total of 950 questionnaires were distributed among the employees of various pharmaceutical companies in Pakistan. With a response rate of 34.42%, 327 responses were received. This sample size (N=327) was adequate as it exceeded the acceptable range of 260, as mentioned by Sekaran and Bougie (2016), to represent a huge population. Convenience sampling technique was used in order to avoid any difficulties and ensure smooth collection of the data. To carry out an effective Structural Equation Modeling (SEM) analysis, there are different opinions concerning the sample size. According to Williams and Holahan (1994), the minimum sample size should be 100 while Kelloway (1998) and Marsh et al. (1988) suggested that the valid goodness-of-fit measures can be obtained if the sample size is not less than 200. Based on these evidences, it can be asserted that the sample size of this study has surpassed the minimum criteria to perform an effective SEM analysis.

4.3 Data Collection

In this study, Google-Forms tool was used for creating an online self-administered survey questionnaire as it is one of the commonly used approaches for collecting data in recent years. The empirical data was collected by sharing link of the Google-Forms with the respondents through emails and other social media applications. Online questionnaire approach was chosen due to its multiple benefits like; minimal respondent's error, speedy response, low costs, convenience, and covering a wide range of potential respondents.

For this study, the unit of analysis includes the front-line employees' i.e. sales representatives, working in different pharmaceutical companies of Pakistan. These individuals are chosen as they constitute a group of workers that is significantly and frequently effected by the HRM practices and the nature of leadership being implemented by their organizations. Furthermore, the motivation and commitment level of these employees can bring fortune to their respective firms, and can also demonstrate suitability of the firm's practices. Usually, the working schedule of sales representatives in the pharmaceutical sector is quite busy and they get little time to do extra activities. Keeping this fact in mind, 950 online questionnaires were randomly distributed among the employees. These potential respondents included employees from both local and multi-national pharmaceutical companies in Pakistan. Out of the 950 questionnaires, only 327 responses received were complete and correct. With a response rate of 34.42%, a statistical power

of 327 cases was significant to represent a huge population and carry out an appropriate data analysis (Kelloway, 1998, Marsh et al., 1988, Sekaran and Bougie, 2016).

4.4 Independent variables

HRM practices and transformational leadership are the two independent variables of the study. Both of these variables are considered as latent variables because they are not directly measured but expressed and measured by a set of observable variables, called indicators. The three indicators for HRM practices are; compensation practices, promotion practices and performance evaluation practices. These three HRM practices are reflective in nature and were chosen on the basis of a higher construct validity, reliability and stronger theoretical foundations, as mentioned in a number of previous studies (Mattummathodi and Moosafintavida, 2020, Shahani, 2015). In this study, HRM practices construct was measured as a whole through 12 items (4 items for each of three HRM practices) and, by using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). All these 12 items were adopted from a questionnaire that is already developed and validated by Teclemichael Tessema and Soeters (2006). Table 1 shows the items that were used to evaluate compensation practices, promotion practices and performance evaluation practices of the pharmaceutical companies in Pakistan.

Table 1 Operationalization of HRM Practices

Compensation Practices	
No.	Items
CP1	My company has an attractive compensation system.
CP2	There is presence of equitable salary that reflects performance.
CP3	There is presence of salary that encourages better performance
CP4	There is presence of salary that reflects the standard of living.
Promotion Practices	
No.	Items
PP1	There is presence of written and operational promotion policy.
PP2	Priority is given to merit in promotion decision.
PP3	Priority is given to seniority in promotion decision.
PP4	In my Organization, Promotions are fair and equitable.
Performance Evaluation Practices	
No.	Items
PE1	There is presence of written and operational employee performance evaluation.
PE2	Employee performance evaluation results has a lot to do with salary.
PE3	Employee performance evaluation results has a lot to do with personnel decisions.
PE4	Performance evaluators are knowledgeable.

Note: CP = Compensation Practice, PP = Promotion Practice, PE = Performance evaluation Practice

Source: Teclemichael Tessema and Soeters (2006)

Transformational leadership served as the second independent variable in this study. Like HRM practices, transformational leadership cannot be measured directly but with the help of latent variables known as indicators or dimensions. The four dimensions that were used to evaluate transformational leadership included; idealized influence, inspirational motivation, intellectual stimulation and individualized consideration. Literature shows that these dimensions are valid and reliable to measure the transformational leadership effectively (Bass, 1997b, Gao and Bai, 2011, Luo et al., 2017, Malik et al., 2017, Udin, 2020). Furthermore, 4 items were adopted for each of the four indicators of transformational leadership from the Multifactor Leadership Questionnaire,

developed by Bass and Avolio (1996). A total of 16 items were used to get accurate measurement of the transformational leadership through a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). All these items are listed in Table 2.

Table 2 Operationalization of Transformational Leadership

Transformational Leadership	
Idealized Influence	
No.	**Items**
II1	Managers urge their subordinates to follow important values and beliefs.
II2	Managers demonstrate the importance of mutual trust to overcome problems and difficulties.
II3	Managers exceed their self-interests with the goal of achieving a public good.
II4	Managers focus on the importance of their subordinates having a common understanding of the mission and goals of the organization.
Inspirational Motivation	
No.	**Items**
IM1	Managers show confidence in their subordinates by achieving goals.
IM2	Managers are stirring up the enthusiasm of their subordinates to achieve more than they expected.
IM3	Managers provide a collective sense of management tasks.
IM4	Managers are concerned with motivating their subordinates to achieve the vision and mission of the organization.
Intellectual Stimulation	
No.	**Items**
IS1	Managers are concerned with developing the intellectual and cognitive abilities of subordinates.
IS2	Managers encourage their subordinates to discover solutions to the complex problems that the organization is facing.
IS3	Managers motivate their subordinates to express their ideas with confidence.
IS4	Managers suggest new ways to get work done.
Individualized Consideration	
No.	**Items**
IC1	Managers show personal concern for their subordinates' problems and strive to solve them.
IC2	Managers listen attentively to the opinions of their subordinates and respect their convictions when they do a good job.
IC3	Managers give enough time to teach their subordinates and train them.
IC4	Managers express their appreciation to their subordinates.

Note: II = Idealized Influence, IM = Inspirational Motivation, IS = Intellectual Stimulation,
IC = Individualized Consideration

Source: Bass and Avolio (1996)

4.5 Dependent Variable

Organizational commitment is the dependent variable in the study. Direct measurement of organizational commitment was not possible so we have evaluated it by the utility of its various dimensions. It has three dimensions, namely; affective commitment, continuance commitment and normative commitment. Affective commitment is the emotional attachment of individuals with their organization, continuance commitment refers to the attachment of employees with their organization which is based on the costs associated with leaving the firm while normative commitment presents that the personnel remain in the organization due to certain feelings of obligation (Meyer and Allen, 1991). This tri-component model of organizational commitment has

been used and validated in a number of investigations (Bučiūnienė and Škudienė, 2008, Jain and Duggal, 2018, Shahnawaz and Juyal, 2006, Suksod and Cruthaka, 2020, Uraon, 2018). In this study, the instrument for organizational commitment consisted of 12 items; 4 items for each of the three dimensions. These items were adopted from the questionnaire developed and validated by Meyer and Allen (1991). The scale of measurement for these items was a five-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). Table 3 shows the complete details of the items being used for measuring the organizational commitment of employees in the pharmaceutical companies of Pakistan.

