4.1 INTRODUCTION

Chapter 2 reviewed relevant literature on influence of motivating factors on sales employee retention in private life insurance companies and the relationships between motivating factors and employee retention. Chapter 4 discusses aspects of the research methodology including research design, data collection and data analysis methods and hypothesis testing.

4.2 RESEARCH DESIGN

This section, firstly, examines the types of business research in terms of classification, purpose and technique and then, explains how the research design is selected as most appropriate for the study. Many definitions of “research design” have been advanced, but no one definition imparts the full range of important aspects (Emory, 1985)\textsuperscript{149}. Emory (1985)\textsuperscript{149} did not define but reviewed a definition of research design from Kerlinger (1973)\textsuperscript{150}:

Research design is the plan, structure, and strategy of investigation conceived so as to obtain answers to research questions and to control variance. The plan is the overall scheme or program of research. It includes an outline of what the investigator will do from writing the hypotheses and their operational implications to the final analysis of the data.

4.2.1 Classification of research design

According to Emory (1985)\textsuperscript{149} research design is a complex concept that may be viewed from different perspectives.


Classifications of research conducted by Gay and Diehl (1992)\textsuperscript{151} in which classifications of research designs are based on the broad strategy, orientation, emphasis and approach of research. In their classifications, research designs consisted of the following:

i) **Historical research** – which involves studying, understanding and explaining past events

ii) **Descriptive research** – which involves collecting and examining data in order to answer questions concerning the status or condition of the research subject at some point of time.

iii) **Associative research** – which attempts to determine whether, and to what degree, a relationship exist between the status or condition of the research subjects at some point of time and other factors which cannot be manipulated by the researchers.

iv) **Causal-comparative (or ex post facto) research** – which attempts to establish the cause of the status or condition of the research subjects at some point of time on the basis of knowledge of factors which cannot be manipulated by the researchers.

v) **Experimental research** – which attempts to establish the cause of the status or condition of the research subjects at some point of time on the basis of knowledge of factors that can be manipulated by the researchers.

Based on the manipulation of independent variables, Davis and Cosenza (1988)\textsuperscript{152} classified research into ex post facto design and experimental design. In ex post facto design, the researchers cannot manipulate the independent variables or factors whereas in experimental design they can.


Based on the degree of understanding, ex post facto design can be classified into two subtypes, field study and survey, whereas experimental design can be classified into field experiment and laboratory experiment. Based on the degree of problem crystallization, Emory (1985)\textsuperscript{149} classified research as exploratory or formal. Exploratory studies tend to be loosely structured with an objective of learning what the major research tasks are to be whereas the goal of a formal research design is to test the hypotheses or answer the research questions posed.

Because there are a variety of different research approaches, it is helpful to categorize types of research. This thesis is concerned with types of research applied in business. Business research can be classified on the basis of either technique or function (Zikmund, 1997)\textsuperscript{153}. Based on technique, business research can be classified into three main types: experiments, surveys, and observational studies. Based on the purpose or function, the business research can be classified into (1) exploratory, (2) descriptive, or (3) causal research.

1. **Exploratory research** is conducted with the expectation that subsequent research will be required to provide conclusive evidence. Exploratory research could be used for clarifying ambiguous problems.

2. **Descriptive research** seeks to determine the answers to *who, what, when, where* and *how* questions. Its major purpose, as designed, is to describe characteristics of a population or a phenomenon.

3. **Causal research** is conducted to identify cause-and-effect relationships among variables where the research problem has already been defined. Its major objective is to identify the cause-and-effect relationships between variables (Zikmund, 1997)\textsuperscript{153}.


