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Linking Employees' Change-Related Self-Efficacy, Change Readiness and Commitment to Change

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Abstract

Based upon the theory of planned behavior, this research intends to examine the direct impact of employees' change-related self-efficacy on their commitment to the change process. Further, employees' readiness for change is proposed as a mediator between change-related self-efficacy and commitment to change. Self-administered questionnaire was used for collecting primary data from 583 officer ranked employees working in financial institutions, media, and telecom sectors. To test the hypotheses for the effect of mediation, PROCESS macros are employed. Findings supported the hypothesized relationships of the study that employees' change-related self-efficacy directly influence their commitment to change. Moreover, employees' readiness to change also mediates the relationship between their change-related self-efficacy and commitment to change. These findings affirm the significance of the presence of these factors among employees during change and provide a foundation for equipping employees with the necessary belief, attitude and intention for successful implementation of the change process.

Keywords: change management, change self-efficacy, change readiness, commitment to change, affective commitment, continuance commitment, normative commitment.

1. Introduction

Bringing in change is easy, whereas making it work is the most difficult part which is possible only when the employees of the organization embrace change. Change is a

perpetual and interminable process in the life of an organization. As the environment is getting progressively more dynamic, organizations are constantly challenged to introduce changes in their culture, structure, strategy, and process (Cummings & Worley, 2014) for survival. Organizations, nowadays, have to make immense efforts in order to keep pace with the new developments which are the result of an augmented environmental complexity and subsequently, researchers interest has developed in studying and understanding the process of change and development with each passing day (De Meuse et al., 2010). For survival in such a complex environment, organizations need to anticipate, plan and implement the change rapidly. Consequently, organizations go through moderate to major levels of changes in not more than four to five years (Lewis, 1999). Most of the companies realized that they need to carry out moderate level changes in not more than a year and need to bring major level changes every 4 to 5 years (Kotter & Schlesinger, 1979).

Change-related activities generally begin with great excitement and enthusiasm but slow down as time passes, and the guaranteed capability of the original excitement is never achieved (Ho et al., 1999). Organizational change efforts are often dealt with such ineffectiveness that they bring about organizational crises (Probst & Raisch, 2005). Meaney and Pung's (2008) research with over 3,000 executives as respondents stated that two-third of them reported that their organizations remained unsuccessful to bring significant or noticeable change after executing the change process. The more dynamic the environment is, the more an organization needs the ability to change for survival. The pace with which change occurs might leave the employees overwhelmed unless they are ready for it. The only way of bringing change, with the hope that it will prevail in the long run, is to change the attitudes of employees towards change. Once they are changed, they will lead the change process instead of being forced to do so.

Constraints originate from within when implementing any change in the organization. They are not merely created by the external environment, but most often are part of the internal system of any organization. Argyris (1999) and Schein (1996) gave a parallel view when they say that many constraints in an organization are present within the organization. In the case of an organization, internal constraints can be changed so as to adapt to the progressions in the external environment. Potential sustainability of any change program is linked with the capability of the organization to adjust and adapt which is rejected by the forces that hamper development and growth by decelerating

change (Senge et al., 1999). On an individual level, constraints are from within the individual. If individuals intend to overcome those constraints, they might be able to show more commitment toward the change process.

The most repeated factor, in the existing literature, as the source of failure to adapt to any change is related to employees' responses during change such as lack of staff cooperation (Ho et al., 1999); inadequate attention to issues concerning employees (Kotter, 1996); less engaged employees (Meaney & Pung, 2008); employees' apathy (Mosadeghrad & Ansarian, 2014); and less responsiveness to internal customers (Shaheen, 2016). Employees, without much doubt, do not participate in change or feel any commitment towards it when they do not feel ready for any change program. Theory of reason action (Fishbein & Ajzen, 1975) expresses that an individual's intention is dictated by attitude and shared norms. Taking into consideration this theory, there is a need to understand and identify the factors which contribute towards employees' commitment towards the change process. Literature has established that employees' commitment towards change positively influence their support for change programs, nevertheless, organizations most often remain unsuccessful in spawning the appropriate level of employees' commitment towards change (Hill et al., 2012). In this regard, employees' readiness towards change is often neglected and this leads organizations to not be able to create employees' commitment to change.

Fishbein and Ajzen (1975) stated that attitude is a function of beliefs. Therefore, developing a particular attitude in employees requires working out on bringing in the related belief(s). For building a sense of employees' readiness for change, creating self-efficacy for change might be the first step (Berneth, 2004) as high self-efficacy affects their readiness for change (Emsza et al., 2016). According to theory of planned behavior (Ajzen, 1985), an individual's behavioral intention is dictated by his/ her attitude towards the act and by his/ her belief(s). Based on this argument, favorable change-related intentions can be generated by influencing the beliefs and attitudes of the employees.

In the light of the high rate of failure in implementing change, there is a need to identify the factors, the presence or absence of which can boost or hinder the implementation of any change program (Vakola, 2016). Employees' self-efficacy, readiness, and commitment towards change are often neglected and are not included in the change implementation plan and process. This leads organizations to not be able to predict, understand or control employees regarding the organizational change. No significant research work has been carried out for investigating the mediating effect of readiness to change for the relationship between change-related self-efficacy and commitment to

change. Most of the noted literature available has investigated the direct impact of readiness on commitment (Holt et al., 2007; Hadden et al., 2018; Agnew et al., 2019). Some researchers examined the mediating effect of readiness for commitment where predictor variable is other than change-related self-efficacy (Visagie & Steyn, 2011; Santhidran et al., 2013; Bakari et al., 2017). Therefore, the current study will bridge this gap in the literature utilizing the postulations of the theory of planned behavior (Ajzen, 1985, 1991).

In this study, change-related self-efficacy (CSE hereafter) is taken as an independent variable to predict employees' commitment to change (CtC hereafter) and it is proposed that the presence of change readiness (CRd hereafter) as a mediator will be helpful to create CtC in employees who have self-efficacy related to change. In specific, this study attempts to answer the following research questions:

- Does employees' change-related self-efficacy (CSE) relate to their commitment to change (CtC)?
- Does employees' change readiness (CRd) mediate the relationship between their change-related self-efficacy (CSE) and commitment to change (CtC)?