Table 3 Operationalization of Organizational Commitment

Transformational Leadership	
Affective Commitment	
No.	**Items**
AC1	I would be very happy to spend the rest of my career in this organization.
AC2	I really feel as if this organization's problems are my own.
AC3	I feel like "part of my family" at this organization.
AC4	I feel "emotionally attached" to this organization.
Continuance Commitment	
No.	**Items**
CC1	It would be very hard for me to leave my job at this organization right now even if I wanted to.
CC2	Too much of my life would be disrupted/disturbed if I leave my organization.
CC3	Right now, staying with my job at this organization is a matter of necessity as much as desire.
CC4	I believe I have very few options to consider leaving this organization.
Normative Commitment	
No.	**Items**
NC1	I feel obligation/compulsion to remain with my organization.
NC2	Even if it were to my advantage, I do not feel it would be right to leave.
NC3	I would feel guilty if I left this organization now.
NC4	This organization deserves my loyalty.

Note: AC = Affective Commitment, CC = Continuance Commitment, NC = Normative Commitment

Source: Meyer and Allen (1991)

4.6 Mediating Variable

Employees' motivation was taken as the mediating variable in the present study. Mediator variable, also known as the process variable or the intervening variable, mediates the relationship between the independent variable(s) and the dependent variable(s). Studies including the mediator variable follows a systematic mechanism; first the independent variable influences the process variable and then the process variable effects the dependent variable (Kenny and Judd, 2014, Namazi and Namazi, 2016). Previously, a number of researchers have investigated employees' motivation as a mediator in order to know its impacts in different dimensions (Bastari et al., 2020, Chew, 2005, Dar et al., 2014, Maroudas et al., 2008, Nugroho et al., 2020). To measure the employees' motivation, 5 items were adopted from a questionnaire already developed and validated by Manolopoulos (2008). The original questionnaire contains a total of 12 items but only 5 items, based on a higher degree of relevance, were adopted for this study. The adopted items were further paraphrased according to the nature and context of the study. The selected 5 items were measured

by using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). Details about the items that were used for evaluating employees' motivation are illustrated in table 4.

Table 4 Operationalization of Employees' Motivation

Employees' Motivation	
No.	**Items**
EM1	My organization provides Security in the workplace.
EM2	My organization provides Good Working conditions.
EM3	My organization recognize/appreciate the contribution and work of employees.
EM4	In my organization need for competence/abilities is addressed.
EM5	My organization provides opportunities to take responsibilities.

Note: EM = Employees' Motivation
Source: Manolopoulos (2008)

4.7 Hypotheses Development

After a thorough literature review, the mediation strategy, as mentioned by Baron and Kenny (1986), is followed to systematically develop a series of hypotheses. Their strategy suggests that the relationship between the predictor and the dependent variable should be examined in the first phase, followed by the assessment of the association between the predictor and the mediating variable. Consequently, the link between the mediating variable and the dependent variable should be evaluated. In the last phase, the mediating effect of a variable on the association between predictor and the dependent variable needs to be tested (Baron and Kenny, 1986). As per the strategy suggested by Baron and Kenny (1986), the following hypotheses are formulated:

Hypothesis1 (H1): HRM practices positively influence the organizational commitment of employees.

Hypothesis 2 (H2): Transformational leadership positively influences the organizational commitment of employees.

Hypothesis 3 (H3): There is a positive relationship between HRM practices and employees' motivation.

Hypothesis 4 (H4): Transformational leadership positively influences the employees' motivation.

Hypothesis 5 (H5): There is a positive relationship between employees' motivation and organizational commitment of employees.
Hypothesis 6 (H6): Employees' motivation mediates the relationship of HRM practices with the organizational commitment of employees.

Hypothesis 7 (H7): Employees' motivation mediates the relationship of transformational leadership with the organizational commitment of employees.

4.8 Data Analysis

Different analyses were performed to examine the association between the variables of the study and to empirically test the developed hypotheses. The details of those analyses are as follow:

4.8.1 Reliability and validity tests

The presence of reliability and validity is essential, not only during the data collection but also during the instrument development stages. Reliability ensures that the constructs are free from

random errors (Choi, 2010), and gives a guarantee that the instrument's data can be reproduced (Litwin and Fink, 1995). In this study, internal consistency within the items and the overall reliability was evaluated by using Cronbach's alpha coefficient method. As a general consent, the value of Cronbach's alpha should be greater than 0.70 (Hair et al., 1998). Validity, according to Choi (2010), is the extent to which a measurement evaluates what it is intended to measure. The proceeding sections include details about a number of tests that were conducted to evaluate the reliability and different types of validity.

4.8.1.1 Exploratory Factor Analysis (EFA)

In social science research, two main approaches are used for factor analysis i.e. Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA) (Lomax and Schumacker, 2004). Literature provides sufficient arguments to support the utility appropriateness of these two approaches under different conditions. For instance, Hurley et al. (1997) proposed that only one method should be used while dealing with a given dataset or research questions. Some of the researchers stated that without a strong theoretical construct, adopting EFA is merely a shotgun empiricism (Nunnally, 1994, Wong, 2002). Theoretically, there is less demand of EFA as compared to CFA as CFA is backed by a priori theory (Wong, 2002). However, majority of the researchers believe that the factor analysis should be exploratory as it is useful for examining the structure of a group of variables (Chong, 2008). A comprehensive questionnaire was developed in this study to find out the concrete results. Although most of the items in the questionnaire were adopted from previous studies, EFA approach was utilized as those adopted survey items were not used in the industry (Pharmaceutical) and the country (Pakistan) contexts. It also helped in examining unidimensionality of the constructs. Along with it, the reliability and validity of the factors were supported by carrying out CFA (Wong, 2002).

Primarily, Principal Component Analysis (PCA) in combination with Promax rotation was executed in EFA to validate the underlying structure of the three HR practices, four dimensions of transformational leadership, employee motivation, and the three dimensions of organizational commitment. The results showed that the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy value was 0.953 which exceeded the required threshold of 0.60. This represent that there were adequate inter-correlations among the items. The Bartlett's test of sphericity was also large (10175.559) and significant at 0.000 which fulfilled the assumptions for appropriateness to perform factor analysis on the collected data (Xie, 2011). For convenience purpose, the overall results of EFA are discussed separately for each variable from the main output panel of SPSS 21.

In this study HRM practices were described by a bundle of three practices namely; compensation practice, promotion practice, and performance evaluation practice. Each of the HRM practices was analyzed by four items that counted to a total of 12 items for the HRM practices construct. EFA was conducted to determine the more significant indicative items out of these 12 items that could truly represent each of the HRM practices. The analysis was essential to minimize redundant information, derive exact and meaningful information, and set up the factorial dimensionality. The basic factor structure was revealed with EFA which was then validated via CFA.

