CHAPTER 4: RESEARCH METHODOLOGY

4.1 Chapter Overview

The previous chapters till now explained about the antecedents associated with employee engagement and employee creativity, our research objectives and hypothesized model. This chapter gives an overview of the research methodology we adopted to achieve our research objectives. We begin this chapter by describing the scope of our study followed by a description of our research design. Here we discuss the sampling frame, sampling method, sample size and sampling element. Next, we present an overview of the scales and instruments we have used to measure the independent and dependent variables as well as the pilot study that was conducted. We then move on to a description of data collection process and also outline the challenges faced during it. We conclude the chapter with a brief overview of the statistical techniques used for analysis of data in this study.

4.2. Scope of the Study

This study aims to determine the relationship between employee engagement and employee creativity with their antecedents, where we considered hotel organizations to form the scope for our research study. The tourism and hospitality industry in India is evolving as one of the fundamental influencers of growth amongst the various Indian services sector. Tourism in India has substantial development and growth prospects owing to the historical heritage and rich cultural, diversity in terrains, ecology and places of natural beauty all around the country. The industry is also a considerably enormous originator of job opportunities in the country apart from a major source of foreign exchange (IBEF, 2018). The Indian hospitality & tourism industry

reported nearly 12% of the job avenues created in the country in 2017-18, employing nearly 81.1 million people (IBEF, 2019).

The world that comes with a job in hotel organizations for individuals is anything but easy. Hotel managers and staff are often found juggling between a number of tasks. In spite of having different roles and responsibilities assigned to individual departments, hotel staff is expected to be able to deal with customer demands and expectations at all times. Hotel organizations run their business operations round the clock which leads to long and irregular working hours for the employees. In India, the average working hours for an employee range between 11-16 hours per day depending on the nature of operations and number of staff available. Working for 12 hours or more in a shift is quiet common for Indian hotel employees. With such tedious working conditions, keeping employees motivated and engaged can be quite challenging for hotel managers.

4.3. Research Design

A research design lays the basis for conducting the research. This study was conducted using descriptive research design. The role of a good research design is to ascertain that the evidence obtained facilitates you to effectively address the research problem rationally and as unambiguously as possible. The main purpose of descriptive research is to discover inferences or causal relationships. Descriptive research methods are typically as they sound, i.e. describe situations. It is aimed at finding out 'what is', in order to describe events, people's behaviors, etc. A typical descriptive study is marked by prior formulation of specified hypotheses and a preplanned & structured design. This research design comprises of surveys followed by quantitative analysis of data. These stages of research design are presented in Figure 4.1.

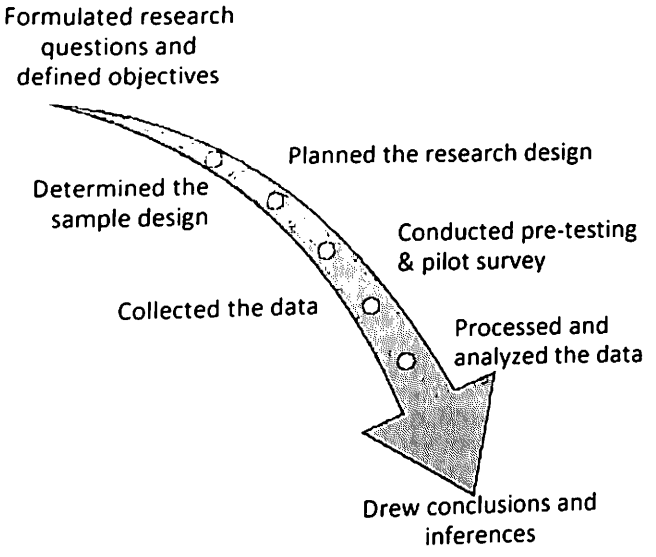

Figure 4.2: Stages of Research Design

4.3.1. Sampling Frame

The proposed model based on the relationship between employee engagement, employee creativity and their antecedents is tested on a sample drawn from a few hospitality organizations operating in India. Sampling frame for this study was employees working in these hotels. We ensured that some key parameters are met while including every data point, i.e. survey response for further processing the data and its analysis. These conditions include respondent should be working full time. For instance, hotel organizations also have their industrial trainees (ITs) and management trainees (MTs) work as full time employees but they are not on company pay role. We further divided the employees based on their job profiles of managerial and non-managerial nature. Hence, any questionnaires filled by such (non-managerial and temporary) employees were eliminated from our sample. They should have spent a certain period of time working in the hospitality industry. A representative sample was then extracted from the population for further data analysis. Demographic profile of respondents and measurement scales for each variable are described in further sections

