

**AN EVALUATION OF THE MOTIVATIONAL  
FACTORS OF NETWORK MARKETING  
INDEPENDENT DISTRIBUTORS USING  
VROOM'S WORK MOTIVATION THEORY**

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## **ABSTRACT**

During the 1970s and '80s, many research papers on motivation were published. Since then, there has been a decline in such empirical research. This is partly because most motivational theories provide models that are highly generalised and do not show a clear framework whereby research can be conducted. This has resulted in considerable uncertainty, confusion, and frustration surrounding the applied role and business value of the concept of motivation.

This study evaluates various theories of motivation, which are taken from industrial/organisational psychology, personnel management, applied psychology, organisational behaviour and entrepreneurial literature. It reviews the empirical research and the measurement problems posed.

Vroom's theory of motivation (1964), commonly known as the expectancy theory of motivation, is chosen as the basis for this research. An important aspect of his theory is that investigation should be undertaken in a voluntary environment.

This research involves a group of respondents who are self-employed. It is based on a sample of entrepreneurs working as network marketing independent distributors (NMIDs) in the multi-level marketing (MLM) industry.

It is important to know what motivates these distributors. Without them, network marketing organisations would not have existed, as these entrepreneurs are their lifelines.

## **Methodology**

The study hypothesises that distributors weigh the attractiveness of the expected goals (V), the likelihood of achieving them (I) and the expectation that their efforts (E) will lead to successful performance. It also hypothesises that Vroom's calculation of motivation is a valid method of measuring motivation and that VIE are the three main independent motivational components.

The research develops a self-reporting questionnaire specifically to test the validity of Vroom's theory in the industry. Thirteen most desirable outcomes and three expectations variables are generated from personal interviews and the pilot testing of the questionnaire.

Two surveys of NMIDs are carried out, the second using an adapted questionnaire and a larger sample size (130).

## **Results**

The results demonstrate that valence; likelihood and expectancy are the three main independent factors. Some of the likelihood and valence variables can be grouped together to form achievable goals.

Factors of motivation are shown to have a highly significant relationship with the status of network marketing distributors. The higher the status, the more motivated they would be.

Motivated distributors are also likely to have worked with more than one MLM organisation and also non-MLM organisation, receiving ongoing training and good quality support from their sponsors.

## **Conclusion**

This study offers support for the validity and reliability for Vroom's theory of work motivation for network marketing distributors working in the UK. The study also provides a deeper understanding of the factors of motivation at work and their relationship to performance variables for MLM entrepreneurs. The limitations of the study and the implications of the research findings are reviewed and it concludes with directions for future research.

Given the findings of this research, we may modify Vroom's theory of motivation by expressing the motivation theory for network marketing distributors into Figures A, B, C and D.

Independent variables and indicators of motivation that are highly correlated to the six dimensions of motivation are effort invested, commissions and bonuses, attend training regularly and speed of promotion to a high status level.

### Figure A

The triangle lying on the floor signifies the valence or desirable goals of distributors (see Figure A below). Each colour represents a set of valence. Different distributors would have different pattern on how valence are prioritised. When there are very few desirable goals, distributors are likely to reach for them.