During EFA, factor loading not less than 0.50 on the same factor and not more than 0.35 on the other factors was considered to justify the factor. During the validation process of HRM practices construct, none of the items was discarded as all of these items had good factor loadings (more than 0.50) on their respective unobserved/latent variable. The Promax rotated EFA results

presented that there were three significant factors with eigenvalues higher than one. All of the constructs' items were loaded on their single factor with significant values. Collectively, all the factors of HRM practices had an acceptable reliability with Cronbach,s alpha value of 0.919. Consequently, the Cronbach's alpha value for each individual HRM practice was also higher than the required threshold of 0.70 i.e. compensation practice = 0.896, promotion practice = 0.847; performance evaluation practice = 0.880. The EFA results of HRM practices are illustrated in Table 5.

Table 5 Exploratory Factor Analysis (EFA) for HR Practices

Constructs	No. of Items	Indicators	Factor Loadings	KMO	Eigenvalue	% of Variance	Cronbach's Alpha
HRM Practices	12			0.953			0.919
Compensation Practice (CP)	04	CP1 CP2 CP3 CP4	0.767 0.904 0.849 0.876		1.745	5.133	0.896
Promotion Practice (PP)	04	PP1 PP2 PP3 PP4	0.795 0.797 0.795 0.789		1.346	3.959	0.847
Performance Evaluation Practice (PE)	04	PE1 PE2 PE3 PE4	0.869 0.861 0.828 0.713		1.507	4.431	0.880

Source: Author's own development

During the EFA validation process of transformational leadership construct, four items (II3, IM4, IS4 & IC1) were dropped as they had poor factor loading (less than 0.5) on their latent/unobserved variable. All other items were loaded on their respective single factor with significant values. Promax rotated EFA results showed that there were four significant factors with eigenvalues higher than one. The overall reliability of TL measure was accepted with Cronbach's alpha value of 0.948. Furthermore, all the individual dimensions of transformational leadership also had acceptable reliability where Cronbach's alpha value was higher than the benchmark value of 0.70 for each dimension i.e. Idealized influence = 0.940; Inspirational motivation = 0.939; Intellectual stimulation = 0.950; Individualized consideration = 0.975). These results are presented in Table 6.

Table 6 Exploratory Factor Analysis for Transformational Leadership

Constructs	No. of Items	Indicators	Factor Loadings	KMO	Eigenvalue	% of Variance	Cronbach's Alpha
Transformational Leadership	16			0.953			0.948
Idealized Influence (II)	04	II1 II2 II3 II4	0.910 0.935 Dropped 0.865		1.030	2.934	0.940
Inspirational Motivation (IM)	04	IM1 IM2 IM3 IM4	0.945 0.865 0.966 Dropped		1.059	3.114	0.939

Intellectual Stimulation (IS)	04	IS1	0.952		1.010	2.638	0.950
		IS2	0.897				
		IS3	0.916				
		IS4	Dropped				
Individualized Consideration (IC)	04	IC1	Dropped		1.106	3.252	0.975
		IC2	0.963				
		IC3	0.947				
		IC4	0.945				

Source: Author's own development

Employee motivation is the mediating variable in this study that was measured by using 05 items. EFA was performed to assess the unidemensionality of the items being used. During the EFA validation process of employees' motivation construct, it was observed that all the items had factor loading above 0.5. Therefore, none of the items was dropped. The Promax rotated EFA results showed one factor with a significant eigenvalue. Cronbach's alpha value of 0.88 showed that the measure was reliable as the alpha's value had surpassed the cut-off value of 0.70. These results are demonstrated in Table 7.

Table 7 Exploratory Analysis for Employee Motivation

Constructs	No. of Items	Indicators	Factor Loadings	KMO	Eigenvalue	% of Variance	Cronbach's Alpha
Employee Motivation (EM)	05	EM1	0.671	0.953	16.496	48.516	0.918
		EM2	0.926				
		EM3	0.785				
		EM4	0.829				
		EM5	0.854				

Source: Author's own development

In this study, organizational commitment was represented by three dimensions namely; affective commitment, continuance commitment and normative commitment. 12 items were chosen from the existing literature to describe the organizational commitment construct. Each dimension of the organizational commitment was analyzed by four items. In order to reduce the redundant information, set up the factorial dimensionality and to confirm that these 12 items can truly represent the organizational commitment, EFA was performed. In the realm of EFA, unidimensionality of the items was assessed by using PCA and Promax rotation approaches. The appropriateness to perform factor analysis was confirmed by the KMO value 0.953, and also the Bartlett's test (chi-square) value was significant (0.000). During the validation process of EFA, seven items (AC2, AC3, CC1, CC2, CC3, NC2 and NC3) were dropped from the organizational commitment construct as these had less than 0.5 factor loading on its latent/unobserved variable. The remaining 05 items loaded effectively on a single factor with the eigenvalue higher than one. Reliability analysis presented that the measure was consistent whereby the Cronbach's alpha value for organizational commitment was 0.893. These results are illustrated in Table 8.

Table 8 Exploratory Analysis for Organizational Commitment

Constructs	No. of Items	Indicators	Factor Loadings	KMO	Eigenvalue	% of Variance	Cronbach's Alpha
Organizational Commitment	12			0.953	2.209	6.496	0.893
Affective Commitment (AC)	04	AC1 AC2 AC3 AC4	0.693 Dropped Dropped 0.822				
Continuance Commitment (CC)	04	CC1 CC2 CC3 CC4	Dropped Dropped Dropped 0.877				
Normative Commitment (NC)	04	NC1 NC2 NC3 NC4	0.783 Dropped Dropped 0.770				