Table 4.1: Research design

<table>
<thead>
<tr>
<th>Classification criteria</th>
<th>Types of research designs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Degree of problem crystallization</td>
<td><em>Exploratory research</em> – to develop hypotheses or questions for further research</td>
</tr>
<tr>
<td></td>
<td><em>Formal research</em> – to test the hypotheses or answer the research questions posed</td>
</tr>
<tr>
<td>The method of data collection</td>
<td><em>Observation</em> – The researcher monitors and records information about subjects without questioning them.</td>
</tr>
<tr>
<td></td>
<td><em>Survey</em> – The researcher interrogates subjects and collects their responses.</td>
</tr>
<tr>
<td>Researcher’s control of variables</td>
<td><em>Experimental design</em> – The researcher attempts to control or manipulate the variables in the study.</td>
</tr>
<tr>
<td></td>
<td><em>Ex post facto design</em> – Investigators have no control over the variables in sense of being able to manipulate them.</td>
</tr>
<tr>
<td>The purpose of the study</td>
<td><em>Descriptive research</em> – concerned with answering who, what, where, when or how much questions</td>
</tr>
<tr>
<td></td>
<td><em>Casual research</em> – concerned with learning why, i.e., how one variable affects another</td>
</tr>
<tr>
<td>The time dimension</td>
<td><em>Cross-sectional research</em> – carried out once</td>
</tr>
<tr>
<td></td>
<td><em>Longitudinal research</em> – repeated and studied changes over time</td>
</tr>
<tr>
<td>The topical scope</td>
<td><em>Statistical study</em> – emphasis on breadth of coverage and interested in the frequency of certain characteristics or instances</td>
</tr>
<tr>
<td></td>
<td><em>Case study</em> – emphasis on the detailed analysis a limited number of events or conditions and their relationships</td>
</tr>
<tr>
<td>The research environment</td>
<td><em>Field study</em></td>
</tr>
<tr>
<td></td>
<td><em>Laboratory study</em></td>
</tr>
</tbody>
</table>

(* Researcher has used) (Source: Nguyen, 2001)
4.2.2 Selecting research methods or techniques of data collection

Based on the methods of data collection, Emory (1985)\textsuperscript{149} classified research into two types: observation and surveys. However, Zikmund (1997)\textsuperscript{153} expands this classification into four basic types: surveys, experiments, observation and secondary data studies.

i. Survey is a research technique in which information is gathered from a sample of people by use of a questionnaire (Zikmund, 1997)\textsuperscript{153}.

ii. Experiment holds the greatest potential for establishing cause-and-effect relationships. The use of experimentation allows investigation of changes in one variable while manipulating other variables under controlled conditions (Zikmund, 1997)\textsuperscript{153}.

iii. Observation allows the researcher to monitor and record information about subjects without questioning them (Emory, 1985)\textsuperscript{149}.

iv. Secondary data study is a research technique by using previously collected data or secondary data. Secondary data are data gathered and recorded by someone else prior to the current needs of the researcher (Zikmund, 1997)\textsuperscript{153}.

In terms of research technique, this research utilizes both survey and secondary data methods. Survey was chosen as a research technique in this study to investigate the influence of motivating factors on sales employee retention in private life insurance companies in India. The argument for choosing survey was based on two major reasons. Firstly, survey provides a quick, efficient and accurate means of assessing information about the population. Secondly, survey is more appropriate where there is a lack of secondary data. Surveys may be further classified by the communication medium used into mail, telephone survey and personal interview (Zikmund, 1997)\textsuperscript{153}.


i. Mail survey is a self-administered questionnaire sent to respondents through the mail.

ii. Telephone survey is a method of survey in which respondents are contacted by telephone to gather responses to survey questions.

iii. Personal interview are direct communications wherein interviewers in face-to-face situations ask respondents questions.

In the private life insurance companies, there are difficulties in collecting data, especially data regarding employee retention. Therefore, selection of appropriate methods to communicate with respondents was very important in the surveys. This selection may be based on (1) the possibility of communicating with respondents, (2) the advantages and disadvantages of the most typical surveys as summarized and (3) the budget allocated for the research.