Rationale which gives the motivation to examine these relationships is the fact that change should not be brought in coercively. Rather it needs a step by step process where CSE is required which changes the attitude and brings in CRd which in turn generates CtC in the employees. This study agrees with the literature and also, will expand the organizational change related literature by investigating the self-efficacy, readiness, and commitment related to change in an organization. This study is set to establish through empirical investigation that an employee's CSE helps in creating commitment towards change in the presence of CRd. The theoretical framework for this study is developed on the basis of the theory of planned behavior (Ajzen, 1985, 1991). This study pursues value addition in the literature around CSE, CRd, and CtC and will provide assistance in devising a set of action plans to bring out the desired change-related intention in the employees during any organizational change program. The key factor in the organizations is the individual who challenges uncertain situations and the ambiguous environment by developing certain beliefs, attitudes, and intentions along with acquiring the skill and knowledge to be adaptable and accepting change as an opportunity. The results of the current study will contribute, to organizations and change managers, in understanding the significance of equipping employees with the necessary belief(s), attitude(s), and

intention(s) to successfully implement the change process. This study will assist them to identify that organizations need to put in efforts to build in CSE and CRd in employees in order to develop CtC. The outcomes of this study will prepare the managers ahead of time to lessen or to evade adverse consequences for the organization and will help them understand what they need to know and do in order to proactively prepare the employees in anticipation of any change initiative.

In the coming sections, a critical review of existing literature is done which led to the development of hypotheses of the study. Literature review is followed by the materials and methods section which discussed the research methodology employed which is followed by the results and discussion of those results. Lastly, theoretical and practical implications, conclusion, limitations of the study and directions for future research will be discussed.

2. Literature review

Theory of planned behavior (Ajzen, 1985, 1991) has already been discussed in the literature regarding the organizational change (Peach et al., 2005; Jimmieson et al., 2008) and is an extension of the theory of reasoned action (Fishbein & Ajzen, 1975). This theory explains that the skills of employees, constraints in the environment and the intention to act upon a behavior, are antecedents of the behavior. This intention to exhibit a certain behavior is determined by the attitude of the person and the belief in his/ her ability. The theory of planned behavior is utilized in this study and is used to create the basic skeleton of the model of the study. This study investigates the antecedents of the intention towards change in an organization. For that purpose, CSE is proposed as the belief which affects CRd, i.e. attitude, and that eventually affects CtC which is hypothesized as the intention.

2.1 Relationship between Change-Related Self-Efficacy and Commitment to Change

Beliefs are shaped through experiences of a person about the world, i.e. how the world works and what is considered to be right or wrong (Hultman, 1979). Having this feeling that an individual is competent provides intrinsic motivation for work (Bandura, 1997), therefore, individuals who have this sense of competence at carrying out their jobs will be more committed to continue doing that work (Kraimer et al., 1999). Therefore, an employee's belief is an independent variable in our model that will predict the intention. In our hypothesized model, employee's CSE is introduced as a belief which is the most important part of the social cognitive theory of Bandura (1986). Self-efficacy encompasses beliefs that an individual has in his/ her capacities to manage and

implement the plans of action which are essential to managing a forthcoming situation (Bandura, 1995).

Theoretically, intentions define a person's behavior in realizing his/ her goals. Intentions reflect the assurance and commitment to execute an activity. Cohen and Levesque (1990) defined intention as making a choice that is complemented with resolution or commitment. Moreover, Gibbs (1999) explained intention as a psychological state of a person that embodies his or her disposition about what it is that he or she wants to do and this is grounded in an aspiration that can really be accomplished. CtC is introduced into the model as the employee's intention construct. CtC, by definition, is different from organizational commitment. Meyer and Herscovitch (2001) modified the definition of organizational commitment, developed by Meyer and Allen (1991), in order to make it pertinent to use irrespective of the target to be achieved. A general definition of commitment proposed by Meyer and Herscovitch (2001) says that it is "a force that binds an individual to a course of action of relevance to one or more targets". On the basis of this definition, Herscovitch and Meyer (2002) further developed a definition of CtC as "a force (mind-set) that binds an individual to a course of action deemed necessary for the successful implementation of a change initiative". Herscovitch and Meyer (2002) further put forth definitions of the three components of CtC. They defined affective commitment to change (ACtC hereafter) as "a desire to provide support for the change based on a belief in its inherent benefits"; continuance commitment to change (CCtC hereafter) as "a recognition that there are costs associated with failure to provide support for the change"; and normative commitment to change (NCtC hereafter) as "a sense of obligation to provide support for the change".

Numerous research studies investigated the impact of self-efficacy on commitment (Ware & Kitsantas, 2007; Rathi & Rastogi, 2009; Niu, 2010; Klassen & Chiu, 2011; Akhtar *et al.*, 2013; Chesnut & Burley, 2015). It is noteworthy, on the other hand, that much work available has explored this relationship in general and not in the context of the organizational change. Park and Jung (2015) reported in their study that occupational self-efficacy is positively related to career and organizational commitment. Further, Zhu (2018) and Lee (2019) also stated similar results that self-efficacy has a significant positive relationship with organizational commitment.

Extant literature has examined the impact of self-efficacy for one of the components of commitment, i.e. affective commitment (Baron & Morin, 2010; Conklin *et al.*, 2012;

Lejonberg & Christophersen, 2015; Albrecht & Marty, 2017). Herscovitch and Meyer (2002) reported in their study that ACtC has the strongest relationship with change-related behaviors than the other two components of CtC. A study (Mangundjaya & Giovanita, 2018) carried out in the Indonesian context, on banking and insurance industries, reported that CSE has a significant and positive effect on ACtC. Researchers around the world might have dwelled on the idea that the affective commitment is more responsive towards variables related to commitment and therefore should be given more attention in research. But studies can be found that are conducted to investigate all three components of commitment. A study conducted in China on nursing postgraduate students found out that self-efficacy related to career decision is found to have a significant positive correlation with the affective, continuance and normative commitment (Wang et al., 2018).