Source: Author's own development

4.8.1.2 Confirmatory Factor Analysis (CFA)

In EFA, it was discussed that all the items that represented its respective construct, were internally consistent and reliable as the Cronbach's alpha value for each construct was higher than 0.70. The relationship of observed variables with the fundamental constructs can be identified by the confirmatory measurement model where the factors are permitted to inter-correlate freely (Anderson and Gerbing, 1988, Wong, 2002). In this study, CFA was performed to evaluate the unidimensionality, convergent validity and discriminant validity. Unidimensionality is present when a group of items can explain a single underlying factor. This means that all the items in the group are measuring the same construct or concept (Dunn et al., 1994). Generally, two methods can be utilized to test the unidimensionality hypothesis: (1) assessing the adequacy of the overall measurement model by examining how well it fits the empirical data, and (2) evaluating the statistical significance of the factor loading, which represents the estimated correlation between each individual item and the underlying latent construct it intends to measure (López et al., 2006). The statistics from the first-order measurement model showed that CMIN/DF = 1.483; NFI = 0.931; CFI = 0.976; RMR = 0.0322 and RMSEA = 0.038. These values presented an acceptable model fit and supported the undimensionality of the scale used (Anderson and Gerbing, 1988, Bagozzi and Yi, 1988). Similarly, magnitude of the parameter estimates (item-to-construct loadings) exceeded 0.70, had critical ratio more than 2.00 and were statistically significant with p-value less than 0.05 which supported the scale's unidimensionality (López et al., 2006, Ya'acob, 2008). These results are illustrated in Figure 2 and Table 9.
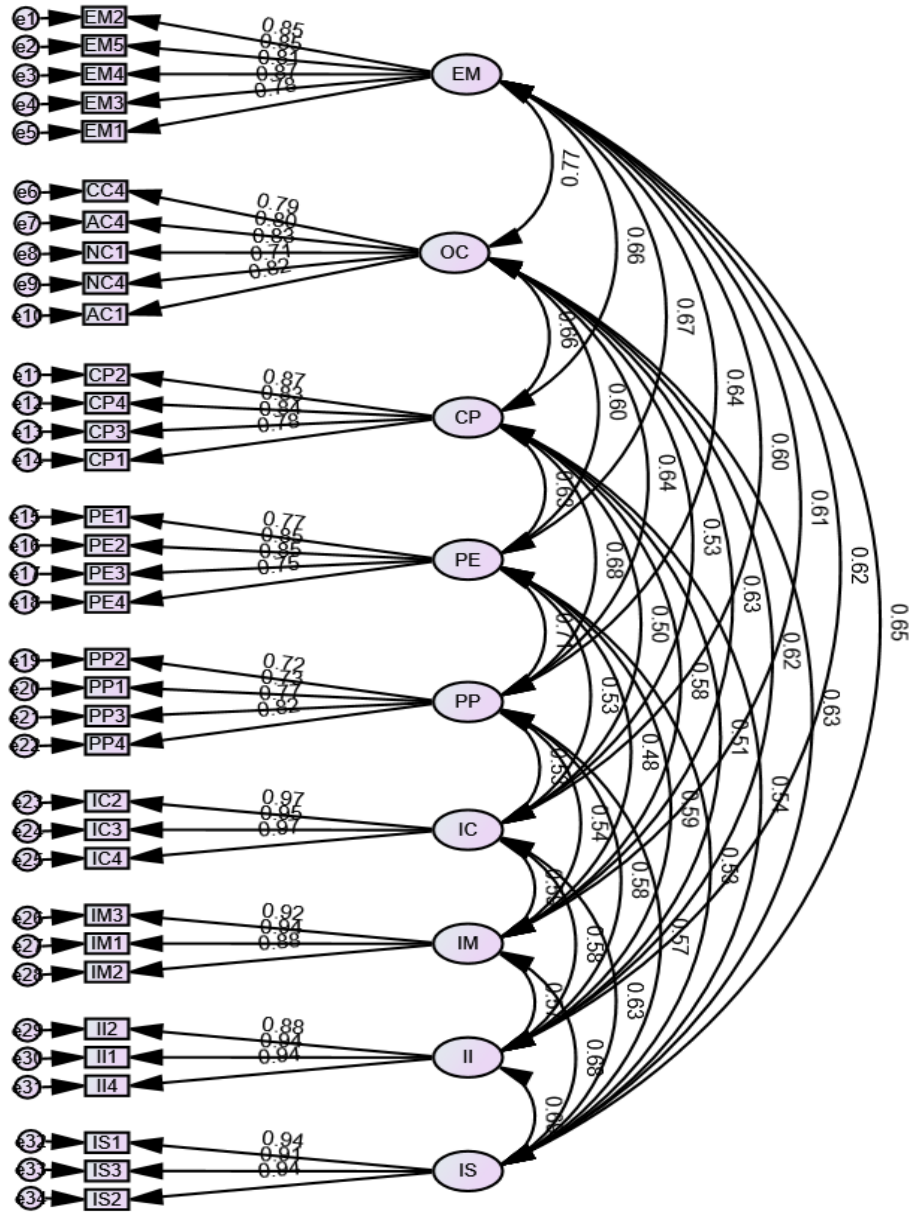
EM = Employee Motivation; OC = Organizational Commitment; CP = Compensation Practice; PE = Performance Evaluation Practice; PP = Promotion Practice; IC = Individualized Consideration; IM = Inspirational Motivation; II = Idealized Influence; IS = Intelectual Stimulation

Notes: This standardized solution to the first-order CFA model is displaying the standardized loadings of 34 items of the nine underlying latent factors.

Figure 2 First-order CFA Model of All Latent Variables

Source: Designed by the author

Table 9 Measures and Assessment for Unidimensionality (First-order Factor)

Measures	Standardized Factor Loadings	Critical Ratio(*p*-value)
Employee Motivation		
EM2← EM	0.847	N/A
EM5← EM	0.849	19.389***
EM4← EM	0.815	18.112***
EM3← EM	0.873	20.303***
EM1← EM	0.783	17.021***
Organizational Commitment		
CC4← OC	0.792	N/A
AC4← OC	0.797	15.670***
NC1← OC	0.831	16.529***
NC4← OC	0.708	13.513***
AC1← OC	0.825	16.362***
HR Practices		
CP2← CP	0.870	N/A
CP4← CP	0.827	18.700***
CP3← CP	0.839	19.127***
CP1← CP	0.776	16.897***
PE1← PE	0.773	N/A
PE2← PE	0.845	16.037***
PE3← PE	0.849	16.117***
PE4← PE	0.753	14.026***
PP2← PP	0.720	N/A
PP1← PP	0.734	12.383***
PP3← PP	0.775	13.033***
PP4← PP	0.823	13.750***
Transformational Leadership		
IC2← IC	0.967	N/A
IC3← IC	0.954	42.770***
IC4← IC	0.968	46.893***
IM3← IM	0.922	N/A
IM1← IM	0.943	29.916***
IM2← IM	0.882	25.263***
II2← II	0.876	N/A
II1← II	0.939	25.838***
II4← II	0.935	25.622***
IS1← IS	0.935	N/A
IS3← IS	0.914	29.448***
IS2← IS	0.940	32.216***

Notes: EM = Employee Motivation; OC = Organizational Commitment; CC = Continaunce Commitment; AC = Affective Commitment; NC = Normative Commitment; CP = Compensation Practice; PE = Performance Evaluation Practice; PP = Promotion Practice; IC = Individualized Consideration; IM = Inspirational Motivation; II = Idealized Influence; IS = Intelectual Stimulation *** = *p*-value < 0.05, N/A = Not Applicable

Source: Author's own development

Convergent validity can be determined by three essential indicators namely; factor loadings that are standardized estimates, Average Variance Extracted (AVE) and Composite Reliability (CR). The items having factor loadings, not less than 0.50 on their corresponding construct can be retained as proposed by Hair et al. (1998) and Ooi (2013). Table 9 shows that all the items of the selected constructs had loadings higher than the threshold and are statistically significant ($p<0.05$). A number of researchers have mentioned that the minimum acceptable value for CR is 0.50 (Hair et al., 1998, Ooi, 2013). Table 10 shows that all the constructs had a good level of composite reliability as their values ranged from 0.848 to 0.975. Similarly, the AVE values for all the constructs are significant as their values (ranging from 0.584 to 0.928) are higher than the cut-off value of 0.50 (Hair et al., 1998, Ooi, 2013). The results from these three essential indicators support convergent validity of the constructs.

Table 10 Constructs Evaluation for Convergent Validity

Constructs	Composite Reliability (CR)	Average Variance Extracted (AVE)
HRM Practices		
Compensation Practice (CP)	0.897	0.687
Promotion Practice (PP)	0.848	0.584
Performance Evaluation Practice (PE)	0.881	0.650
Transformational Leadership		
Idealized Influence (II)	0.941	0.841
Inspirational Motivation (IM)	0.940	0.839
Intellectual Stimulation (IS)	0.951	0.865
Individualized Consideration (IC)	0.975	0.928
Employee Motivation (EM)	0.919	0.696
Organizational Commitment	0.893	0.627

Source: Author's own development

Discriminant validity of the constructs was evaluated by using Fornell and Larcker (1981) method and heterotrait-monotrait ratio (HTMT) technique. Fornell and Larcker (1981) Method entails that the discriminant validity can be supported if the square root of the Average Variance Extracted (AVE) for a latent construct exceeds the correlation values among all the latent variables. The bold values in the diagonal in Table 11 show that the square root of the AVE values of all the constructs were higher than the inter-construct correlation values which determine that the discriminant validity of the constructs was supported (Henseler et al., 2015).