Table No. 4.2 shows that each of survey methods (personal interview, telephone interview and mail survey) has both advantages and disadvantages in terms of different perspectives. However, item non-response, possibility for respondent misunderstanding, and respondent cooperation or participation are probably the most important factors for success of a survey. Therefore, this study used “personal interview” as a technique to obtain information about the influence of motivating factors on sales employee retention in private life insurance companies in India practices from the respondents – entry level sales employee.
### Table 4.2: Advantages and Disadvantages of Survey Method

<table>
<thead>
<tr>
<th></th>
<th>Personal interview</th>
<th>Telephone interview</th>
<th>Mail survey</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Speed of data collection</strong></td>
<td>Moderate to fast</td>
<td>Very fast</td>
<td>Slow, researcher has no control over questionnaire return</td>
</tr>
<tr>
<td><strong>Geographic flexibility</strong></td>
<td>Limited to moderate</td>
<td>High</td>
<td>High</td>
</tr>
<tr>
<td><strong>Respondent cooperation</strong></td>
<td>Excellent</td>
<td>Good</td>
<td>Moderate</td>
</tr>
<tr>
<td><strong>Versatility</strong></td>
<td>Quite versatile</td>
<td>Moderate</td>
<td>Highly standardized format</td>
</tr>
<tr>
<td><strong>Questionnaire length</strong></td>
<td>Long</td>
<td>Moderate</td>
<td>Varies depending on incentive</td>
</tr>
<tr>
<td><strong>Item non-response</strong></td>
<td>Low</td>
<td>Medium</td>
<td>High</td>
</tr>
<tr>
<td><strong>Possibility for to be respondents misunderstood</strong></td>
<td>Lowest</td>
<td>Average</td>
<td>Highest</td>
</tr>
<tr>
<td><strong>Degree of interview influence on answer</strong></td>
<td>High</td>
<td>Moderate</td>
<td>None</td>
</tr>
<tr>
<td><strong>Supervision of interviewers</strong></td>
<td>Moderate</td>
<td>High</td>
<td>Not applicable</td>
</tr>
<tr>
<td><strong>Anonymity of respondent</strong></td>
<td>Low</td>
<td>Moderate</td>
<td>High</td>
</tr>
<tr>
<td><strong>Ease of call-back or follow-up</strong></td>
<td>Difficult</td>
<td>Easy</td>
<td>Easy, but take time</td>
</tr>
<tr>
<td><strong>Cost</strong></td>
<td>Highest</td>
<td>Low to moderate</td>
<td>Lowest</td>
</tr>
<tr>
<td><strong>Special features</strong></td>
<td>Visual materials may be shown or demonstrated, extended; probing possible</td>
<td>Simplified field-work and supervision of data collection</td>
<td>Respondent may answer questions at own convenience; has time to reflect on answer</td>
</tr>
</tbody>
</table>

(Source: Developed by Researcher for this study)
i) **Dependent Variable**

(Zikmund, 1997) defines a dependent variable as a criterion or a variable that is to be expected or explained. This study examines the influence of motivating factors on sales employee retention in private life insurance companies and researcher has used Employee Retention as an dependent variable.

ii) **Independent variables**

(Zikmund, 1997) defined an independent variable as a variable that is expected to influence the dependent variable. In this study, the independent variables involved include Motivators and Hygiene factors defined by Herzberg in his two factor theory and job satisfaction.

### 4.2.3 Pilot Study, Sample Size and Reliability Check

A pilot study can be used as a “small scale version or trial run in preparation for a major study”. (Baker, 1994) noted that pilot study is often used to pre test a research instrument i.e. questionnaire, whether consistency is there in the questionnaire and whether these questions can be understood by the respondents. Pilot study also helps the researcher in the formulation of hypothesis.

Baker found that a sample size of 10-20% of the total sample size is a reasonable number of participants to consider enrolling in a pilot.

Researcher has taken 80 sample size and reliability was measured and it was found to be more than 0.70.