Developing foundation on the basis of available literature, this study hypothesized that an individual's CtC is affected positively if he/ she has this belief that he/ she is competent which is an attribute of self-efficacy. Hypotheses for commitment as well as its three dimensions are as follows:

- **H₁**: There is a positive relationship between change-related self-efficacy and commitment to change.
- **H_{1a}**: There is a positive relationship between change-related self-efficacy and affective commitment to change.
- **H_{1b}**: There is a positive relationship between change-related self-efficacy and continuance commitment to change.
- **H_{1c}**: There is a positive relationship between change-related self-efficacy and normative commitment to change.

2.2 Relationship between Change-Related Self-Efficacy and Change Readiness

In Fishbein and Ajzen (1975) words “a person's attitude toward a given object is a function of his beliefs that the object has certain attributes and his evaluation of those attributes”. For building a sense of employees' readiness for change, creating self-efficacy for change might be the first step (Bernerth, 2004). In order to gain initial support from employees for any change initiative, CRd is possibly one of the key factors (Armenakis et al., 2000). Though Jacobson (1957) presented the notion of readiness for the first time but the underpinning of readiness as a distinct construct has been rooted in a number of theoretical models which are also part of change literature. Employees' CRd is

perceived as a critical antecedent for the effective execution of organizational change (Armenakis et al., 1993; O'Connor & Fiol, 2006). Researchers suggested that half of the organizations which suffered from unsuccessful change efforts are those which failed to develop adequate readiness towards change in their employees (Kotter, 1996). Readiness to change is defined as “an individual’s beliefs, attitudes, and intentions regarding the extent to which changes are needed and the organization’s capacity to successfully make those changes” (Armenakis et al., 1993).

Few research studies have been carried out to explore the relationship between CSE and CRd but they are not in the context of organizational change (İnceçay & Dollar, 2012; Makki et al., 2015; Oh & Lee, 2018). Results of a research study conducted by Saptono and Purwana (2016) showed that self-efficacy generates a positive effect on the entrepreneurial attitude of respondents. Readiness reveals the degree to which a person is persuaded to accept, adopt, and embrace a change plan purposely at the cognitive and emotional level to change the status quo (Holt et al., 2007). Fischer and Bilz (2019) conducted a study regarding teachers’ readiness to intervene in bullying in German schools. They stated that a high level of self-efficacy in teachers is strongly connected to their readiness to immediately intervene in bullying. Solfema et al. (2019) also reported that in order to increase job readiness, first self-efficacy needs to be improved.

Most of the research work available in the context of change does not utilize the scales of variables particularly related to organizational change. The more the employees are self-confident, the easier it will be for them to respond favorably towards the change carried out by the organization as high self-efficacy affects their readiness for change (Emsza et al., 2016). CRd literature proposes that an evident need for change, a belief in one’s own capability to effectively achieve change and the prospect of taking part in the process of change add up to create CRd in employees (Armenakis et al., 1993). Therefore, there is a need to carry out a scientific investigation relating these two variables in the context of change to identify their relationships so that organizations might get benefited from the findings of such studies for their change programs.

This study, therefore, hypothesized that employees’ CSE would contribute to their readiness towards change. Based upon this discussion, the following hypothesis is developed for empirical testing:

- **H₂:** There is a positive relationship between change-related self-efficacy and change readiness.

2.3 Relationship between Change Readiness and Commitment to Change

Theory of reason action (Fishbein & Ajzen, 1975) expresses that an individual's intention is dictated by attitude and shared norms. An organization where innovation and change is considered as a part of the culture, exercises normative pressure which can make employees feel an obligation to go along with the change offered by the organization. Literature has demonstrated that the affective and normative commitment of employees towards change has a positive relationship with their support to change programs, nevertheless, organizations often remain unsuccessful in inspiring and bringing out a suitable level of employee commitment towards change (Hill et al., 2012).

Saptono and Purwana (2016) conducted research on the entrepreneurial attitude of students and concluded that the entrepreneurial attitude has a positive impact on students' entrepreneurial intentions. Malebana (2014) also reported similar results in his study which is conducted on entrepreneurial intentions of students in rural South Africa. The study stated that students' attitude towards entrepreneurship, the perceived control over their behavior and the subjective norms forecast entrepreneurial intentions. The results of the study also identified that the entrepreneurial attitude generates a high effect on entrepreneurial intentions as compare to any other variable. It is also reported in a research study carried out in the United States that in personal relationships readiness strongly predicts commitment towards that relationship (Hadden et al., 2018; Agnew et al., 2019).

Miller et al. (1994) indicated that among the factors that are considered as the source of the failure of a successfully implemented change, few are as important as the attitude of the employees towards change. Shah et al. (2017) conducted a research study in Pakistan on attitudes and behaviors of employees regarding change and concluded that attitudes of the employees are the foundation on which long term commitment with change can be produced. Ingersoll et al. (2000) stated that organizational CRd is the key predictor of an employee's commitment to the employing organization. Literature demonstrates that CRd in individuals is one of the key predictors of employees' ACtC in an organization (Holt et al., 2007; Herold et al., 2007). Furthermore, data collected from energy sector of Malaysia (Santhidran et al., 2013) also concluded that CtC can be improved by developing and increasing CRd in the employees. Visagie and Steyn (2011) also stated that change readiness can be termed as the principal predictor, in the category of attitude, which predicts commitment.

Not much research work is available regarding the relationship between these two variables in the context of organizational change. Much of the available literature explores the impact of commitment on readiness and not the way it is proposed in this study (Madsen et al., 2005; Nordin, 2011; Nordin, 2012; Suwaryo et al., 2016; Mansour et al., 2017; Al-Hussami et al., 2018; Seggewiss et al., 2018). As CRd has a strong link with the commitment to the organization, therefore, we can assume that the organizational readiness will have a positive impact on the CtC. Making grounds with the above discussion, we have developed the following hypotheses for CtC as well as its three dimensions:

- **H₃**: There is a positive relationship between change readiness and commitment to change.
- **H_{3a}**: There is a positive relationship between change readiness and affective commitment to change.
- **H_{3b}**: There is a positive relationship between change readiness and continuance commitment to change.
- **H_{3c}**: There is a positive relationship between change readiness and normative commitment to change.