Fornell and Larcker (1981) method is criticized for being ineffective to assess discriminant validity, especially when the indicator loadings on a construct vary slightly from each other (Henseler et al., 2015, Radomir and Moisescu, 2020). To avoid such empirical inefficiency, heterotrait-monotrait ratio (HTMT) approach was utilized which compares the correlations between indicators inside a construct to those between indicators across constructs. Discriminant validity is supported if this value is less than 0.90 (Henseler et al., 2015). Table 12 shows that each of the construct had an HTMT ratio value less than 0.90 and hence, discriminant validity was supported.

Table 11 Discriminant Validity of the Latent Constructs

	EM	OC	CP	PE	PP	IC	IM	II	IS
EM	**0.834**								
OC	0.772***	**0.792**							
CP	0.663***	0.663***	**0.829**						
PE	0.669***	0.598***	0.634***	**0.806**					
PP	0.639***	0.645***	0.681***	0.715***	**0.764**				
IC	0.603***	0.527***	0.498***	0.534***	0.530***	**0.963**			
IM	0.614***	0.629***	0.578***	0.482***	0.540***	0.593***	**0.916**		
II	0.617***	0.624***	0.514***	0.589***	0.582***	0.582***	0.570***	**0.917**	
IS	0.652***	0.630***	0.536***	0.526***	0.565***	0.632***	0.682***	0.688***	**0.930**

Note: EM = Employee Motivation; OC = Organizational Commitment; CP = Compensation Practice; PE = Performance Evaluation Practice; PP = Promotion Practice; IC = Individualized Consideration; IM = Inspirational Motivation; II = Idealized Influence; IS = Intelectual Stimulation

Source: Author's own calculation

Table 12 HTMT Analysis

	EM	OC	CP	PE	PP	IC	IM	II	IS
EM									
OC	0.699								
CP	0.607	0.599							
PE	0.612	0.531	0.562						
PP	0.560	0.561	0.600	0.624					
IC	0.572	0.493	0.469	0.500	0.481				
IM	0.579	0.581	0.539	0.442	0.475	0.575			
II	0.580	0.582	0.469	0.546	0.510	0.554	0.546		
IS	0.611	0.581	0.497	0.486	0.500	0.611	0.651	0.649	

Note: EM = Employee Motivation; OC = Organizational Commitment; CP = Compensation Practice; PE = Performance Evaluation Practice; PP = Promotion Practice; IC = Individualized Consideration; IM = Inspirational Motivation; II = Idealized Influence; IS = Intelectual Stimulation

Source: Author's own calculation

4.8.2 Structural Equation Modeling (SEM)

In social sciences, Structural Equation Modelling (SEM) is used to show the relationship between the latent (unobserved) variables and the observable variables (Henson and Roberts, 2006). It is a statistical method that can be used to assess the covariation between the observed variables, and reduce the number of observable variables into a smaller number of latent variables. SEM offers a number of different models to evaluate the associations among the observed variables. Moreover, it offers a quantitative evaluation of a conceptual model that the researcher has proposed or hypothesized. The technique is analogous to the widely used quantitative approaches such as

correlation, multiple regression, and analysis of variance that are used for estimating and evaluating the associations among variables (Lomax and Schumacker, 2004, Schreiber et al., 2006). In this study, SEM was performed by the application of Maximum Likelihood Estimation (MLE) technique. The technique is widely used due to its higher degree of effectiveness (Choi, 2010, Hair et al., 1998).

The overall model-fit was evaluated by using a collection of seven indices. It was noted that the chi-square ratio ($\chi2/df$) was 1.491 that is less than 3.0 as suggested by Bagozzi and Yi (1988), and shows that the model was fit for analysis. Similarly, the other model-fit indices i.e. GFI = 0.902; TLI = 0.973; CFI = 0.975, and NFI = 0.928, had a value greater than the recommended minimum value of 0.90 (Anderson and Gerbing, 1988). Furthermore, RMSEA value was 0.039 which was less than the maximum standard value of 0.08 (Cudeck, 1993). Similarly, SRMR value was 0.037 what was much less than the cut-off value of 0.08. The values of these indices show that the dataset was well suited for the model. In this study, the structural model was generated through AMOS 28 software. The model in Figure 3 shows that all the hypothesized relationships among the investigated variables are significant with sufficient β value. Based on these β values, all seven hypotheses of this study were accepted as shown in Table 13.

Table 13 Testing of Hypotheses

Hypothesis	Path	Estimate	*P*-value	Remarks
H1	HRMP ➡ OC	0.292	0.008	Accepted
H2	TL ➡ OC	0.252	0.011	Accepted
H3	HRMP ➡ EM	0.477	0.000	Accepted
H4	TL ➡ EM	0.390	0.000	Accepted
H5	EM ➡ OC	0.342	0.000	Accepted
H6	HRMP ➡ EM ➡ OC	0.163	0.000	Accepted
H7	TL ➡ EM ➡ OC	0.133	0.001	Accepted

Note: HRMP = Human Resource Management Practices, OC = Organizational Commitment, TL = Transformational Leadership, EM = Employee Motivation