---


4.3 FORMULATION OF HYPOTHESIS

A hypothesis is a proposition that is empirically testable. It is an empirical statement concerned with the relationship among variables (Zikmund, 1997). Hypotheses to test the influence of motivating factors on sales employee retention in private life insurance companies.

Employee retention is affected by Unchallenging work environments, long working hours, and limited career growth, less promotional opportunities, lack of proper leadership, non-attractive compensation packages, job opportunities elsewhere and poaching of talent by the competitors Chaudhuri (2007).

Even it is related to a variety of environmental and organizational factors such as company culture and values, supervisory style, fair pay, corporate value, giving support to each other, trust and respect between employees, manageable workload, development and career building satisfaction and degree of job satisfaction (Booth and Hamer 2007) and stress can be one of the factor having influence on employee retention Krishnamurthy (2007). Low job satisfaction, performance targets, close monitoring by supervisors and linkage of performance to pay and cultural clash leads to employee turnover in the organization. (Srivastava 2007).

73. Booth and Hamer (2007). labour turnover is related to a variety of environmental factors and organizational factors such as company culture, etc.: from indarticles.com /p/articles/mi_6769/is_2.../ai_n31872195 - accessed on 13th September 2009
Industrial sales persons motivation leads to costs, absenteeism, turnover and productivity, because high sales force motivation leads to high performance and factors like Self satisfaction from doing a good job Satisfy Customer Needs, Meet Family Needs, Increase chance of Promotion, Make more money are the strong motivators while factors like Acknowledgement, Company Policy, Field support, Earnings, Job Status can be the strong dissatisfiers.

Motivators such as work itself, recognition, growth and promotion opportunities are determinants of job satisfaction and Surprisingly, hygiene factors such as job security, operating procedures, relationship with supervisor, relationship with co-workers, and pay/fringe benefits are also found to be satisfiers rather than dissatisfiers (Mahmood 2010)121.

Job satisfaction as a predictor of turnover intention, however it is a mediating variable between the employee motivation and turnover intention (Suman Pathak and Tripathi 2010)130, (Rahman, Naqvi, and Ramay 2008)116, (Van Dick, et al., 2004)117

Figure No. 4.1: Development of research hypothesis for this study.

Motivators
(Level of Presence)
- Achievement
- Recognition
- Challenging work
- Responsibility
- Growth

Hygiene Factors
(Level of Presence)
- Company Policy and Administration
- Supervision
- Working Condition
- Interpersonal Relations
- Money, status, security

Employee Job Satisfaction (Level of satisfaction)

Employee Retention

(Miles and Huberman, 1994) Conceptual framework is written or visual presentation that explains either graphically or in narrative form, the main things to be studied-key factors, concepts or variables and the presumed relationship among them. The proposed framework is designed to ascertain the level of presence of motivators and hygiene Factors, degree of job satisfaction and influence of motivators, hygiene factors and job satisfaction on employee retention. It also suggests that there is influence of motivators and hygiene factors on job satisfaction.
4.4 HYPOTHESIS OF THE STUDY

H₁: Sales employee retention is influenced by motivators

H₂: Sales employee retention is influenced by hygiene factors

H₃: Job satisfaction is influenced by motivators and hygiene factors.

H₄: Sales employee retention is influenced by job satisfaction.
4.5 DATA COLLECTION METHODS

This section discusses how relevant data was collected for testing the model. According to (Hussey and Hussey, 1997)\textsuperscript{155}, data refers to known facts or things used as a basic for inference or reckoning. Data can be described as qualitative or quantitative. Qualitative data is concerned with qualities and non-numerical characteristics, whilst quantitative data is all data that is collected in numerical form. (Hussey and Hussey, 1997)\textsuperscript{155} indicated that there will always be a combination of quantitative and qualitative data in a research study no matter what paradigm is being followed.

Whether you are following a broadly positivist or phenomenological paradigm, there will always be a combination of quantitative and qualitative inputs into your data generating activities.

In terms of data sources, there are two main sources of data: primary data and secondary data. This study used both types of data: secondary and primary data.

