CHAPTER-3

RESEARCH METHODOLOGY
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The researcher has taken the idea to develop the frameworks from framework of Schaufeli et al.’s (2002) work engagement and from the conceptual framework of Shirom’s (2003) Vigor which later on explored by Remo, Neli, (2012).

The main objective of the research was to find out the impact of each dimension of employee engagement i.e. absorption, dedication and vigor on talent retention. Further the researcher intended to identify the relationship of various demographic variables on employee engagement and impact of working environment on employee engagement and talent retention.

3.1 OBJECTIVES OF THE STUDY

1. To find out underlying factors of working environment and employee engagement
2. To measure the impact of working environment on employee engagement
3. To measure the impact of various factors of working environment on different dimensions of employee engagement.
4. To measure the impact of various facets of employee engagement i.e. absorption, dedication and vigor on talent retention
5. To measure the impact of working environment on talent retention
6. To compare the difference in the engagement level with respect to various demographic variables.

To avoid confusion the study is categorized into three parts as follows and accordingly hypothesis were framed.

Study 1: It examines the effect of working environment on employee engagement as stated in $H_1$. Further it examines the individual direct effects of factors of working environment on each dimension of employee engagement.

Study 2: It examine the relationship between employee engagement and talent retention ($H_2$) and also the individual direct effects of different facets of employee engagement on talent retention.
**Study 3:** It examines the influence of working environment on talent retention (H3). Further, individual direct effects of different factors of working environment on talent retention were examined.

### 3.2 HYPOTHESES

**Study-1**

H1: Working environment has a significant influence on employee engagement

H1.11: Relationships and communication system dimension of working environment has significant influence on vigor

H1.12: Quality of work life dimension of working environment has significant influence on vigor

H1.13: Appreciation dimension of working environment has significant influence on vigor

H1.21: Relationships and communication system dimension of working environment has significant influence on dedication

H1.22: Quality of work life dimension of working environment has significant influence on dedication

H1.23: Appreciation dimension of working environment has significant influence on dedication

H1.31: Relationships and communication system dimension of working environment has significant influence on absorption

H1.32: Quality of work life dimension of working environment has significant influence on absorption

H1.33: Appreciation dimension of working environment has significant influence on absorption
Study- 2

H₂: Employee engagement has a significant influence on talent retention

H₂.11: Vigor dimension of employee engagement has significant influence on talent retention

H₂.12: Dedication dimension of employee engagement has significant influence on talent retention

H₂.13: Absorption dimension of employee engagement has significant influence on talent retention

Study- 3

H₃: Working environment has significant influence on talent retention

H₃.11: Relationship and communication system has significant influence on talent retention

H₃.12: Quality of work life dimension of working environment has significant influence on talent retention

H₃.13: Appreciation dimension of working environment has significant influence on talent retention

Demographic variables

H₄ᵃ: Employee engagement level of academicians differs significantly among males and females

H₄ᵇ: Employee engagement level of academicians differs significantly among government and private academicians

H₄ᶜ: Employee engagement level of academicians differs significantly among married and unmarried employees

H₄ᵈ: Employee engagement level of academicians differs significantly among different age groups
H$_{4e}$: Employee engagement level of academicians differs significantly among different levels of education

H$_{4f}$: Employee engagement level of academicians differs significantly among employees with different designations

H$_{4g}$: Employee engagement level of academicians differs significantly among employees having different teaching experiences

H$_{4h}$: Employee engagement level of academicians differs significantly among employees having different level of income.

3.3 RESEARCH DESIGN

The purpose of the study was to empirically test the relationships between working environment, employee engagement and talent retention and to state whether these research prepositions could confidently be accepted or rejected. To test these prepositions multiple measures were used and to investigate the relationship the empirical design was selected. The research was empirical in nature as the data was collected with the help of questionnaires which is a method of survey data collection. The research methodology used is described in detail in the following points.

3.4 SAMPLE DESIGN:

Sampling frame

The population for this study was faculties from colleges and Universities in the Gwalior region. The sampling frame were the colleges and universities situated in the Gwalior region. Overall 30 colleges of Gwalior region (both private and Government) were covered under this study.

Sample Size

Initially about 400 questionnaires were distributed and out of which 336 were received back. But after discarding 29 questionnaires because they were incomplete only 307 were considered for further analysis.
Research Methodology

Sampling Technique

For the purpose of this study random sampling method was used. Random sampling is the most preferred data collection technique as every item from the frame has the equal chances of selection. To ensure the balanced representativeness of faculties this method was used. Sample included the faculties from private as well as government institutes of the Gwalior region.

3.5 SOURCES OF DATA:

Primary and secondary data sources were used to collect the information about the environmental factors affecting engagement level of faculties and the impact of engagement level on their retention. Primary data was collected with the use of standardized measures with some modifications. Survey conducted involved personal distribution of questionnaires to the faculties teaching in Private as well as Government colleges of Gwalior region and collection of the same after one day.