Source: Author's own creation
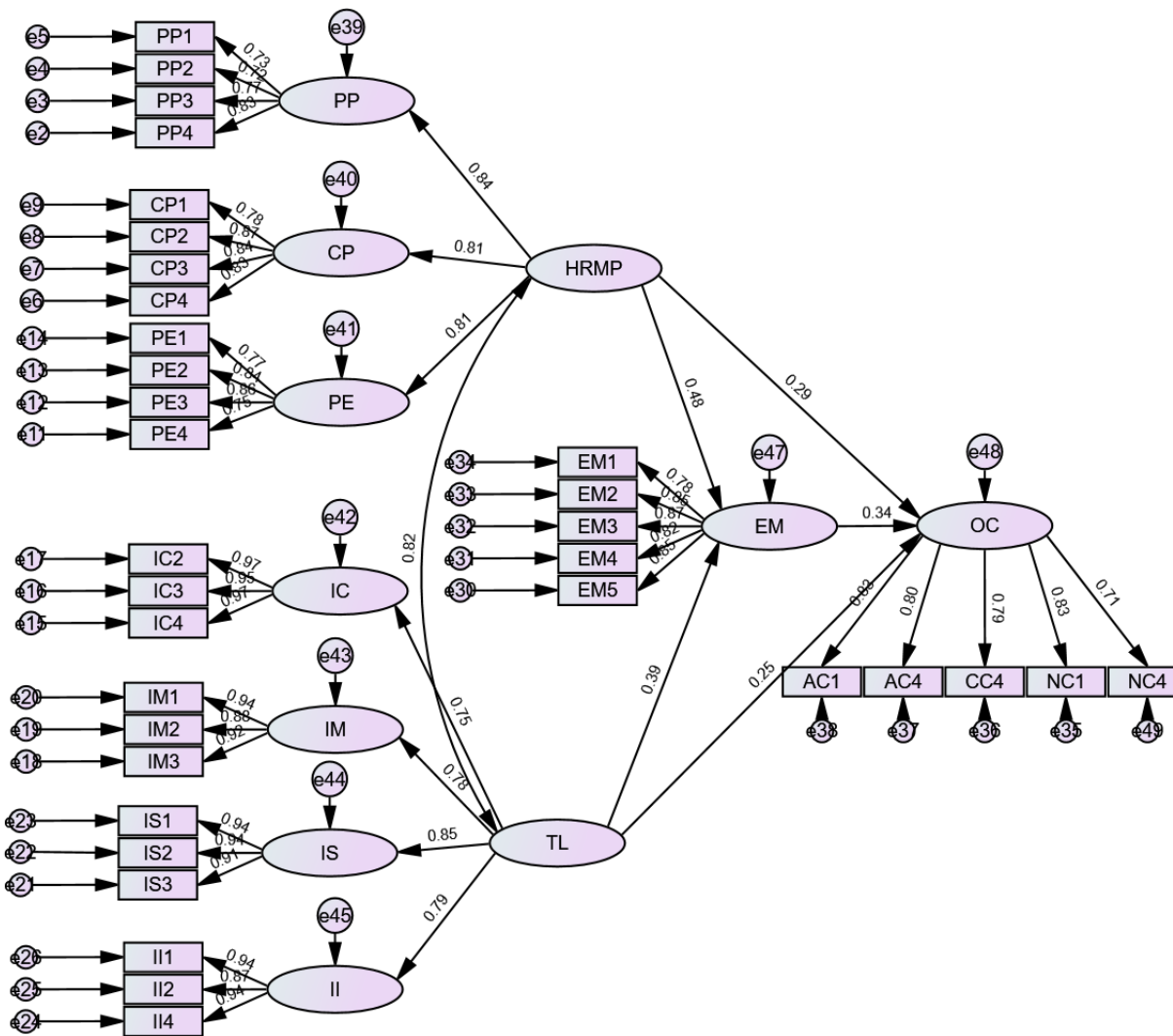
Note: PP = Promotion Practice; CP = Compensation Practice; PE = Performance Evaluation Practice; HRMP = Human Resource Management Practices; IC = Individualized Consideration; IM = Inspirational Motivation; IS = Intellectual Stimulation; II = Idealized Influence; TL = Transformational Leadership; EM = Employee Motivation; OC = Organizational Commitment

Figure 3 Structural Model showing relationship between HRMP, TL and OC

Source: Researcher's own creation

5 Findings of the Study

5.1 The relationship between HRMP and OC

Based on the results of structural equation modeling, while focusing on a higher-order model, it was found that there is a significant relationship between HRMP and OC backed by the values β = 0.292 and p = 0.008, as shown in Table 13. These results were sufficient to answer the first research question of the study; *"What is the relationship between HRM practices and organizational commitment of employees working in the pharmaceutical companies of Pakistan?"* by providing empirical evidence that there is a positive and significant relationship between HRM practices and organizational commitment of employees in the target industry. Furthermore, the first hypothesis of this study *"H1; HRM practices positively influence the organizational commitment of employees"*, was also supported.

> **T1. "The application of standardized and contingent HRM practices can assist to improve the organizational commitment of employees in the pharmaceutical companies of Pakistan. It is observed that the investigated firms have successfully aligned the HRM approaches with the contextual needs".**

It shows that the pharmaceutical companies in Pakistan have implemented standardized HRM practices in the shape of compensation practices, promotion practices, and performance evaluation practices. It seems like the investigated firms have active human resources departments and seasoned HR professionals who are prudent enough to identify and implement the best HRM practices that have improved the organizational commitment of its employees.

5.2 The relationship between HRMP and EM

The outputs from the SEM show that there was a significant and positive relationship of HRMP with the employees' motivation which led to answering the third research question of the study, *"What is the impact of HRM practices on the motivation of employees working in the pharmaceutical companies of Pakistan?"* This relationship was supported by a β value of 0.477, and also this association was significant (p = 0.000) as shown in Table 13. With these empirical results, the third hypothesis of this study – *"H3; There is a positive and significant relationship between the HRM practices and employees' motivation"*, was also accepted.

> **T3. "The pharmaceutical firms have designed and implemented HRM practices in an efficient manner to engender motivation in their employees. These approaches have been instrumental to bring positive energies among the organizational members by addressing the individuals' needs".**

From these findings, it can be concluded that the pharmaceutical companies in Pakistan utilize bundles of sophisticated HRM practices. The employees are compensated well and provided with opportunities to move up the career ladder. Furthermore, their performance is evaluated in a standardized and fair manner. These practices make the employees feel valued and worthy. They get a higher motivation level which enables them to show higher dedication, consistency, and creativity in order to achieve the organizational goals.

5.3 The relationship between TL and OC

The results from the structural equation modeling, as shown in Table 13 confirm a positive relationship between TL and OC with a β value of 0.252. The association was also significant with a *p*-value of 0.011. These statistics answered the second research question of the study; *"What is the relationship of transformational leadership with the organizational commitment of employees working in the pharmaceutical companies of Pakistan?"* The second hypothesis of this investigation; *"H2; Transformational leadership positively influences the organizational commitment of employees"* was also supported by demonstrating that there is a statistically significant and positive association between TL and OC.

> **T2. "The pharmaceutical firms in Pakistan have thoroughly implemented transformational leadership approach to experience a stronger employer-employee association. It was observed that the leadership approach is decisive to provide a conducive environment to employees in order to develop a sense of trust among the individuals, and to keep them intact with their employers".**

The statistical results represent that the investigated pharmaceutical firms are clearly oriented toward the application of TL. The management of these firms is dedicated to practicing the leadership approach to a highest level in order to win trust of the employees and keep them attached with their respective firms. From the findings of this study it can be asserted that the pharmaceutical companies in Pakistan apply TL to transform the human resources into committed and reliable resources through vision sharing, effective communication, empowerment of individuals to complete tasks through innovative approaches, and by addressing the individual needs of the employees.

5.4 The relationship between TL and EM

The relationship between TL and EM was found to be significant at $p = 0.000$ and with a β value of 0.390 as presented in Table 13. To answer the fourth research question of this study – *"What is the impact of transformational leadership on the motivation of employees working in the pharmaceutical companies of Pakistan?"* our findings indicate that there was a positive impact of transformational leadership on employees' motivation. The fourth hypothesis of this study – "*H4; Transformational leadership positively influences the employees' motivation",* was also supported by the results of the structural equation modeling.

> **T4. "Transformational leadership style was found to be a pivotal cause of motivation and inspiration among individuals in the pharmaceutical firms of Pakistan. The firms have been prudent in utilizing the leadership approach to up-lift the morale of their employees which is crucial to retain the work pool and achieve organizational objectives".**

These statistical outcomes signify that TL is a vital determinant of the employees' motivation. The leadership approach is adopted industry-wide in Pakistan to establish a value system that can motivate and inspire the workforce. In order to cope with the prevailing competition and the dynamic environment of the country, TL was found to be an effective and the best-fit organizational leadership as mentioned by Bass (1997a)..