2.4 Mediating Role of Change Readiness

Not much research work is conducted to investigate the mediating effect of change readiness for the relationship between CSE and CtC. Solesvik (2013) conducted one such research study on university students of Ukraine investigating the effect of entrepreneurial motivation on the development of entrepreneurial intentions with the mediating effect of attitude, subjective norms and behavioral control. He concluded that attitude mediates the relationship for entrepreneurial intention. Santhidran et al. (2013) conducted a study in Malaysia to examine the mediating effect of CRd on the relationship between leadership and CtC. They reported that CRd does act as a mediator for CtC.

Thien (2019) conducted a study in Malaysian context and collected data from school teachers. He reported that intentional readiness for change mediates the relationship between leadership team cooperation and ACtC. While the relationship between participative decision making and ACtC is mediated by intentional, emotional and cognitive readiness for change. Visagie and Steyn (2011) carried out a study in Cape Peninsula and reported that readiness mediates the relation of training and

communication with affective and normative commitment but not with continuance commitment given to the fact that continuance commitment is related to the economic benefits and is not much affected by readiness. Bakari et al. (2017) conducted a study in Pakistan on hospitals in the public sector and reported that readiness for change can augment the commitment of the employees towards change. Moreover, most of the existing literature on the mediating effect of readiness between some predictor and commitment is not in the context of organizational change. Moreover, it does not contain self-efficacy as the predictor in the study. Therefore, there is a need to conduct a study to identify the mediating effect of CRd between CSE and CtC.

On the basis of the above discussion regarding the mediating effect of CRd for CtC, we have developed the following hypotheses for CtC as well as its three components:

- **H₄**: Change readiness mediates the relationship between change-related self-efficacy and commitment to change.
- **H_{4a}**: Change readiness mediates the relationship between change-related self-efficacy and affective commitment to change.
- **H_{4b}**: Change readiness mediates the relationship between change-related self-efficacy and continuance commitment to change.
- **H_{4c}**: Change readiness mediates the relationship between change-related self-efficacy and normative commitment to change.

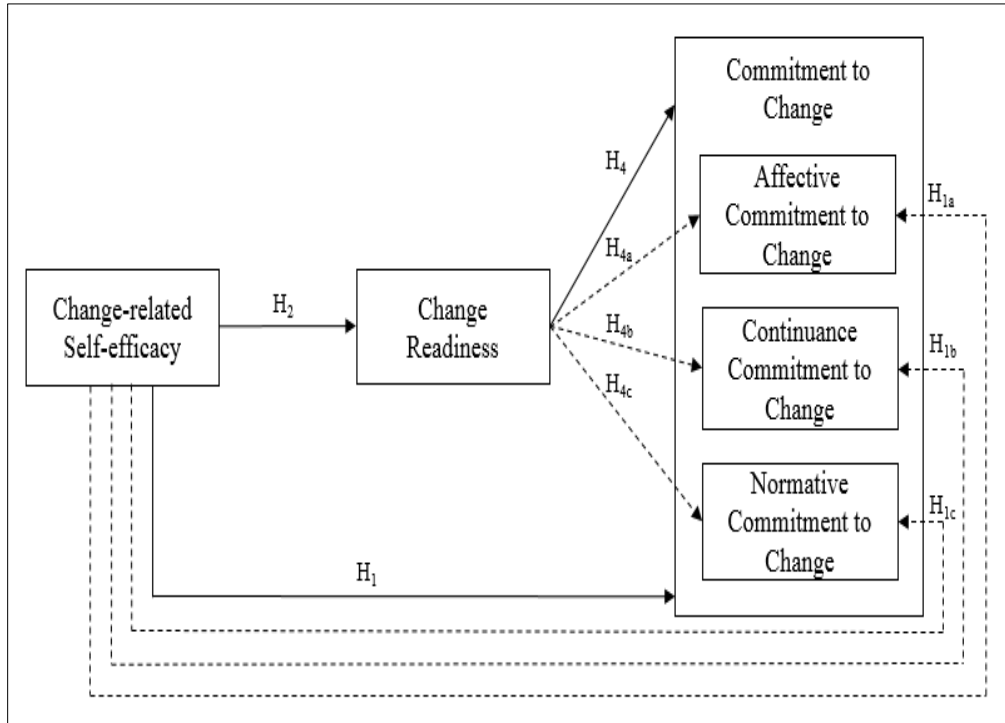


Figure 1: Hypothesized Model of the Study

3. Materials and Methods

This study adopts a cross-sectional survey-based research design and primary data is collected through self-administered questionnaire. Millar *et al.* (2012) reported banking, insurance, and telecom as those industries which are high-tech and therefore are subject to face recurrent change. Moreover, literature shows that since the last decade, the media industry in Pakistan has also been affected by new technologies (Siraj, 2009). As technology has brought about major changes in these industries, therefore data is collected from these three industries for the purpose of this study.

Most of the companies realized that they need to carry out moderate level changes in not more than a year and need to bring major level changes every 4 to 5 years (Kotter & Schlesinger, 1979; Lewis, 1999). While mentioning the study of Kotter and Schlesinger (1979), Stavros et al. (2016) stated that the organizations, today, are working under an environment that is changing much faster than it was in the previous century and therefore undergo a constant struggle with this ever-changing organizational environment. Keeping this in view, we can take companies in the above-mentioned industries which are in operation for at least last five years assuming that they must have undergone some kind of change in the last five years.

Moreover, for this study, individual employees working in the aforementioned industries, are the unit of analysis. The respondent must be an employee of the organization for at least one year to be selected for this study and was selected from employees who were working at officer rank and above level as these are the employees who are more prone to face change in the organization. This study has utilized multi-stage sampling. First, a purposive sampling technique was employed to select the companies which are in operation for at least the last five years. In the second stage, the quota sampling technique was used to select companies from each sector as one of the sectors, i.e. telecom, is small as compared to the other two sectors. On the third stage, again purposive sampling was employed to select employees from each company who were contacted for filling the survey.

As the population is unknown in the case of this study, therefore, Cochran's formula (Cochran, 1977) is used to conclude the sample size. This formula generated a sample size of 384 respondents. In addition to this formula, data analysis requirements are also taken into consideration. Total number of items, in the questionnaire, are 106 and taking five respondents against each item yields 530 respondents (Hair et al., 1998; Tabachnick et al., 2007). Respondents were selected from above-mentioned industries from Federal Capital Territory Islamabad and Punjab province of Pakistan. In order to avoid the cases of under-filled or not responded questionnaires, 800 questionnaires were circulated, out of which 606 were received back. After watching out for under-filled questionnaires, 583 questionnaires were finally used for data analysis.