4.5.1 Secondary data collection

(Zikmund, 1997)\textsuperscript{153} defined secondary data as data gathered and recorded by someone else prior to the current needs of the researchers. Secondary data are usually historical, already assembled, and do not require access to respondents or subjects. In this study, major secondary data were mainly used to describe the characteristics of variables and to define the construct i.e. employee retention.


\textsuperscript{155} Hussey, J. and Hussey, R.,(1997), Business Research. A Practical Guide for Undergraduate and Postgraduate Students , Palgrave: Basingstoke
Researcher has used following sources of secondary data:

1. Research journals
2. Research thesis
3. Published articles
4. Newspapers
5. Research magazines

4.5.2 Primary data collection

(Zikmund, 1997) defined primary data as data gathered and assembled specifically for the project at hand. Previous Section explained why this study used survey as a method of data collection to answer the research questions outlined in chapter 1.

4.5.3 Target population

In India there are total 23 private life insurance companies are existed. Target population is unknown and the respondents are entry level sales employees working with all the private life insurance companies. Due to limitations of time and funds, researcher could not cover the target population in this research. Hence data was collected from the sales employees of 16 private life insurance companies and 36 branches existed in the Pune Region.

4.5.4 Sampling methods

There are several alternative methods of selecting a sample. In general, these methods may be grouped into two: probability and non-probability techniques.

A probability sample is one in which each element (person or company) in the population has an equal, or at least a known, chance of being selected while in a non-probability sample some elements have a greater, but unknown, chance than others of selection. All probability samples are based on chance selection procedures. This eliminates the bias inherent in the non-probability sampling procedures because the probability sampling process is random (Zikmund, 1997).

As for probability sampling method, list of all sampling element is required and the private life insurance companies were not willing to share the list of employees with the researcher, hence this research has used non-probability-convenience sampling method.

**Figure No. 4.2 : Sampling Unit and Sampling Element**

![Sampling Unit and Sampling Element](image)

(Source: Developed by Researcher for this study)

Sampling unit of this study is sales employee working with private life insurance sector and sampling element is entry level sales employees working with the different sales
and marketing departments of private life insurance sector like Agency Channel, Bancassurance, Alternate Channel and Direct marketing.

4.5.5 Determination of Sample Size

Table 4.3: Determination of Sample Size

(Krejcie & Morgan 1970)\textsuperscript{156} came up with a table for determining sample size for a given population.

<table>
<thead>
<tr>
<th>N</th>
<th>S</th>
<th>N</th>
<th>S</th>
<th>N</th>
<th>S</th>
<th>N</th>
<th>S</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>10</td>
<td>100</td>
<td>80</td>
<td>280</td>
<td>162</td>
<td>800</td>
<td>260</td>
</tr>
<tr>
<td>15</td>
<td>14</td>
<td>110</td>
<td>96</td>
<td>250</td>
<td>165</td>
<td>650</td>
<td>265</td>
</tr>
<tr>
<td>20</td>
<td>19</td>
<td>120</td>
<td>92</td>
<td>300</td>
<td>169</td>
<td>900</td>
<td>269</td>
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<tr>
<td>25</td>
<td>24</td>
<td>130</td>
<td>97</td>
<td>320</td>
<td>175</td>
<td>950</td>
<td>274</td>
</tr>
<tr>
<td>30</td>
<td>28</td>
<td>140</td>
<td>103</td>
<td>340</td>
<td>181</td>
<td>1000</td>
<td>278</td>
</tr>
<tr>
<td>35</td>
<td>32</td>
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<td>108</td>
<td>360</td>
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<td>1100</td>
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<td>36</td>
<td>160</td>
<td>113</td>
<td>380</td>
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<td>40</td>
<td>180</td>
<td>118</td>
<td>400</td>
<td>196</td>
<td>1300</td>
<td>297</td>
</tr>
<tr>
<td>50</td>
<td>44</td>
<td>190</td>
<td>123</td>
<td>420</td>
<td>201</td>
<td>1400</td>
<td>302</td>
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<td>55</td>
<td>48</td>
<td>200</td>
<td>127</td>
<td>440</td>
<td>205</td>
<td>1500</td>
<td>306</td>
</tr>
<tr>
<td>60</td>
<td>52</td>
<td>210</td>
<td>132</td>
<td>460</td>
<td>210</td>
<td>1600</td>
<td>310</td>
</tr>
<tr>
<td>65</td>
<td>56</td>
<td>220</td>
<td>136</td>
<td>480</td>
<td>214</td>
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<td>550</td>
<td>220</td>
<td>1900</td>
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</tr>
<tr>
<td>80</td>
<td>66</td>
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<td>148</td>
<td>600</td>
<td>234</td>
<td>2000</td>
<td>322</td>
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<tr>
<td>85</td>
<td>70</td>
<td>260</td>
<td>152</td>
<td>650</td>
<td>242</td>
<td>2200</td>
<td>327</td>
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<tr>
<td>90</td>
<td>73</td>
<td>270</td>
<td>156</td>
<td>700</td>
<td>248</td>
<td>2400</td>
<td>331</td>
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<tr>
<td>95</td>
<td>76</td>
<td>270</td>
<td>159</td>
<td>750</td>
<td>256</td>
<td>2600</td>
<td>335</td>
</tr>
</tbody>
</table>