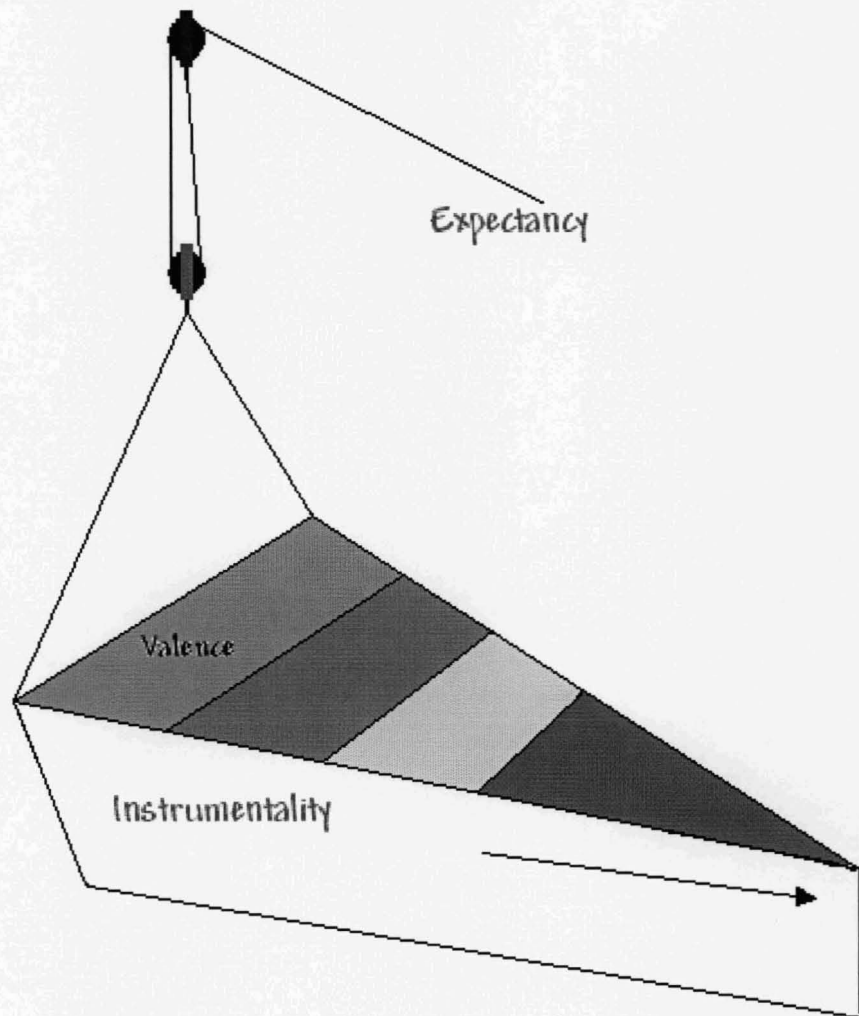
This research discovered four main sets of valence (See Figure B). The order of these sets of valence is contingent (dependent) on the type of beneficial products offered by the distributors, the desirability of goals, their

lifestyles and expectations (Figure B). A retired distributor (living on his own) is unlikely to want to have the set of valence related to managing his work and family or to spend more time with his family.

The greater the likelihood that performance (or first-level outcomes) will lead to second level outcomes, the larger the area of the triangle will become. Figure D shows examples of what first and second level outcomes are to distributors.

Figure A indicates that when distributors increase their expectation of being rewarded for their efforts, their expectancy increases. This, in effect, pulls on the pulley (in Figure A) to lift the whole valence triangle higher until it reaches its maximum height. When there is no expectancy, distributors make no effort in the business even if there are desirable goals. When there is no instrumentality, distributors make no effort to do anything even if high expectancy is presented.

Figure A indicates that both expectancy and instrumentality must be working together to lift the pyramid to its full potential (vertical position). It seems logical that distributors are likely to be more motivated when they are promoted. Promotion when achieved helps them to become financially secured and being able to spend more time with their family.