5.5 The relationship of EM and OC

Concerning the fifth research question of this study – *"What is the impact of employees' motivation on the organizational commitment of employees working in the pharmaceutical companies of Pakistan?"* our analysis presents that there was a positive impact of employees' motivation on the organizational commitment of employees. Consequently, the fifth hypothesis of this study – *H5; There is a positive relationship between employees' motivation and organizational commitment of employees",* was also supported. Outputs of the structural equation modeling, as presented in Table. 13, show that with a β value of 0.342, employees' motivation brings a noteworthy variation in OC. Similarly, the *p*-value of 0.000 was much lower than the benchmark value of 0.05, representing the presence of a significant association between the employees' motivation and OC.

> **T5. "The pharmaceutical firms in Pakistan use effective motivational strategies which develop a strong bond between employees and their employers. These motivation enhancing factors seems to be comprehensive in nature which can address the individual needs of every employee, and that ultimately increase competence of the organizations to keep their workforce committed".**

These outcomes illustrate that most of the employees working in the pharmaceutical companies of Pakistan are satisfied and motivated, and they have a strong affiliation with their employers. It can be said that the firms are using effective motivational strategies that are serving as stimuli to enhance the drive of the individuals. Different factors have varied motivational impacts on every individual employee. It seems like the pharmaceutical firms in Pakistan have been competent to focus on a collection of such factors that keep the individual workers inspired.

5.6 The mediating effects of EM on the relationship between HRMP and OC

To know the mediation effects of employees' motivation on the relationship between HRMP and OC, the structural equation modeling was performed. The results illustrated that EM partially mediates the relationship between the two variables. In this way, the sixth research question of the study; "*Does employees' motivation mediate the relationship of HRM Practices with the organizational commitment of employees working in the pharmaceutical companies of Pakistan?"* was answered. The sixth hypothesis of the study; *"H6; Employees motivation mediates the relationship of HRM practices with the organizational commitment of employees",* was also accepted with a *β* value of 0.163 and the effect was significant at *p* = 0.000.

> **T6. "SEM shows that the employees' motivation partially mediates the relationship between HRM practices and organizational commitment of employees. These findings resolved the black-box phenomenon by showing the mechanism of how HRM practices influence the organizational commitment. It was found that the bundle of HRM practices comprising of; compensation, performance evaluation and promotion, has been effective to improve the motivation level of employees which led to the heightened organizational commitment of individuals".**

Findings of this study have been successful in resolving the dilemma of black-box phenomenon by clarifying the mechanism of causal effects of HRMP on OC. It is revealed that the HR bundle implemented by the pharmaceutical companies in Pakistan was efficient to build morale and motivation of the workers that consequently led to higher commitment and affiliation of those individuals with their employers. It seems like the companies are using a compensation system

that is fair, reflects the performance of the individuals and can raise living standards of the employees. Similarly, the promotion strategies in these firms appear to be standardized that are efficient to consider contributions, seniority and performance of the workers. The performance evaluation practices in these companies can be regarded as fair, justified and are performed by skillful mangers. Collectively, these practices keep the employees satisfied and motivated that enhance their commitment and association with their respective firms.

5.7 The mediating effects of EM on the relationship between TL and OC

In order to find an answer to the seventh research question of this study; "*Does employees' motivation mediate the relationship of transformational leadership with the organizational commitment of employees working in the pharmaceutical companies of Pakistan?*" a detailed statistical procedure was carried out. The statistical results presented that EM partially mediates the relationship between the independent variable (TL) and the dependent variable (OC). The seventh hypothesis of the study; "*Employees' motivation mediates the relationship between transformational leadership and organizational commitment*", was also accepted with the β value of 0.133 and the mediation effect was significant as supported by the *p*-value of 0.001 (presented in Table 13). These findings explain that the pharmaceutical firms in Pakistan have implemented TL in all components of the organizations as an extensive ideology to shape drive of the employees, and expand their motivation level. Due to the presence of a sound level of employees' motivation, the employer-employee affiliation is strengthened. In the context of this study, the causal-effect mechanism of TL on OC is explained by the partial mediation impact of employees' motivation.

> **T7. "Employees' motivation partially mediates the association between transformational leadership and organizational commitment of employees. These results demonstrate that the investigated firms use transformational leadership approach to provide a favorable environment to their employees which brings positive energies among the organizational members. Such positive energies and higher morale further strengthens the organizational commitment of the employees".**

Based on our findings, it can be stated that the transformational leaders in the investigated pharmaceutical firms are able to promote mutual trust in order to overcome the difficulties and problems faced by the employees. The managers are competent enough to communicate the organizational mission and vision, and at the same time urge the staff members to follow the crucial firm's values and beliefs. The confidence level of the personnel is raised by provoking enthusiasm among them to achieve the planned goals. Furthermore, the individuals get an extensive support from the leaders to develop their cognitive and innovative skills, and tackle problems and complete tasks in a creative manner. Every individual employee's opinions and suggestions are heard in these firms. Along with these, the employees are also appreciated and praised for the contributions and the achievements they make. The management is found dedicated when it comes to improving the cognitive and intellectual capabilities of the personnel. The availability of such favorable and flexible environment initiates positive energies among individuals. In such cases, the staff members feel much satisfied with the leadership, resulting in a higher degree of motivation among them. As a result of such heightened motivation, the workers develop loyalty and strong bond with their firms. They develop a positive attitude towards their employer backed by a strong will to be a part of the organization. Adopting to the flexibility and other robust attributes of TL, the managers in these firms keep the workers motivated. Such a higher level of employees' motivation

shapes emotions, attitude, morality, and beliefs of the individuals toward their employers that lead to a higher employer-employee association and commitment.

6 Contributions of the study

6.1 Theoretical Contributions

This study is grounded on a set of two theories - Herzberg Two-Factor Theory and the Social Exchange Theory (SET). There are numerous implications for Herzberg Two-Factor theory in a novel context whereby the investigation was successful to highlight the impacts of various satisfiers and hygiene factors among the employees in the pharmaceutical industry of Pakistan. The study illustrated that among the investigated HRM practices, compensation practices that represent salaries and wages, acted like an effective hygiene factor and invoked motivation among the workers that led to a strong employer-employee association. Transformational leadership was found to be another instrumental hygiene factor that initiated positive energies among the personnel and played a role in shaping organizational commitment of the employees. Furthermore, promotion practices and performance evaluation practices in the investigated HRM bundle were found to be productive satisfiers. After testing in a varied context, findings of this study reveal that the Herzberg Two-Factor theory is still valid and reliable even after decades of its postulation.