Note: “N” is population size
“S” is sample size.

Source: Krejcie & Morgan, 1970

(Krejcie & Morgan 1970)\textsuperscript{156} says there is no need of using the formula since the table of determining sample size has all the provisions required to arrive at the sample size.

The above table suggests that for the population more than 100000, 384 sample size is sufficient. Researcher has considered 418 sample size which is sufficient as per the Krejcie & Morgan table.

4.5.6 Sample Distribution

The respondents of this study are entry level sales employee working with different Sales & Marketing departments like Agency Channel, Bancassurance, Alternate Channel and Direct Marketing who are on the Payroll of the private Life Insurance Companies and who are directly or indirectly responsible for sale of insurance policies.

Table No. 4.4: Sample Distribution

<table>
<thead>
<tr>
<th>Sr. No.</th>
<th>Sales &amp; Marketing Channel/Dept.</th>
<th>Selection of Sample Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Agency Channel</td>
<td>120</td>
</tr>
<tr>
<td>2</td>
<td>Bancassurance</td>
<td>55</td>
</tr>
<tr>
<td>3</td>
<td>Alternate Channel</td>
<td>25</td>
</tr>
<tr>
<td>4</td>
<td>Direct marketing</td>
<td>218</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>418</strong></td>
</tr>
</tbody>
</table>

(Source: Developed by Researcher for this study)
### 4.6 RESEARCH METHODOLOGY AT A GLANCE

#### Table No. : 4.5  RESEARCH METHODOLOGY AT A GLANCE

<table>
<thead>
<tr>
<th>Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exploratory Research</td>
<td>Exploring the Problem through different literature reviewed.</td>
</tr>
<tr>
<td>Descriptive Research</td>
<td>It describes the state of affair as they exist</td>
</tr>
<tr>
<td>Cause and Effect Research/ Causal –</td>
<td>This finds out the impact of different independent variable on one dependent variable, thus analyzing what causes the effect. It establishes the cause of the status or the condition of research subjects at some point of time on the basis of knowledge of factors which cannot be manipulated by researcher.</td>
</tr>
<tr>
<td>comparative (or ex post facto)</td>
<td></td>
</tr>
<tr>
<td>Associative Research</td>
<td>It determines the degree of relationship exist between status or condition of research subjects at some point of time which cannot be manipulated by researcher.</td>
</tr>
<tr>
<td>Quantitative and Qualitative</td>
<td>Approach is both qualitative and Quantitative in nature as behavioural aspect has been measured and analysed mathematically and statistically.</td>
</tr>
<tr>
<td>Sampling</td>
<td>Non- Probability Convenience Sampling has been considered</td>
</tr>
<tr>
<td>Sample Size</td>
<td>418 entry level sales employees working with Private Life Insurance Companies.</td>
</tr>
<tr>
<td>Method of data Collection</td>
<td>Survey method was used</td>
</tr>
<tr>
<td>Instrument for Data Collection</td>
<td>Structured Questionnaire</td>
</tr>
<tr>
<td>Statistical Tools Used</td>
<td>SPSS</td>
</tr>
<tr>
<td>Statistical Test</td>
<td>Factor Analysis using Principal component analysis and Regression Analysis</td>
</tr>
</tbody>
</table>