**FIGURE A: MODEL OF MOTIVATION SHOWING THE RELATIONSHIP BETWEEN VALENCE, INSTRUMENTALITY AND EXPECTANCY (TAN, 2003)**

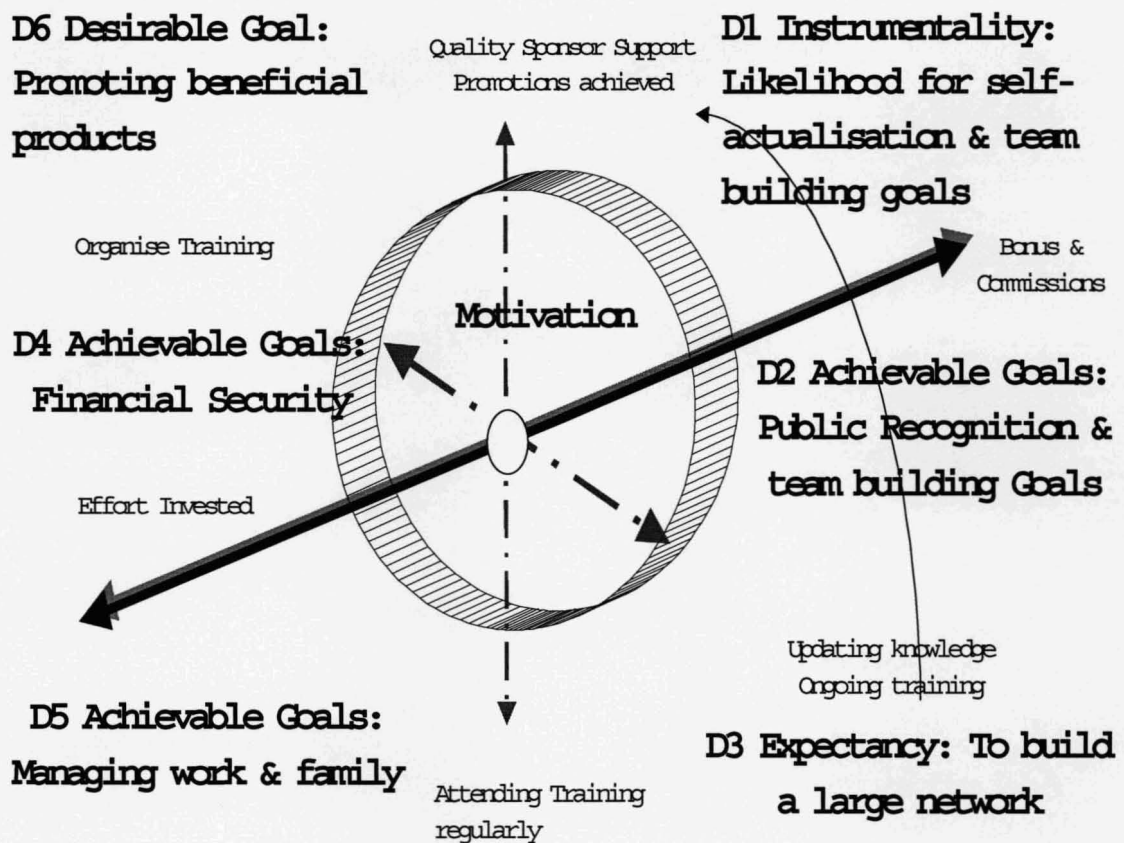
Figure B

Each of the factors of motivation is represented by an independent dimension. For example, Factor 1 (F1) is represented by Dimension 1 (D1) (See Figure B below).

In Figure B, motivation is the cumulative effect of all these six dimensions, each building on one another (See also Figure C). The arrows show how an individual thinks in term of motivation. It is something forward looking, and other times the person may be reflecting on what has happened in the past to themselves or what others have experienced. For example, distributors may reflect whether his effort or achievement in sponsoring correspond with the bonus received. The circular arrows indicate how motivation within a person moves (in clockwise direction). Therefore, motivation is assumed to be moving in the direction starting from Factor 1 to Factor 6.

From the study, it seems that an individual is constantly evaluating the likelihoods of getting desirable goals with the desirability of the goals themselves (See also Figure D). Notice expectation is an important factor here because it makes the person work harder or slower according to how quickly he sees he could get to the top or to achieve his desired performance (Figures B & D).