The findings of this study also make unparalleled contributions to the Social Exchange Theory (SET). In the light of SET, our findings present that the pharmaceutical firms in Pakistan invest properly in shaping and implementing various HRM practices. These practices are perceived by the employees as a sign of the company's dedication to them, and the staff members respond in ways that serve the organizational interests. The standardized compensation, promotion and performance evaluation practices implemented by these firms are considered an extensive commitment and support from the employers. As a result of these practices, individuals can improve their skills, motivation and career growth. As such, the workers respond by exerting extra energies to achieve the organizational goals, and also develop a strong association with the employers. A number of researchers (Aselage and Eisenberger, 2003, Cropanzano et al., 2017) have mentioned that SET can be explained through a social exchange process that comprises of the initiating actions and the reciprocating responses. In the context of our study, the initiating action took place when the transformational leaders in the investigated pharmaceutical firms treated the subordinates in a positive and good fashion, by stressing on all dimensions of transformational leadership. The workers are treated well, and their intellectual and individual needs are addressed. The contributions of individuals are recognized and appreciated, and they are empowered whereby their suggestions and opinions are also heard in these firms. The reciprocating responses are seen in the form of higher workers' motivation and their strong affiliation with the respective firms. The initiating actions were positive so it led to positive reciprocating responses as mentioned by Cropanzano et al. (2017). It is observed that the investigated firms have maintained a series of successful positive initiating actions (effective HRM practices and TL) and positive reciprocal responses (employees' motivation and OC) that have transformed the economic exchange relationship between the employers and employees into an optimistic social exchange relationship as presented by Cropanzano et al. (2017).

This study makes significant contributions to the knowledge on HRMP, TL, employees' motivation and OC in literature by using a complex model, and analyzing the mechanisms of how these variables interact. Although there are a lot of studies on these variables but most of those studies show a direct relationship between any two of these variables. As there are no studies that

investigated the mediation effects of employees' motivation on the relationship of HRMP and TL with OC, the findings of this study have a noteworthy significance to fill the gap in the existing literature.

6.2 Managerial Implications

Along with the significant theoretical contributions, this dissertation also offers vital practical implications for the pharmaceutical companies' management. Our findings suggest that the investigated HRM practices should be given a prime priority while designing the HR architecture of these firms to achieve competitive legacy. Firms can use appropriate and sophisticated compensation practices as a tool to develop a sense of consistency and fairness among employees. Similarly, if the firms implement fair and justified promotion practices, it will ensure that the employees are incentivized for their dedication, hard work, and contributions. The staff members will get a perception that they are treated well and their efforts are recognized. These practices will also meet the career growth needs of the personnel. As a result, the firm can witness lower turnover intentions and a higher commitment level of employees. Furthermore, HR practitioners should design performance evaluation practices in such a way that it can be used as a perfect tool to assess the efficiency and effectiveness of the workers. Such practices, if designed and implemented properly, can communicate organizational values and objectives. It is essential for the firms to assign the duties of performance evaluation to those supervisors or managers who are neutral and unbiased. Only in such case, the performance evaluation practice can shape a positive employees' attitude towards their organization. Similarly, HR practitioners should design these practices in such a way that they must be motivation enhancers. Poorly engineered HR practices that lack the competencies to induce positive energies among the workers can be drastic for companies. Therefore, manufacturing firms should embed internal coherence and consistency in these HRM practices that could enhance employees' motivation and ultimately it will lead to a higher commitment among the workforce.

As the Pakistan's economy is gradually shifting from the agriculture sector to the industrial sector, new firms are found on a frequent basis. Organizational jobs are getting more complex (Paracha et al., 2012), and at the same time, firms are facing challenges of high turnover rates and decreased employee performance (Naeem et al., 2019). In the face of such unprecedented challenges and changes, the firms can make efficient utilization of the transformational leadership approach to build a positive attitude of employees, and improve their commitment level. It is suggested that the business entities should apply TL in an appropriate way that it serves as a motivation enhancer, and that it can further expand the commitment level of individuals.

Organizational policymakers can make use of a combination of TL and the prudent HR bundle to cope with the issues related to the organizational commitment of employees. In this way, the transformational theories can be practiced by investing in crucial HRM practices that will not only keep the individuals motivated to act for the organizational interests but it will also develop a strong sense of emotional attachment between the employees and employers. This investigation also gives an insight to the newly established organizations (in the context of Pakistan) to review its leadership techniques and its investments in the mentioned HR practices. Considering the frequent dynamism and uncertainty in Pakistan, our findings also suggest those organizations that are in the developmental phase to focus on the flexibility benefits of TL rather than on other conventional leadership approaches and strengthen its HR department to develop such HR bundles that can be productive.

New Scientific Results of the Study

After carrying out a series of detailed statistical analyses and by using Structural Equation Modeling (SEM), this empirical investigation has yielded a number of new scientific findings that are mentioned below:

1. The results present that the HRM practices such as compensation, promotion, and performance evaluation have an instrumental effect in shaping a positive attitude of employees toward their employers. These practices are found to be standardized, fair, justified and guarantors of career growth. It gives the workers a reason to stay in their respective organizations whereby the foundation for this strong affiliation is provided by the significant level of organizational commitment among the employees of the pharmaceutical companies.

2. The empirical findings illustrate that the investigated HR bundle is proficiently used by the pharmaceutical companies to keep its employees motivated in the face of frequent dynamics and uncertainties in a transitional economy like Pakistan.

3. The investigation resolved the dilemma of black-box phenomenon by statistically proving the mechanism through which the HR practices engender OC among the employees. It is empirically tested that the investigated HR bundle bring positive energies and motivation among the workers that lead to a heightened organizational commitment among the employees.

4. Findings of this investigation present that the pharmaceutical companies develop a value system by using transformational leadership approach whereby the individuals get support, recognition, empowerment and opportunities to enhance their intellectual capabilities. Furthermore, the leadership aligns the individuals' needs with the organizational needs. In such, a strong bond between the employer and employee is built and the staff members are eager to strive for the organizational interests.

5. The results also demonstrate that TL provides a conducive, flexible, and favorable environment to employees that can motivate the workers. The acquired level of employees' motivation further enhances the commitment level of employees. In this way, the intervening factor (employees' motivation) is highlighted to understand the mechanism through which the investigated firms sharpen the commitment level of personnel.

6. By using a comprehensive and complex model, the results of this study suggest that a matrix of transformational leadership and HR bundle can be collectively used to improve the commitment level of employees. The flexible features of TL are helpful to properly implement the HR bundle in order to motivate the workers that can give rise to a robust employer-employee association.

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List of Publication related to the thesis

1. Khan. F. and István. K., (2023) "The Efficacy of Human Resource Management Practices in Building Organizational Commitment of Employees: Evidence from Pharmaceutical Sector of Pakistan", *NUML International Journal of Business & Management*, 18(1). doi: 10.52015/nijbm.v18i1.161.
2. Khan, F., 2023. DYNAMICS OF HUMAN RESOURCE MANAGEMENT (HRM) STRATEGIES AND PRACTICES: A SILVER LINING FOR ORGANIZATIONS DURING COVID-19 PANDEMIC. Sarhad Journal of Management Sciences, 9(1).
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6. Khan, F., 2020. LEADERSHIP PAVING PATHS FOR QUALITY MANAGEMENT. *Intercathedra*, 44(3).

List of Further Publication of the author

1. KHAN, FAWAD; KUNOS, ISTVÁN The Impact of Training on Organizational Commitment, Turnover Intention of Employees and Employees' Performance: A Literature Survey HANTOS PERIODIKA 3. : 1. pp. 41-50. , 10 p. (2022)
2. Khan, F. and István, K., 2020. THE RELATIONSHIP BETWEEN JOB SATISFACTION AND ORGANIZATIONAL CITIZENSHIP BEHAVIOR: MEDIATING ROLE OF ORGANIZATIONAL JUSTICE. *Sarhad Journal of Management Sciences*, *6*(1), pp.31-48.