3.1 Measures of Variables

Different multi-item measures are adopted from previous studies to devise the questionnaire for this study. These measures are tested as reliable and valid by many previous research studies.

3.1.1 Change-related Self-Efficacy (CSE)

Self-efficacy is measured through change self-efficacy scale developed by Holt et al., (2007). It comprises of six items (e.g. “I have the skills that are needed to make this change work”). Participants can choose one out of the 5 response choices where ‘1’ stands for “strongly disagree” and ‘5’ stands for “strongly agree”.

3.1.2 Change Readiness (CRd)

CRd is measured through a scale that is adopted from CRd scale developed by Samaranyake and Takemura (2017). It consists of six items (e.g. “I am wiliness to support the change process in the firm”) on a 5-point Likert scale, i.e. (1) strongly disagree, (2) disagree, (3) neutral, (4) agree and (5) strongly agree.

3.1.3 Commitment to Change (CtC)

It is measured through a scale constructed by Herscovitch and Meyer (2002). It is composed of three dimensions. The first dimension, affective CtC consists of 6 items (e.g. “I believe in the value of this change”). Second dimension, continuance CtC, consists of 5 items (e.g. “I have too much at stake to resist this change”). Normative CtC, the third dimension, consists of 3 items (e.g. “It would be irresponsible of me to resist this change”). All the items have five response choices i.e. (1) strongly disagree, (2) disagree, (3) neutral, (4) agree and (5) strongly agree.

3.1.4 Control Variables

Some additional variables were incorporated as control variables, based upon the existing literature, as they might affect the variables in the model of the study. This study controlled for the effect of employee age, gender, education, time span in organization, industry and change type as they might have a potential influence on the variables of the study.

Descriptive statistics are used to describe the demographics of the sample along with the key variables of the study. Confirmatory factor analysis (CFA) is employed to ensure the validity of the scales used in this study followed by Cronbach’s alpha test to determine the reliability of the measures used. Further, Hayes (2012) and Preacher and Hayes (2004) PROCESS macro were used test the hypotheses for the effect of mediation.

4. Results and Discussion

Confirmatory factor analysis (CFA) is conducted in AMOS 20 to determine the convergent and discriminant validity of the measurement instruments utilized in this

study. As per CFA results, none of the items has a factor loading score less than .50 (Hair et al., 1998) which warrants the convergent validity of the constructs employed in this study and therefore, none of the items are omitted from further data analysis. Factor loading scores of all the items of the scales are presented in Table 1. The proposed three-factor model of the study exhibited a satisfactory model fit, i.e. $\chi^2/df=1.264$, IFI=.993, TLI=.992, CFI=.993, RMSEA=.021 (Table 2), for the data. Literature indicates that the acceptable value for IFI, TLI, and CFI is a value above .90 while a value of less than 3 is considered good for χ^2/df (Hall, Snell & Foust, 1999; Kline, 2005). Furthermore, the value of 0.05 or less for RMSEA, would point to a model-fit (Browne & Cudeck, 1993). Therefore, these findings established the convergent validity of the measures used in this study.

Table 1: Factor Loading Scores

Items			Factor Loading	Items			Factor Loading
CSE1	<---	SE	.628	CtC2	<---	CtC	.850
CSE2	<---	SE	.532	CtC3	<---	CtC	.856
CSE3	<---	SE	.657	CtC4	<---	CtC	.865
CSE4	<---	SE	.609	CtC5	<---	CtC	.869
CSE5	<---	SE	.626	CtC6	<---	CtC	.855
CSE6	<---	SE	.579	CtC7	<---	CtC	.854
CRd1	<---	CR	.606	CtC8	<---	CtC	.850
CRd2	<---	CR	.661	CtC9	<---	CtC	.849
CRd3	<---	CR	.690	CtC10	<---	CtC	.856
CRd4	<---	CR	.634	CtC11	<---	CtC	.847
CRd5	<---	CR	.670	CtC12	<---	CtC	.848
CRd6	<---	CR	.639	CtC13	<---	CtC	.867
CtC1	<---	CtC	.831	CtC14	<---	CtC	.867

Furthermore, to confirm the discriminant validity of the variables, model fitness indices were generated by CFA for two alternative plausible models other than the proposed three-factor model. The purpose was to compare the model fit of the proposed three-factor measurement model of the study with all the alternative models (Pak & Kim, 2016; Riaz & Mahmood, 2017). For the first alternate model, two variables were merged making the model into two-factor model. The second alternative model is generated by merging all three factors into one factor generating a single-factor model. The results of

all models are presented in Table 2. The proposed three-factor model of the study exhibited a model fit which is better than the alternative models. Therefore, CFA results showed that the three-factor model is the best fit to the data. Consequently, it established the discriminant validity of the proposed three-factor model of the study.

Table 2: Measurement Models

Models	χ^2/df	IFI	TLI	CFI	RMSEA
Proposed three-factor model	1.264	.993	.992	.993	.021
Two-factor model ^a	5.720	.871	.859	.871	.090
One-factor model ^b	7.842	.813	.796	.812	.108
^a CRd and CtC combined into single factor.					
^b CSE, CRd and CtC combined into single factor.					

Further, Cronbach's alpha is used in this study to measure the reliability of the measurement scales. It is the most commonly used tool to measure the reliability of the scales (Tavakol & Dennick, 2011). The closer the value of Cronbach's alpha to 1, the more reliable the scale will be considered (Santos, 1999). Cronbach's alpha scores for CSE, CRd and CtC are .78, .81 and .97, respectively. Furthermore, the reliability scores for affective CtC, continuance CtC and normative CtC are .94, .93 and .90, respectively.

Descriptive statistics explains all the demographic variables of the study. Regarding age, a bigger percentage (80%) of the respondents range from age 26 to 35 years. Most of the respondents are male (70.3%) while only 29.7% are females. The descriptive statistics results of education indicated that most of the respondents have four years of university education (88.5%). Percentage of respondents from each industry type identified that most of the respondents are from financial institutions (49.4%) and media (45.1%) while only 5.5% of respondents are from telecom. This distribution of respondents is representative of the size of each industry. Results for change type demonstrated that the type of change the three industries went through varies among the nine categories. However, most of the companies went through business/market expansion (26.2%); cultural change (19.9%); development of new business strategy (17.8%); or technological change (14.4%).