The arrow from the expectation dimension reflects its influence to make a person work harder (Figures B & D). For example, if the person believes that he is able to get to the top within a small period of time, the person is likely to try harder and faster. However, if the person believes that he is only able to get to the top within a much longer time period, he may pace his effort accordingly. Also he may not attempt to drive himself so seriously so as not to disappoint himself. Effort would be reduced when compared with the first example.



**FIGURE B: THE SIX DIMENSIONS OF MOTIVATION (TAN 2003)**

From Figure B, the six dimensions of motivation are as follows:

**Dimension 1 is a set of likelihoods to promote quality product, quality lifestyle, and self-actualisation for their team.** It suggests that the likelihood to promote beneficial products is the most important and is associated with being able to exercise one's own leadership style and likelihood of being in control of one's life.

Once these priorities are set, distributors are motivated by the likelihood of having a better quality lifestyle and social contacts that are likely to intellectually stimulate and challenge them.



**Dimension 2 is predominately a set of self-actualisation and team building desirable and achievable goals.** Achievable goals are defined as goals that are desirable and achievable since both the desirability and the likelihoods of receiving the goals are present within a factor.

The composition for Factor 2 (or Dimension 2) is as follows:

- a) *Having public exposure & recognition;*
- b) *Being able to exercise own leadership style;*
- c) *Being intellectually stimulated & challenged;*
- d) *Being part of a team;*
- e) *Making friends & social contacts;*
- f) *Likelihood of having public recognition & exposure;*
- g) *Bringing the best out of my team.*

Factor 2 for the large sample consisted mainly of intrinsic goals which consisted of the goal and likelihood of “having public exposure and recognition” as its priority. This was carried through leadership challenge to build up team members and bring the best out in them through friendship and social contacts. This should help to bring out the best of the distributor’s team while creating friendship and social contacts. All these should provide intellectual stimulation, challenge, public exposure and recognition.

**Dimension 3 is the expectation to build a large network.** It is predominately a set of expectancy consisting of the expectation to build a large network, the expectation that one has the ability to recruit prospective distributors, and the expectation that one has of the chance of reaching the

highest distributor status through sponsoring and training. It is associated with the likelihood of bringing the best out of one's team.

**Dimension 4 is a set of desirable and achievable goals for financial security and quality lifestyle.** It is associated with achieving financial security goal, having a better quality lifestyle and being in control of one's life.

**Dimension 5 is a set of desirable and achievable goals for managing work and family simultaneously.** It consists of the goal and likelihood of three variables. They are managing work and home simultaneously; having more time with one's family; and not having to report to a superior in one's work.

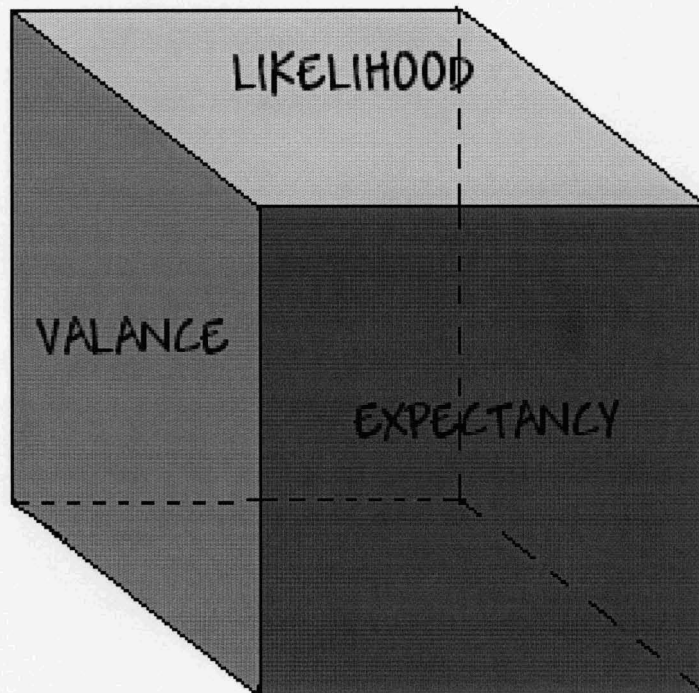
**Dimension 6 is the desirable goal to promote products that benefits others.**

#### Figure C

The six dimensions of motivation of distributors can be represented by a cube in Figure C. Its six sides represent the six dimensions of motivation. Four sides of the cube of motivation are mainly achievable goals (valence and associated likelihoods), with instrumentality and expectancy the other two sides.