4.3.2. Sampling Method

We have used judgmental quota sampling technique for the purpose of data collection in our study. It is a non-probability sampling technique also popularly known as purposive, selective or subjective sampling. This technique is used by researchers when the chosen elements in the sample are selected by their judgment. In this case, we chose the managerial level employees as our sampling elements. The managerial employees function with a job description that demands for effective performance and being highly engaged as well as creative with respective to their role.

Further, we compiled the list of all departments at the hotel organizations including FOH (front of the house) and BOH (back of the house). FOH departments are those that deal directly with hotel customers in one way or another. For instance, Front Office, Housekeeping, F&B (Food & Beverages) Sales, F&B Production, etc. Whereas, BOH departments are those that handle employee related issues and the back-end operations of the hotel. These departments don't deal directly with the customers of the hotel. These include, HR, IT, Accounts, Security, etc. We did this to ensure that all managerial level employees from each of these departments are covered in the sample for our research. This is where we used quota sampling technique for including the appropriate sample. Quota sampling is yet another non-probability sampling technique wherein the population is divided into a mutually exclusive, sub0groups on the basis of a given proportion.

4.3.3. Sample Size

In order to obtain reliable assessments from a given study, it is crucial to have an appropriate sample size. We conducted our data analysis using Canonical Correlation (CanCorr) technique

(to understand the relationship between antecedents with employee engagement and employee creativity) and Structural Equation Modeling (SEM) technique (to test the proposed model). We collected a total of 274 usable datasets for our final data analysis.

4.3.4. Sampling Unit

A sample unit is the basic unit that contains the elements of the population to be sampled. All the FOH and BOH departments were the sample unit in our study. We made a consolidated list of all departments to ensure that no potential subject was left out from the total sample to be collected.

4.3.5. Sampling Element

A sample element is the object that holds the information pursued by the researcher. All the managerial level employees across each of the departments that worked on full time company role were included as our final sample element for this study.

4.4. Scales & Measures for Data Collection

The study aims to investigate the relationship between employee engagement, employee creativity and their antecedents. An original set of 135 scale items of all the variables in the proposed model was generated from extensive literature review (presented in Table 4.1). During the literature study it was found that multiple set of measurement instrument have been used based on different study context and across disciplines. Our questionnaire also included questions to gather information about the respondent's demographic and job related profile. For instance, their department, designation, work experience (in years), age, gender and education (based on SEC classification)

4.4.1. Independent Variables

Task characteristics was measured by 24 items from the Work Design Questionnaire by Morgeson & Humphrey (2006) where items were classified into the core task characteristics; autonomy, task identity, skill variety, task significance and feedback. Participants indicated the extent of each characteristic in their job with the help of a 5-point Likert scale where (1) indicates strongly disagree and (5) indicates strongly agree. *Perceived Organization Support* was measured by the sixteen item short form of the survey of perceived organization support (SPOS) by Eisenberger and colleagues (1986) and *perceived supervisor support* was measured by a short version of the SPOS. Participants responded on a five-point Likert scale where (1) stands for strongly disagree and (5) for strongly agree.

Table 4.1. Scale of Measures used in This Study

Constructs	Scales used by	No. of scale items
Task Characteristics	Work Design Questionnaire by Morgeson & Humphrey (2006)	24
Perceived Organization Support	Survey of Perceived Organization Support (SPOS) by Eisenberger and colleagues (1986)	16
Perceived Supervisor Support	Survey of Perceived Supervisor Support (SPSS) by Eisenberger and colleagues (1986)	36
Intrinsic Motivation	Tierney et al (1999)	9
	Situational Motivation Survey(SIMS) by Guay and colleagues (2000)	10
Creative Self-Efficacy	Tierney & Farmer (2002)	24
Perceived Value Congruence	Work Values Survey (WVS) developed by Cable & Edwards (2004a)	9
Employee Engagement	Utrecht Work Engagement Scale (Schaufeli, Bakker, & Salanova, 2006)	7
Employee Creativity	Munoz-Doyague et al (2008)	32
Creative Personality	Kirton's Adaptor Innovator (KAI) by Kirton (1976)	