To measure the initial relationship regarding CSE, CRd, and CtC, correlation (Table 3) is employed to study the relationship between key variables of the study. Correlation

provides initial information regarding the interrelationship between variables of interest. Control variables showed significant relationships with only a few variables. Employee age is found to be significant with time span ($r = .40, p < .01$), CSE ($r = -.14, p < .01$) and CRd ($r = .11, p < .01$). Interestingly, employee time span spend in current organization is found to be significant with CSE ($r = -.09, p < .05$) and CRd ($r = -.09, p < .05$). Apart from control variables, the interrelationships between all the variables are found to be significant except for one i.e. CSE and affective CtC. CSE has a positive and significant correlation with all the variables except affective commitment. It is reported in the literature that CSE has a positive relationship with affective and normative commitment and has no effect on continuance commitment (Alam, 2016). It is also stated by van Vuuren, de Jong, and Seydel (2008) that self-efficacy does affect affective commitment. The results, in these studies, are contrary to the result of our study in the case of affective and continuance commitment. It might be due to the reason that having the capability (self-efficacy) to do something does not necessarily mean an individual wants (affective commitment) to exercise that capability as well or the capability does not necessarily create affiliation (affective commitment) with the organization. Neves (2009) also found in his study that self-efficacy has no effect on affective CtC. Meyer et al. (2002) reported in their study that self-efficacy has a positive effect on affective commitment but this effect is weak. Moreover, having the capability might make an individual feel the need (continuance commitment) to exercise it because this will help in his/her career. CRd is positively and significantly correlated with all the variables of the study. CtC also has a positive and significant correlation with other variables of the model of the study.

The mean values and standard deviations of the variables are also presented in table 3. Mean value of CSE demonstrates that on average respondents “agree” that they have CSE (Table 3). CRd has a mean value of 4.39 which again indicates that respondents agree that they have CRd. CtC shows that respondents agree on having a commitment towards change but the mean value of 3.98 (which is close to 4) conveys that agreement is not as strong as it is for the first two variables and it also has an element of being neutral towards having commitment towards change. The mean value for the dimensions of commitment are also given in table 3. Affective, continuance and normative CtC show mean values of 3.94, 3.91, and 3.93 respectively. These mean values are close to 4 which are consistent with the results of CtC. All three dimensions show that respondents agree on having all 3 dimensions of CtC. The time span of respondents in their current organization is represented by the number of years

and its mean (2.5) shows that on average the time span of respondents is two and a half years.

Table 3: Correlation Matrix

	Age	Gender	Education	Industry	Time span	Change Type	CSE	CRd	C/C	.ACC	CC/C	.NCC
Age												
Gender	-.07											
Education	-.05	.09*										
Industry	-.05	.06	-.05									
Time span	.40**	-.06	-.07	-.13**								
Change Type	-.03	.02	.01	-.20**	-.03							
CSE	-.14**	-.01	.03	.03	-.09*	.06						
CRd	-.11**	.01	.02	-.07	-.09*	.03	.30**					
C/C	-.05	.01	-.05	.03	-.07	.05	.12**	.14**				
1..ACC	-.04	.05	-.02	.11**	-.07	.02	.06	.14**	.77**			
2..CC/C	-.07	-.01	-.03	-.04	-.05	.02	.16**	.14**	.74**	.44**		
3..NCC	-.040	.03	-.03	-.01	-.05	.04	.10*	.12**	.65**	.45**	.47**	
Mean	2.51	1.30	2.08	1.56	2.45	4.82	4.31	4.39	3.98	3.94	3.91	3.93
Std. Dev.	.87	.46	.33	.60	1.43	2.84	.66	.71	1.12	1.09	1.10	1.14

Time span = experience in organization
 ** Correlation is significant at 0.01 level (2-tailed).
 * Correlation is significant at 0.05 level (2-tailed).

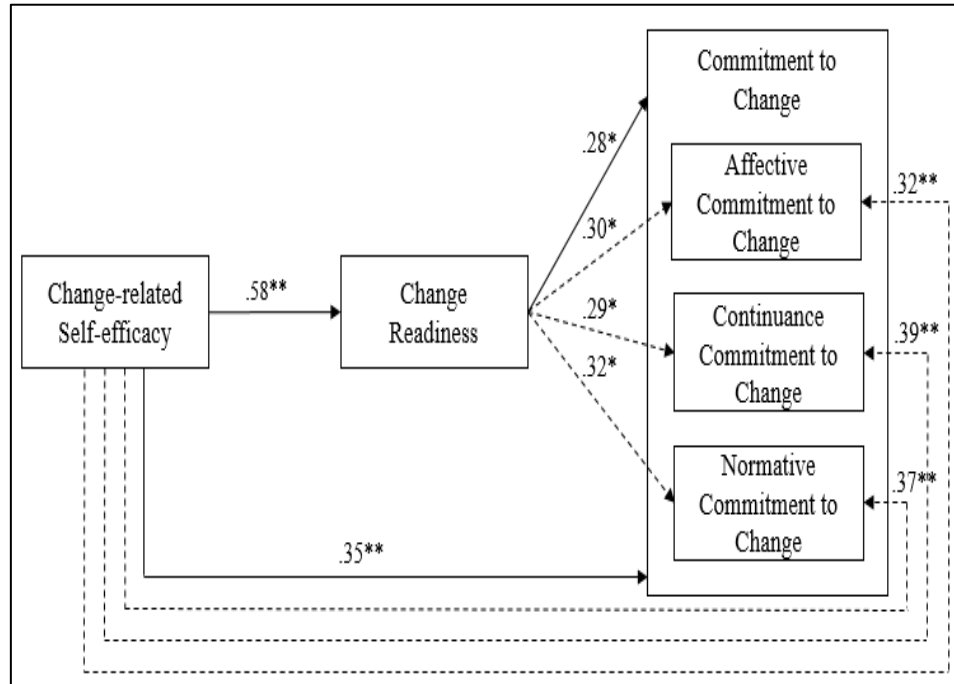


Figure 2: Process Macro Results

Figure 2 exhibits the results of Process Macro. Table 4 displays the outcomes of the tests run in the Process Macro for four mediation models. First, mediation model is run for CtC as the outcome variable, while the next three mediation models have outcome variables as the three components of CtC, i.e. ACtC, CCtC and NCtC. For all the models, among the control variables, only time span in the organization is significantly related to CRd. The negative beta coefficients in all four models show that the less time an employee has spent in the organization, the more he will be ready to change. Hanpachern, Morgan, and Griego (1998) suggested that the length of employment did have an impact on change-related factors. In this study, it is in an inverse relationship with the CRd. The reason might be that employees are more prepared to welcome change when they have spent less time in the organization and want to create a better rapport of themselves by accepting the change rather than rejecting it.