This study shows that motivation is influenced by instrumentality, valence and expectancy (Figures A, B, C & D). Generally, there are four main sets of desirable and achievable goals for distributors. These goals

may change their order of priority depending on the types of products and benefits provided by the MLM organisations.



**FIGURE C: THE CUBE OF MOTIVATION BY TAN (2003)**

Figure D

Figure D provides a picture of the process of motivation. It shows the reality of motivation in the real world (represented by the large and medium size bold arrows) and the abstract world of thought process (represented by the Valence, Instrumentality and Expectancy).

In the real world, individuals are unlikely to put an effort into doing something, such as attending meeting, training, inviting or sponsoring prospective distributors, if they do not see any relationship between effort and performance. This is represented by the large bold arrow.

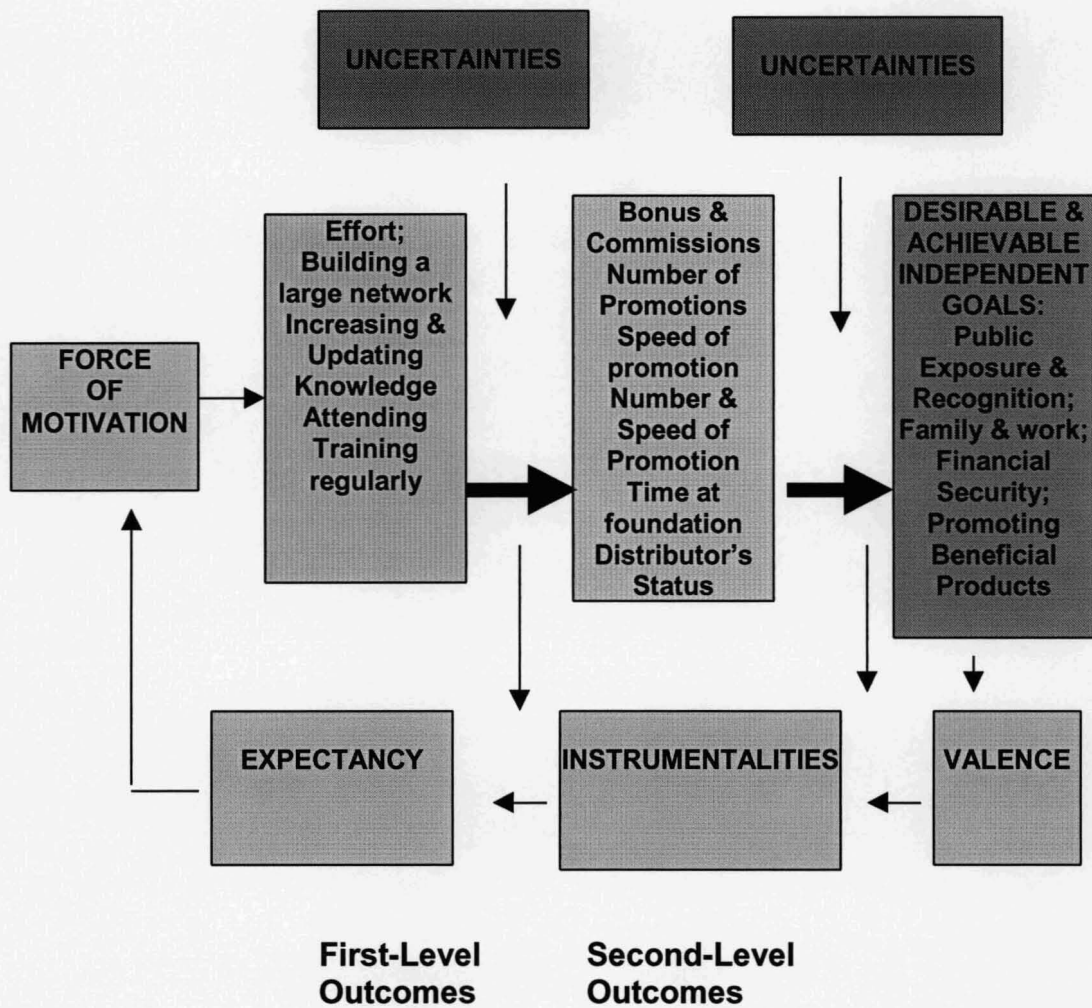
There are always “uncertainties” over the probability that efforts invested may reach the performance expected (presented by the medium size bold arrow). This is because it is impossible to tell the chance of success between effort and performance as he puts in an effort. It is also impossible to tell whether level-one outcomes would lead to level-two outcomes. Environmental, social, spiritual or physical factors may reduce his probability of successful performance at any time.