The reversed scale items from the SPOS were treated accordingly. The measure for *intrinsic motivation* consisted of 9 items developed for this study. Out of which five items were adopted from Tierney et al (1999) and four items were adopted from situational motivation survey (SIMS) by Guay and colleagues (2000). Participants responded using a five-point Likert scale ranging from (1) strongly disagree to (5) strongly agree. *Creative self-efficacy* was measured by the ten item scale by Tierney & Farmer (2002). A five-point Likert scale was used by participants to respond. Finally, *perceived value congruence* was measured using the 24 item work values survey (WVS) developed by Cable & Edwards (2004). For individual values, respondents answered the question "How important is this to you?". Responses ranged from (1) unimportant to (5) very important. For organizational values, respondents answered for the same set of values with respect to the following question "How important is this at your organization?". Again the responses ranged from (1) unimportant to (5) very important.

4.4.2. Dependent Variables

Employee engagement was measured using 9-item Utrecht Work Engagement Scale (Schaufeli et al., 2006) which measures the level of engagement in employees by means of three subscales (3 items for each dimension):, namely vigor-VI (e.g., At my work, I feel bursting with energy), dedication-DE (e.g., I am enthusiastic about my job), and absorption-AB. The literature review suggested that the UWES was the most popular of the engagement scales in the current research studies. The UWES 5-point Likert scale has also been studied extensively to confirm the validity and reliability of the scale. For this reason the UWES-9 was selected as the instrument to measure work engagement for this study

Employee creativity was measured using the 11 items scale developed by Munoz-Doyague et al (2008). The scale measures mainly two aspects of creativity; novelty and utility. Participants were to score on a five-point Likert scale ranging from (1) strongly disagree to (5) strongly agree.

4.4.3. Moderator: Creative Personality

In order to test the relationship between creativity leading to engagement, we tested the relationship using a moderator variable; creative personality. *Creative personality* was measured using the 32 items scale popularly known as KAI, developed by Kirton (1976). The scale items are statements attributing to the adaptive and innovating cognitive style ranging from strongly disagree (1) to strongly agree (5). Some of the scale items were as follows, "I like to vary set routines at a moment's notice", "I prefer to work on one problem at a time", "I have original ideas", "I am methodical and systematic", etc. The total scores of employees were used to place them in either adaptor or innovator category. All of those who scored a total below the mean value of total scores were categorized as adaptors and those who scored a total above the mean were considered innovators. This is a dichotomous variable, where (1) was coded for adaptors' scores and (2) was coded for innovators' scores.

4.5. Pilot study & Pre-testing

For the purpose of pre-testing, we asked two experts to choose four of their colleagues each, whom they closely associate with the category of being highly engaged, highly disengaged, creative and not creative individuals each. We conducted a preliminary analysis on these eight responses in order to check the appropriateness of the scales we used for our study. These

respondents were also asked for their feedback with respect to the design and comprehension of the research instrument.

Pre-testing helped in detecting the vague statements in the questionnaire by thoroughly examining the respondents' interpretation of the questionnaire (Converse & Presser, 1986). Appropriate changes and modifications were incorporated in the final questionnaire based on the feedback provided by the respondents. Our purpose was to ensure that no future respondents would have to face any difficulty in answering and understanding the questionnaire. For instance, the instrument used for measuring the variables in our study have been designed and articulated by authors whose vernacular is the English language mostly. However, majority of individuals working in the hospitality organizations are not well versed with complex English statements. Therefore, we provided the meaning of any such complex words (referred from Standard Oxford Dictionary) underneath the original statements of the scale items.