(Source: Developed by Researcher for this study)
4.6.1 Methodology for the realization of objectives

Table No.: 4.6 Methodology for the realization of objectives

<table>
<thead>
<tr>
<th>Objective</th>
<th>Statement</th>
<th>Methodology</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>To study the factors affecting employee retention in the private life insurance companies.</td>
<td>Review of Literature (Secondary Data)</td>
</tr>
<tr>
<td>2</td>
<td>To study the influence of motivators on sales employee retention in the private life insurance companies.</td>
<td>Hypothesis Testing (Primary Data)</td>
</tr>
<tr>
<td>3</td>
<td>To study the influence of hygiene factors on sales employee retention in the private life insurance companies.</td>
<td>Hypothesis Testing (Primary Data)</td>
</tr>
<tr>
<td>4</td>
<td>To study the influence of motivators and hygiene factors on job satisfaction in the private life insurance companies.</td>
<td>Hypothesis Testing (Primary Data)</td>
</tr>
</tbody>
</table>

(Source: Developed by Researcher for this study)
4.7 DATA ANALYSIS

This section briefly discusses data analysis methods whereas details of techniques used and results of data analysis will be reported in chapter 5.

Objectives of this section are:

(1) To outline the data analysis techniques that will be particularly applied in chapter 5
(2) to appropriately match selected data analysis methods to types of data collected.

4.7.1 General consideration

The purpose of analytic methods is to convert data into information needed to make decisions (Davis, 1996)\textsuperscript{152}. According to (Zikmund, 1997)\textsuperscript{153}, the choice of the methods of statistical analysis depends on (1) the type of question to be answered, (2) the number of variables, and (3) the scale of measurement.

i. Type of question the researcher is attempting to answer is a consideration in choice of statistical technique. Based on this factor, the researcher may be concerned about the central tendency of a variable or the distribution of that variable.

ii. Numbers of variables are also considered to determine whether the statistical techniques applied should be univariate data analysis, bivariate data analysis or multivariate data analysis.

iii. Scale of measurement on which the data are based or the type of measurement reflected in the data determines the permissible statistical technique and whether the appropriate empirical operation may be performed.


This study was concerned with main research question ie influence of motivating factors on sales employee retention in private life insurance companies. Descriptive statistics and hypothesis testing were two main methods of data analysis that are suitable to these research questions.

In terms of number of variables and scale of measurements, this study was concerned with simultaneous investigation of the impact of several independent variables on the dependent variable, measured on five point numerical scales and measurement level is interval.

Bivariate data analysis is the appropriate match for this study (Zikmund, 1997)\(^{153}\). Specifically, multiple linear regression was developed and tested to explain the relationships between the motivating factors and employee retention.

### 4.7.2 Descriptive Statistics

This study was designed as a combination of descriptive, explanatory and causal research. Descriptive statistics were applied to investigate and describe characteristics of employee retention in private life insurance companies.

Descriptive analysis refers to the transformation of the raw data into a form that will make them easy to understand and interpret. Describing responses or observations is typically the first form of analysis (Zikmund, 1997)\(^{153}\).