In the abstract world, distributors are constantly weighing the values of receiving the goals (represented by valence) personally. They then estimate the probabilities of getting the desirable goals with their performance (represented by instrumentality). Then they would again estimate the probability that their effort would lead to certain performance (represented by expectancy). It is these three factors, (valence, instrumentality and expectancy), in that order, that motivate distributors to work harder in their business. The abstract world is represented by the dotted arrows.

Motivated distributors are likely to have good quality support from their sponsors, even when they do not have any support from their uplines. They are likely to have been promoted to a high distributor status and are able to reach the higher distributor status. They are constantly updating themselves with ongoing training and are likely to personally organise training workshop for their team member and prospective distributors.

Variables that do not have significant relationship with motivation are “gender; ”“name of state, town and city;” “country of permanent residence;” and “fund invested.” The proposition was that women make better

distributors and that those living in different countries or near to larger towns are likely to be more motivated. However, the data does not seem to support these hypotheses.



➤ **Effort** -----> **Performance linkage** (How hard will I have to work?) This is **Expectancy**.

➤ **Performance** -----> **Reward linkage** (What is the likelihood of getting the reward with my performance?) This is **Instrumentality**.

➤ **Desirability** (How attractive is the reward?) This is **Valence**. In this study, the desirability of the some of the goals (outcomes) is very likely to be achievable.

**FIGURE D: EXPECTANCY THEORY OF MOTIVATION BY TAN (2003)**

Organisational implications may be drawn from the six factors of motivation according to the management strategy of each network marketing organisation. Distributors, directors, trainers, motivators and planners of MLM organisations who wanted to motivate distributors may use the findings in this research to help them plan more strategically.

Network marketing organisations need to provide on-going training programmes that encourage distributors to attend. They need to train uplines and sponsors to support distributors they have personally sponsored and understand the desirable outcomes of each distributor.

According to Professor Yoshio Kondo (2001), Professor Emeritus, Kyoto University, Kyoto (Japan), when comparing human beings, machines, materials and methods, it was recognised that human beings is the most important and indispensable element to achieve the aim of work in any organisation. Kondo believes that human beings take no pleasure just to “exist” in the world or at work, but they take pleasure to “exist well” (Kondo, 2001, pp.28-29). This research shows how distributors like to exist well with their set of achievable goals, instrumentality and expectancy.

Therefore, any organisations existing on a daily basis to “make money” rather to help their people to “exist well” has in fact no reason to exist, and can do nothing but decline.

It is likely that organisation that “exists well” usually make essential contributions to their employees, society and the community. Organisations may motivate their distributors, employees or entrepreneurs by offering them a balanced strategy from the six dimensions of motivation.