After pre-testing, a pilot survey was conducted in order to test the validity and reliability of the questionnaire. We selected 50 full-time employees whose job profiles included managerial level work characteristics or equivalent and asked them to participate in the short survey. The Cronbach's alpha coefficients were calculated using SPSS version 23 software and the values were noted to be above 0.70. Thus, indicating that the instrument is reliable to be used for the research study (Hair, Black, Babin, & Anderson, 2010). Conducting this pilot study has helped us in evaluating the challenges and potential problems in data collection, data entry and data analysis. We conducted an exploratory factor analysis on the data received from pilot survey. During factor analysis, some of the scale items that had factor loadings of less than 0.7 were dropped. The final questionnaire consisted of 135 scale items for further data collection. A schematic representation of conducting this research has been provided in Figure 4.2.

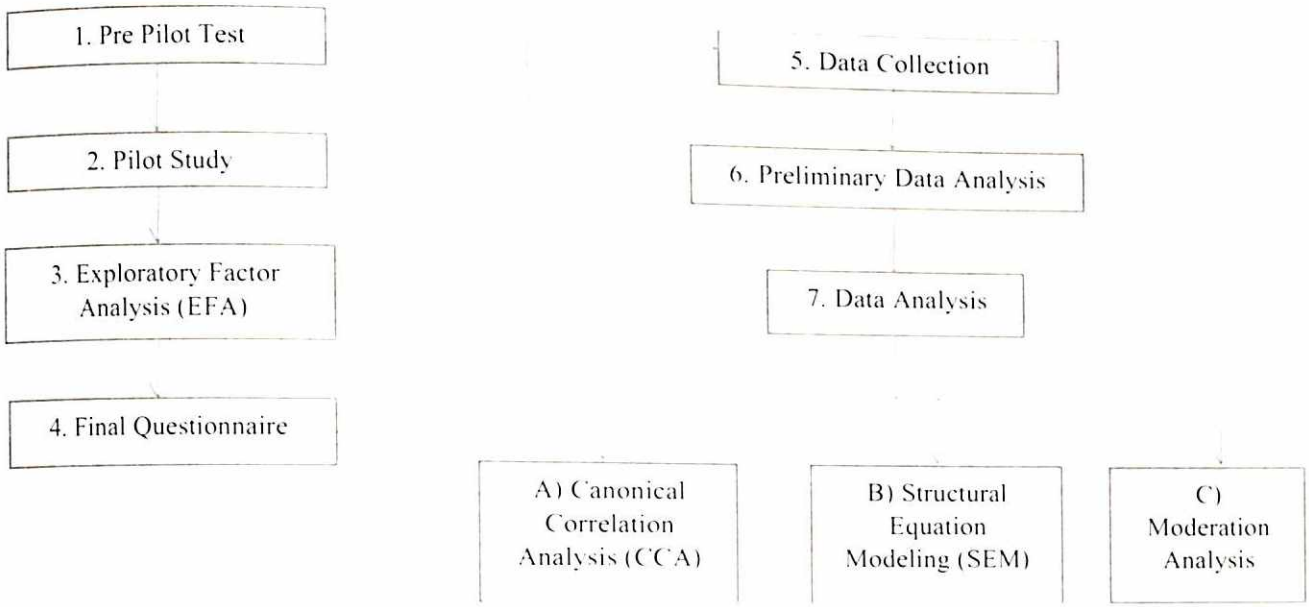

Figure 4 2: Schematic Representation of Conducting this Research Study

4.6. Data Collection

Once the review of literature was conducted and the appropriate research design formulated, we move to the next phase. The most crucial phase of a research process is the data collection phase. The entire process of gathering relevant data for the research is critical to the study as a whole. We conducted an extensive review of literature based on research articles published in peer-reviewed journals, book chapters, industrial reports, etc.