The first model displays the results of the total effect of CSE on CtC. It shows significant results ($\beta = .35, p < 0.01$). The lower limit confidence interval (LLCI) and upper limit confidence interval (ULCI) are .21 and .49 respectively, exhibiting no zero in between therefore it can be concluded that the total effect of CSE on CtC is significant. It is also stated in the literature that perceived control over the behavior can forecast intention for that behavior (Malebana, 2014). Pillai and Williams (2004); and González et al. (2018) also stated in their study that self-efficacy does positively affect commitment. This supports hypothesis 1 of the study which says that a positive relationship exists between CSE and CtC. The direct effect of CSE on CRd is found to be significant ($\beta = .58, p < 0.01$) with LLCI of .51 and ULCI of .66 which established that CSE has a strong positive impact on the mediator of the study, i.e. CRd. These results also have support from the literature which says that self-efficacy positively affects attitudes of the employees (Saptono and Purwana 2016), self-efficacy positively affects readiness to change to generate positive response towards change (Emsza et al., 2016) and that employees' capability to achieve change can create CRd (Armenakis et al., 1993). Therefore, hypothesis 2 is accepted which says that CSE positively affects the CRd of the employees.

Table 4: Process Macro Results

Relationship	Total Effect	BC 95% CI		Direct Effect	Indirect Effect	BC 95% CI	
		Lower	Upper			Lower	Upper
1. CtC							
CSE – CtC	.35**	.21	.49	.19*	-	.02	.35
CSE – CRd	-	-	-	.58**	-	.51	.66
CRd – CtC	-	-	-	.28**	-	.13	.44
CSE – CRd – CtC	-	-	-	-	.17*	.07	.26
2. Affective CtC							
CSE – ACtC	.32**	.18	.46	.15	-	-.01	.31
CSE – CRd	-	-	-	.58**	-	.51	.66
CRd – ACtC	-	-	-	.30**	-	.15	.44
CSE – CRd – ACtC	-	-	-	-	.17*	.08	.27
3. Continuance CtC							
CSE – CCtC	.39**	.26	.53	.22**	-	.06	.38
CSE – CRd	-	-	-	.58**	-	.51	.66
CRd – CCtC	-	-	-	.29**	-	.14	.44
CSE – CRd – CCtC	-	-	-	-	.17*	.07	.27
4. Normative CtC							
CSE – NCtC	.37**	.23	.51	.18*	-	.01	.35
CSE – CRd	-	-	-	.58**	-	.51	.66
CRd – NCtC	-	-	-	.32**	-	.17	.48
CSE – CRd – NCtC	-	-	-	-	.19*	.09	.29
** . Significant at 0.01 level (2-tailed). * . Significant at 0.05 level (2-tailed).							

The direct effect section with CtC as the dependent variable and both CSE and CRd as predictors shows that the beta coefficient for the effect of CSE on CtC is .19 which is significant at 0.05 with LLCI and ULCI of .02 and .35 respectively. Further, the beta coefficient for the effect of CRd on CtC is .28 which is significant at 0.01 with LLCI and ULCI of .13 and .44, respectively. It supports hypothesis 3 of the study. Results here are in accordance with the literature which reported that readiness can augment the

commitment of the employees towards change (Mangundjaya & Gandakusuma, 2013, Bakari *et al.*, 2017). In the mediation model, the indirect effect is computed as the difference between total and the direct effect of the independent variable (Hayes, 2012). Here in this model, the indirect effect shows significant results ($\beta = .17$, $p < 0.05$) with LLCI and ULCI of .07 and .26 respectively. As there is no zero in between LLCI and ULCI, therefore it can be concluded that CRd mediates the relationship between CSE and CtC. It supports the hypothesis 4 of the study. This result is close to the study of Solesvik (2013) where it is reported that entrepreneurial intentions are mediated by attitude. Santhidran *et al.* (2013) also indicated that CRd mediates the relationship between CSE and CtC.

The second model (table 4) displays the results for ACtC. The total effect of CSE on ACtC is significant ($\beta = .32$, $p < 0.01$). LLCI and ULCI are .18 and .46 respectively, exhibiting no zero in between. This result supports hypothesis 1_a of the study. It is in line with literature which indicates that self-efficacy has a positive relationship with affective commitment (Canrinus *et al.*, 2012; Alam, 2016; Orgambídez *et al.*, 2019). The direct effect of CSE on CRd is significant and similar throughout the four models as the same independent variable and mediator are utilized in the study, therefore, there is no need to discuss it repeatedly. The results of the effect of CSE on ACtC, in the presence, of mediator is insignificant ($\beta = .15$, $p > 0.05$) while the beta coefficient for the effect of CRd on ACtC is .30 which is significant at 0.01 with LLCI and ULCI of .15 and .44 respectively. This supports hypothesis 3_a of the study which says that there is a positive relationship between CRd and affective CtC. It is also reported in the literature that readiness has a positive relationship with affective commitment (Cho & Kwon, 2005; Mangundjaya & Gandakusuma, 2013). The indirect effect shows significant results ($\beta = .17$, $p < 0.05$) with LLCI and ULCI of .08 and .27 respectively exhibiting no zero between LLCI and ULCI. Hence, it can be concluded that CRd mediates the relationship between CSE and ACtC. It confirms the hypothesis 4_a of the study.