In this study, the following statistical techniques were used (in chapter 5) as the tools of descriptive analysis:

### 4.7.3 Bivariate data analysis

Zikmund (1997) defined bivariate data analysis as data analysis and hypothesis testing when the investigation concerns simultaneous investigation of two variables using tests of differences or measures of association between two variables at a time. This section examines how bivariate data analysis can be used in this study.

4.7.3.1 Measures of association

Measures of association are statistical values designed to represent co-variation between variables (Zikmund, 1997). As indicated in section 4.5, the measurement levels used in this study included interval measures. This allows the use of Pearson’s correlation coefficient for measuring association among variables. The results of correlation coefficients were presented by under standard form of reporting correlation results – the correlation matrix. The correlation matrix would be used to present the measures of association among the variables.

This correlation matrix was also used as a tool to recognize whether multicollinearity occurs in the multiple regression equation.

A general rule is that if a correlation between any two independent variables is greater than or equal 0.70, then a high degree of interrelationship can be inferred, and the possibility of multicollinearity exists.

4.7.4. Factor analysis

(Zikmund,1997) defined factor analysis as a type of analysis used to discern the underlying dimensions or regularity in phenomena. Its purpose is to summarize the information contained in a large number of variables into a smaller number of factors. In this study, factor analysis would be utilized before testing the multiple regression models. Its objectives are as follows:

i) To determine linear combinations of variables that aid in investigating the interrelationships

ii) To reduce the problem of multicollinearity in multiple regression model

Chapter 5 will detail the aspects of factor analysis techniques, which are applied to extract and group the high correlation items into the principal components of employee retention.

4.7.5 Multiple regression analysis

As indicated in chapter 1, the research problem in this study is to study the influence of motivating factors on sales employee retention in private life insurance companies. Multiple regression analysis is an appropriate statistical technique for examining this research problem. Multiple regression analysis allows the appraiser to determine whether a relationship exists between several independent variables and a dependent variable.

This study used multiple regression analysis to investigate:

1. Influence of motivators on sales employee retention
   The multiple regression equation in this study was as follows:
   \[ R = f (MOT) \]
   \[ R = B_0 + B_1X_1 + B_2X_2 \]

2. Influence of hygiene factors on sales employee retention
   The multiple regression equation in this study was as follows:
   \[ R = f (HYG) \]
   \[ R = B_0 + B_1X_1 + B_2X_2 \]

3. Influence of motivators and hygiene factors on job satisfaction
   The multiple regression equation in this study was as follows:
   \[ S = f (MOT, HYG) \]
   \[ S = B_0 + B_1X_1 + B_2X_2 \]

4. Influence of job satisfaction on sales employee retention.
   The multiple regression equation in this study was as follows:
   \[ R = f (S) \]
   \[ R = B_0 + B_1X_1 + B_2X_2 \]
Chapter 5 will discuss testing this model with empirical data to explain and determine the influence of motivating factors on sales employee retention.

In summary, descriptive statistical techniques such as frequencies, descriptive statistics and bivariate analysis including test of association and multiple regression analysis were the main techniques of analysis applied in this study. Chapter 5 will present, in more detail, how these techniques are applied to analyze the data collected.

4.8 CONCLUSIONS

This chapter examined aspects of research methodology for this study, including research designs, variable definitions and measurements, data collection methods, and data analysis. As respectively indicated by sections, this study was a combination of descriptive, causal and explanatory research in which the non-probability convenience sampling technique was used to draw a sample of 418 data collection via personal interview.

Data collected was transformed into more suitable format for analysis by utilizing Excel Software. After data processing, the Statistic Package for Social Science (SPSS) was utilized for data analysis.

Descriptive statistics such as means, frequency, tabulation, cross-tabulation were used to summarize and describe characteristics of employee retention. More complicated statistical analysis techniques such as bivariate analysis, factor analysis were used to determine whether a relationship exists between dependent and independent variables and to explain this relationship. Results of the survey and findings will be presented in chapter 5 and 6: “Data Analysis and Interpretation and Findings and Suggestions”.

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