For the primary data collection, we contacted the HR departments and top management of various popularly known hotel brands in India. A brief presentation was given at each of these hotels regarding the research at hand, its purpose, variables under study and the method of data collection (i.e. survey through questionnaire). Getting permission from these organizations was very difficult and therefore, only a couple of the hotel chains gave us permission to conduct our research in their organizations' outlets that too because of strong network in the hotels' top management. In order to reduce biasness and for an effective data collection the researcher

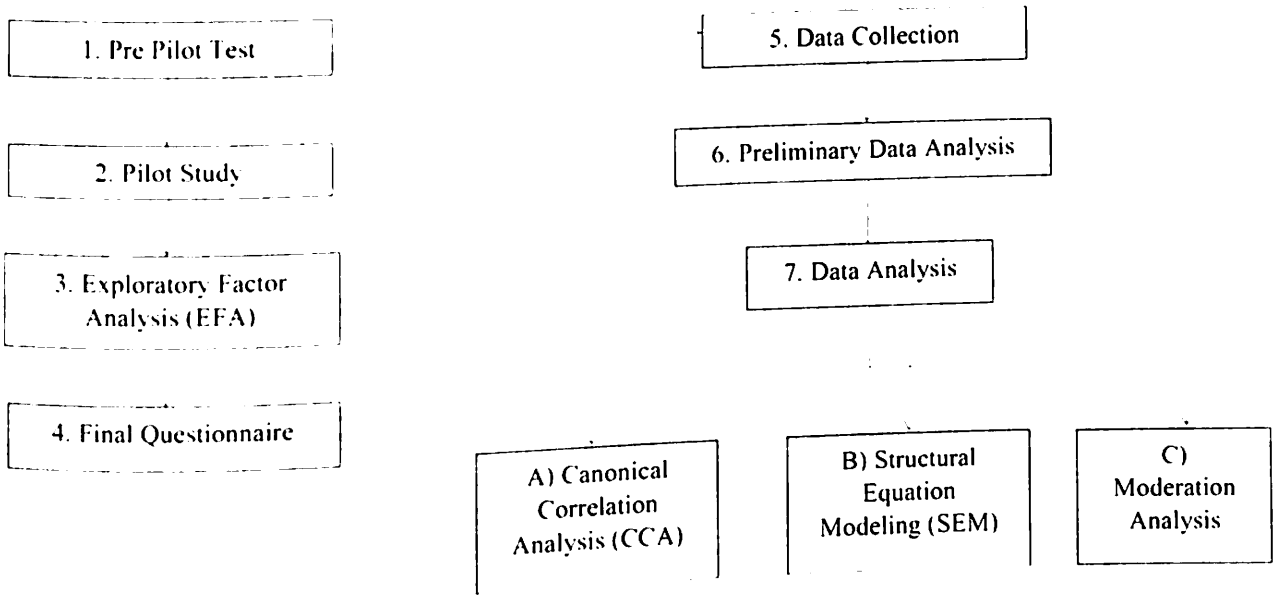

Figure 4.2: Schematic Representation of Conducting this Research Study

4.6. Data Collection

Once the review of literature was conducted and the appropriate research design formulated, we move to the next phase. The most crucial phase of a research process is the data collection phase. The entire process of gathering relevant data for the research is critical to the study as a whole. We conducted an extensive review of literature based on research articles published in peer-reviewed journals, book chapters, industrial reports, etc.

For the primary data collection, we contacted the HR departments and top management of various popularly known hotel brands in India. A brief presentation was given at each of these hotels regarding the research at hand, its purpose, variables under study and the method of data collection (i.e. survey through questionnaire). Getting permission from these organizations was very difficult and therefore, only a couple of the hotel chains gave us permission to conduct our research in their organizations' outlets that too because of strong network in the hotels' top management. In order to reduce biasness and for an effective data collection the researcher

joined the hotel organization's head office in their HR department as an industrial trainee. Since these organizations did not approve that their information be disclosed, we have not mentioned their names.

We used a self-administered structured questionnaire to collect data for quantitative data analysis. For collecting the data, the researcher had joined the organization as an industrial trainee for the entire duration of data collection. During this period, the interaction with employees provided us some insights from respondents and an in-depth understanding of the employees' behavior at work.

The internship profile consisted of various tasks to be performed in the HR department. Majority of these tasks were same as that of the employees in the department. The number of tasks assigned during this internship covered almost all major HR functions from joining to relieving employees, etc. This made it relatively easy to reach and communicate with respondents. The prolonged engagement and easy going interactions with employees had a powerful impact on the meanings and manifestations of our observations.