Secondary data sources included journals, magazines, newspaper article, research databases like EBESCO and reports from various consultancy firms like Towers Perrin, Gall up studies and Corporate Leadership Council (CLC) were reviewed to gain insight into the various aspects of employee engagement and its outcomes.

3.6 INSTRUMENT

A questionnaire and a cover letter were used to collect data (See Appendix). Following scales were used to collect the data:

Employee engagement: For this construct, Utrecht Work Engagement Scale (UWES: Schaufeli & Bakker, 2003) was used. It included 17-items grouped into three sub scales which measured vigor, dedication and absorption. All items were measured with a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The items within each sub-dimension scale were averaged for a single score for employee engagement. Cronbach’s alpha for Vigor ranged from 0.81 to 0.91, for dedication it ranged from 0.88 to 0.95 and for absorption it was ranged from 0.93 to 0.90 (already tested in previous study of Schaufeli & Bakker, 2003). For this study Cronbach’s alpha for employee engagement is .89
Talent retention.: Talent retention was measured using the scale which was used by Eva Kyndt & Filip Dochy & Maya Michielsen & Bastiaan Moeyaert, 2009 with certain modifications. This scale included 6 items each rated on Likert 5-point type scale with answers ranging from 1=Strongly Disagree to 5= Strongly Agree. Cronbach’s alpha for this scale found to be .83

Working environment: Items for working environment were self designed according to the nature of the academic environment. But the help was taken from the previous studies conducted on working environment. This scale has 17 items with acceptable levels of Cronbach’s alpha of .90

The cover letter was designed to encourage participation. The cover letter included the nature and the purpose of the study. Also it included a request for participation in the study, followed by statements assuring anonymity and confidentiality of data will be maintained. The questionnaire was first included the demographic details of the respondents following with other sections which included the questions related to the variables of working environment, employee engagement- absorption, dedication & vigor (dimensions of employee engagement) and talent retention.

This questionnaire then was tested through pilot study. For the pretest, the questionnaire was distributed to the 30 academicians of a private institute. Based on the feedback and queries, several items were reworded, and some items were reorganized into simpler terms. Also the data so collected was checked through item to total correlation and reliability analysis and modifications were made which were needed. Pretesting allowed the researcher to test the acceptability of the questionnaire in terms of the length and time constraints of the respondents. The final data was collected on a 1 to 5 Likert type scale. Likert scale is a psychometric scale which is most commonly used in social research. It is a common method used to measure the magnitude of beliefs, attitudes and intentions in behavioral research. It was developed by and named after organizational psychologist Rensis Likert. Further the normality of data was tested through Skewness and Kurtosis using SPSS 20 before applying the tests.
3.7 STATISTICAL ANALYSIS TECHNIQUES

Statistical analysis refers to a wide range of tools and techniques to explore and prove the relationships between two or more variables. Descriptive statistics and inferential statistics were used to analyze the data. Also reliability analysis was done to standardize the questionnaire. Reliability was assessed through Cronbach’s alpha. Validity was checked through face validity and construct validity. Construct validity was established through item to total correlation and exploratory factor analysis. Descriptive statistics was used to test the general trend and the distribution of the sample while inferential statistical tools like t-test, one way ANOVA, correlation and regression and factor analysis were used to test various hypotheses formulated by the researcher.

3.7.1 Independent Sample t-test

This is the most common and widely used statistical test. This is the technique used by the researchers to determine whether the means of the two groups of samples are significantly different.

3.7.2 One Way Analysis of Variance (ANOVA)

One Way ANOVA is the extension of t-test which is used to compare the difference between the means of more than two groups. Conclusions regarding possible differences in group means can be made with the help of output of variation analysis.

3.7.3 Correlation and Regression Analysis

The coefficient of correlation measures the relative strength of a linear relationship between two variables (Levine et. al, 2009). The correlation value ranges between +1 & -1. (+1) indicates the positive relationship between two variables while (-1) indicates the negative relationship among variables. Correlation measures only the association between two or more variables but cannot establish cause-effect relationship.

According to Levine et.al (2009), regression analysis attempts to establish the nature of relationship between variables. Regression analysis determines whether the relationship between independent and dependent variable is statistically significant or
not. It enables to develop model to predict the values of a numerical variable, based on the values of other variables.

3.7.4 Factor Analysis

Factor Analysis is used to determine the underlying factors defining single variable. This helps in identifying the number of factors which define single variable. It is a means of evaluating the interrelationships among the items which reveals the cluster of items in the form of a factor. This process converges a group of items into a smaller set of composite factors. In this study factor analyses was performed to analyze interdependent correlations among a large number of items which helped to identify common underlying dimensions or factors (Hair et al., 2010). Further the impact of each dimension on the dependent variable was examined.

For extracting factors, most commonly used method is Principal component analysis. The Varimax rotation with KMO test for sampling adequacy and Bartlett’s test of sphericity was applied on all items defining different variables. Eigen values explained the amount of variance of every factor and rotated component matrix was used to find the loading of items to particular factor. The loading values are ranged between 0 & 1. Higher the loading value, more the item is correlated to the factor.
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