The third model (table 4) displays the results for CCtC. The total effect of CSE on CCtC shows significant results ($\beta = .39$, $p < 0.01$). LLCI and ULCI are .26 and .53 respectively, exhibiting no zero in between. Hence, it can be stated that the total effect of CSE on CCtC is significant. This result supports the hypothesis 1_b of the study. It is also supported by literature which reports that self-efficacy has a positive relationship with continuance commitment (van Vuuren *et al.*, 2008). The direct effect section in the third

model shows results for CCtC as the dependent variable and both CSE and CRd as predictors. The beta coefficient for the effect of CSE on CCtC is .22 which is significant at 0.01 with LLCI and ULCI of .06 and .38 respectively. Further, the effect of CRd on CCtC is .29 which is significant at 0.01 with LLCI and ULCI of .14 and .44, respectively. This supports hypothesis 3_b of the study. Literature also suggests that CRd contributes towards CCtC (Mangundjaya & Gandakusuma, 2013). Visagie and Steyn (2011) on the other hand, stated that continuance commitment is not affected by readiness. The results of this study are in the context of Pakistan and culture might be a factor in generating results that are contrasting to some of the literature. Moreover, the results of indirect effect are significant ($\beta = .17, p < 0.05$) with LLCI and ULCI of .07 and .27 respectively. As there is no zero between LLCI and ULCI, therefore it establishes that CRd mediates the relationship between CSE and CCtC. It supports the hypothesis 4_b of the study.

The fourth model (table 4) shows the results for NCtC. The total effect of CSE on NCtC is significant ($\beta = .37, p < 0.01$) with LLCI and ULCI of .23 and .51 respectively. Henceforth, it is concluded that the total effect of CSE on NCtC is significant. It supports hypothesis 1_c of the study. Literature also reports that self-efficacy has a positive relationship with normative commitment (van Vuuren et al., 2008; Alam, 2016). The direct effect of the model shows NCtC as the dependent variable and both CSE and CRd as predictors. The effect of CSE on NCtC is significant ($\beta = .18, p < 0.05$) with LLCI and ULCI of .01 and .35 respectively. Similarly, the effect of CRd on NCtC is also significant ($\beta = .32, p < 0.01$) with LLCI and ULCI of .17 and .48 respectively. Literature has also reported that CRd contributes towards NCtC (Mangundjaya & Gandakusuma, 2013). This supports hypothesis 3_c of the study. Moreover, the results of indirect effect are also significant ($\beta = .19, p < 0.05$) with LLCI and ULCI of .09 and .29 respectively. As there is no zero between LLCI and ULCI, therefore it is established that CRd mediates the relationship between CSE and NCtC. It supports the hypothesis 4_c of the study.

5. Theoretical and Practical Implications

This study has hypothesized and empirically tested an integrated empirical model that is grounded on the relationship among CSE, CRd, CtC. This study has built a link between employees' self-efficacy, readiness, and commitment when an organization is going through change. These three variables are linked through the theory of planned behavior (Ajzen, 1985) which explains that intention generates from attitude and attitude is created from belief. We have utilized this theory to contribute to the literature of self-efficacy, readiness, and commitment taking them as belief, attitude and intention respectively. Here, we have used change-related scales of the three variables rather than their

generalized versions. This also gave contradictory results at some point which is mentioned in the study.

The outcomes of this study have practical repercussions for organizations not only in the financial, media and telecom sector but for all the organizations out there working with human resources. This study identifies that to establish commitment in employees regarding the change process in the organization is possible only when employees feel ready towards the change. The readiness towards the change comes when employees have self-efficacy concerning the change process. The belief that they are able to handle the change and can perform better, creates readiness towards that change which in turn produces commitment towards the change. Therefore, it reinforces the presence of a strong belief in the form of self-efficacy towards change in employees to make them welcome the change process rather than counterattacking it. It emphasizes that employees' self-efficacy, readiness, and commitment should be aligned with the change process to successfully execute the change process. For those who are involved in the training and education of employees in an organization, our findings point towards important factors that need to be cultivated in the employees for the effective execution of the change program in the organization.

This study has implications for further research where related studies should be carried on in many different sectors of the business world to identify the similarities and differences in the relationship of these variables in different sectors. This study also needs to be replicated in order to explore the association between these three variables through a longitudinal study which will help in identifying the cause and effect relationship among the variables over the period of time. A wide variety of variables affect CtC apart from the ones included in this study. Additional studies can be carried out including those variables to get a much wider view. Yet, this study provides a foundation for initiating such practices in organizations where employees are prepared and equipped with the necessary belief, attitude and intention regarding the upcoming change process to welcome it with strong conviction and perform at their best. The positive relationship found among self-efficacy, readiness, and commitment regarding change affirms the significance of the presence of these factors among employees during the change to successfully implement the change process.

6. Conclusion

This study endeavored to empirically explain the relationship between CSE and CtC, along with its three components, and whether this relationship is mediated by CRd or not. The findings of the study revealed that CSE depicts a positive significant relationship with CtC and its components which is debatable as continuance commitment is related to economic benefits and is not supposed to be affected by self-efficacy. CRd was also significantly related to CtC and it also mediated the relationship between CSE and CtC as well as the three dimensions of CtC. This is again contrary to some of the literature regarding CCtC as it is found in the literature that continuance commitment is not affected by change readiness. These results are in the context of Pakistan and therefore they can differ slightly or significantly in other cultural settings. The culture of a country affects considerably the way variables impact each other. Therefore, further research can be conducted so as to ascertain the difference in results that can be produced by the culture. This kind of research will further add value to the literature around the variables of this study.

7. Limitations of the Study

Although this study significantly added value to the existing body of literature, like all other research studies, this study also has few limitations. First, non-probability sampling technique was utilized to identify the sample. These sampling techniques were utilized to fulfill a few conditions set by the authors to select the sample. These conditions are discussed in the materials and methods section of the study.

Second, the impact of the independent variable on the outcome variable does not provide the whole story. As the CtC is affected by a wide variety of variables that cannot be included in a single study such as culture and religion, future researchers could get lead by adding more such variables to explain this relationship. And due to this reason, some results are in contradiction to the literature.

Lastly, a key limitation of this study is the cross-sectional design and this does not permit us to identify the effects of variables over the period of time. Therefore, future studies should be conducted with longitudinal data to validate the cause-effect relationship among the study variables over the period of time.

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