We conducted our data collection in separate stages (see Table 4.2.). To begin with, we first familiarized ourselves with the organization as a whole. We thoroughly understood the company's structure, HR policies and procedures, daily routines, weekly operations and monthly or yearly conducted functions and events in the organization with respect to their employees. We then conducted our pilot survey and questionnaire pre-testing (see section 4.4). Once our final questionnaire was ready, we identified all the managerial level employees from the list of employees derived from the company's HR department. We then sorted this list of employees department wise to ensure that all managerial level employees, junior & senior executives, HODs, managers, assistant managers, hotel general manager, CTO, CFO, etc. are all included in

the survey. We distributed a total of 407 questionnaires and received 278 responses, out of which 4 were mostly incomplete and that left us with 274 usable responses for further analysis.

Challenges faced during Data Collection

Even though we had permission from the senior management to conduct our survey, getting senior rank managers to participate was extremely challenging and tiresome. Also, the length of the questionnaire was such that keeping participants attentive and interested during survey was often problematic.

Table 4.2. Stages of Data Collection Process Conducted during Research

Stages	Data Collection Process	No. of responses
Stage 1	Understanding the organization's structure, HR related policies & procedures, functions and operations of all departments (FOH/BOH)	-
Stage 2	Questionnaire pre-testing	8 responses (two for each category)
	Conducted a pilot survey	50 responses foe every scale
Stage 3	Judgmental sampling: Identified and selected managerial level employees	407
	Quota sampling: Divided the managerial level employees as department-wise.to ensure inclusion of participants from all the departments (FOH/BOH)	407
Stage 4	Self-administered questionnaire was handed over to respondents for their participation in the survey	395
Stage 5	Responses collected	278

4.7. Overview of Statistical Techniques for Data Analysis

This section provides a brief description of the statistical techniques used for data analysis in our study. We conducted preliminary data analysis after collecting the questionnaire from all the respondents included in our study. Next, we describe the multivariate statistical techniques employed in our research for the final data analysis.

4.7.1. Preliminary Data Analysis

The returned questionnaires were then pre-processed to check for inconsistent and inaccurate responses. We prepared the data for conducting the data analysis. This process included eliminating the incomplete responses, treating the missing values, coding and tabulating the data. In the preliminary data analysis, we generated descriptive statistics, cross tabulations and histograms to study the patterns in our data. Pearson Correlation was calculated among each of the variables using SPSS software. Correlation helped us to understand the association between two variables.

4.7.2. Multivariate Data Analysis

The final data analysis comprises of three parts in our research study. We first conducted a canonical correlation analysis to examine the overlap in antecedents of employee engagement and employee creativity. Nest we employed structural equation modeling to determine the relationships of antecedents with employee engagement and employee creativity. Finally, we perform a moderation analysis to investigate the reversed relationship of employee creativity and employee engagement using creative personality as a moderator.

Canonical Correlation Analysis (CCA)

One of the objectives in our study is to determine the relationship between the antecedents of employee engagement and employee creativity. To test the relationship between antecedents (independent variables or predictor set) and employee engagement and employee creativity (dependent variables or criterion set), the analytical tool should assist the researcher in understanding how these variables relate. When there is only one dependent variable used in a

study, multiple regression analysis is used generally. Since we are working with two dependent variables (EE and EC), we conducted analysis using canonical correlation technique.

Canonical correlation (CCA) is a multivariate technique used to analyze the relationship between two sets of variables. With the help of CCA technique, researchers can examine the complex reality of human behavior and cognitions where there is a possibility of multiple causes and multiple effects. In CCA, linear composites of each set of variables are formed such that the correlation between these linear composites is maximum. These sets of variables are referred to as the synthetic variables. The statistics related with test of significance and goodness of fit in CCA are directly analogous to those of multiple regression analysis.

We have calculated the squared canonical correlation (R^2_c) in order to determine the strength of the relationship between the independent and the dependent variables. In CCA, we calculate squared canonical structure coefficient (r^2_s) that indicates the percentage of variance an observed variable linearly shares with the synthetic variable created from the set of observed variables This is directly analogous to the R^2 effect in multiple regression.

Exploratory Factor Analysis (EFA)

Most common applications of conducting EFA is when relatively large set of variables needs to be reduced into a more manageable one, to develop and refine new instrument's scale, and to explore relations among variables to build theory (Reio Jr. & Shuck, 2014). We conducted exploratory factor analysis to identify and eliminate scale items irrelevant to this study's context and to develop a questionnaire that was valid to our study. KMO and Bartlet's test of sphercity was used to check the appropriateness of data. For factor analysis to be statistically significant and suitable, the KMO values should be above 0.50 and Bartlet's test should have $p<0.05$. In our

factor analysis, we observed that KMO value for all constructs is above 0.50 and Bartlet's test was $p<0.001$, which suggests the data is fit for conducting factor analysis.

As quoted in Malhotra & Dash (2017), factor analysis is a multivariate statistical technique used to reduce and summarize data. The purpose of an EFA is to "ascertain the most parsimonious number of interpretable factors required to explain the correlations among the observed variables, with or without theoretical process in mind" (Reio & Shuck, 2014, Thompson, 2004). There are a number of approaches for factor extraction generally categorized between components or common factor approach. However, the most widely used are Principal component approach or Principal axis factoring approach (also known as Maximum likelihood approach). In our research, we used the PCA method for extracting factors since it produce components that represent the linear combinations of variables that retain as much information as possible about the original measured variables (Reio & Shuck, 2014). We used varimax rotation to find the minimum number of factors accounting for maximum variance.

Nunnally (1978) suggests that a cut-off of 0.50 or 0.60 is sufficient for factor loadings of a scale item to be considered in a particular factor. In our study, we set of a cut-off limit for factor scores at 0.50 for a better validation of our scales. The items that loaded at a value of 0.50 or above were retained for further analysis. We conducted exploratory factor analysis on 135 scale items of our questionnaire that represent our study's independent and dependent variables. This set of items was reduced to a convenient set of 74 scale items. Cronbach's alpha was calculated to check the reliability of the reduced scales. Cronbach's alpha is an estimate of the internal consistency associated with scores that can be derived from a scale. In order to associate validity from the scores of scale, it is important for the scale to be reliable. It is important to check the

reliability of a scale before considering it for further analysis. The results from our study reported a minimum of 0.788, which is within the acceptable value for reliability (Nunnally, 1978).

Confirmatory Factor Analysis (CFA)

In order to assess the model fit of our hypothesized measurement model, we conducted a confirmatory factor analysis. It is a multivariate statistical technique used to examine the relationships between observed and unobserved variables. This is generally based on a priori theory. In a CFA, we initially examine the factor loadings of all measures representing the constructs. Then we check the indices that suggest a model fit for that CFA analysis. In our study, the indices of model fit we took into account are Chi square test (CMIN/DF), comparative fir index (CFI), goodness of fit index (GFI) and root mean square error of approximation (RMSEA). This analysis was done using AMOS software.

Structural Equation Modelling (SEM)

We used structural equation modelling in our study to determine the path structure of the antecedents and employee engagement and employee creativity. In SEM technique, a system of regression equations is dealt with instead of a single simple or multiple linear regression. Since in our study, we are testing multiple relationships, SEM is extremely useful to check the overall model fit and to also identify new path structures among all the variables. In SEM we can check the measurement error in our model, which is based on the realistic assumption that indicators used to measure a variable are not perfect measures, and thus generates statistically consistent parameter estimates.

Moderation Analysis

We conduct moderation analysis to determine whether to what extent the relationship between an independent and a dependent variable is affected by a third variable. In this study, we test the reversed relationship, where the independent variable is employee creativity which is positively related to employee engagement. We have hypothesized that this relationship between employee creativity and employee engagement is positively affected by employees' creative personality, where creative personality (the moderator), is a dichotomous variable comprising of two groups adaptors (coded as 1) and innovators (coded as 2). For conducting moderation analysis we used the PROCESS 3 module extension, for SPSS version 23 software, developed by Andrew F. Hayes. Statistically, a moderation analysis is a multi-step multiple linear regression, also known as hierarchical multiple regression, where we test the relationship between a predictor variable and an outcome variable using an interaction variable. For example, in this study, our predictor variable is employee creativity which leads to engaged behavior outcomes when an individual's creative personality interacts with his/her level of creativity. We have tested the moderation effect by satisfying the conditions proposed by (Baron & Kenny, 1986).