In addition, total quality management philosophy and integrated management has shown that quality improvement is usually more acceptable rather than cost reduction and higher productivity at work (Kondo, 2001). Kondo shows that quality has a far more human character than either cost or productivity. This is reflected in the findings of this research. For example, likelihoods to achieve self-actualisation, team building and quality lifestyle goals, achievable family and work goals, achievable financial security, and achievable public exposure and recognition goals. All these dimensions are quality dimensions.

Furthermore, improving quality in creative ways can lead to lower cost and higher productivity though the opposite is not necessarily true. Kondo suggested that quality should be placed at the centre of integrated management in any organisations (Kondo, 2001, p.29).

This research reinforced what Kondo has been trying to explain. It has shown empirically that distributors worked for better quality of life and wellness for themselves and others in their team.

It is important for all organisations to find ways to work out a philosophy (with a balanced strategy) that can be accepted and bought by all (directors, employees, customers and stakeholders). It has to be one that is attractive to all, and forms the basis for its entire workforce. This research is one of the most powerful ways for working that out, creating a win – win relationship.

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**"To God be the Glory!"**

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## **CHAPTER 1- INTRODUCTION**

### **1.1 Scope of the Research**

This research is concerned with the work motivation of entrepreneurs who are known as network marketing independent distributors (referred to as distributors here) based mainly in the England's network marketing industry (see Appendix 1 on the definitions of terms, concepts and abbreviations).

It is important to know what motivates these distributors. Without them, network marketing (also known as Multilevel Marketing or MLM) organisations would not have existed in the marketplace. These distributors are the lifelines or channels of distribution and are vital to the existence and success of the business. Therefore, it is in the interests of such organisations to ensure that they have many motivated distributors.

### **1.2 Aim of the Research**

The aim of the research is to answer some important questions on motivation. How useful are the theories of motivation? Is it possible to measure motivation at work? How do we best measure that? Is there a theory that can be used to understand and measure motivation? Is this theory reliable and applicable in measuring motivation for entrepreneurs?

The research intends to find one theory of motivation that explains how people are motivated at work, and how it can be best used to measure motivation. Studies from industrial organisational psychology, personnel management, applied psychology, organisational behaviour and work motivation literature, various models of work motivation are outlined and reviewed in this research.

Motivational theories are extensively investigated in order to identify the most appropriate theory to understand work motivation. Empirical tests of the key linkages in various models of motivational theory are evaluated and measurement problems discussed. Vroom's theory of work motivation (1964) is chosen because it is best in helping the investigation on work motivation.

His book "Work and Motivation" (1964) was reprinted in 1995 with 24 additional pages. It includes "Introduction to the Classic Edition," which elaborated on the historical and personal circumstances under which it was written. He referred to some ideas that he could have expressed in 1964 but did not do so. He also elaborated on the core ideas of the book and how they would be formulated if the book were to be rewritten today. He believes that

"If the book has a legacy, it resides in the concepts of valence, expectancy, and instrumentality, and the demonstration of their potential for organizing and guiding empirical research on the relationship between people and their work." (Vroom, 1995, p. xii).

According to Vroom, the cognitive variables of motivation are three independent variables: Valence (valuation of desirable outcomes), Instrumentality (likelihood of receiving the desirable outcomes), and

Expectancy (the expectation of achieving performance targets). He recognised that no individual has the same combination of Valence, Instrumentality and Expectancy (VIE). Vroom's model of work motivation (1964) does not describe the content of these cognitive factors of motivation.

Before Vroom's theory of motivation (1964), there was much research on motivation. During the 70s and 80s, many motivational research papers were also published. Since then, there has not been much research. This is due to many difficulties and confusions in the concepts and measurements of work motivation that are unresolved today.

A surprising aspect of Vroom's theory of motivation was the concept that the sample for investigation must be taken from a voluntary environment. This meant that during the research, respondents must not only respond to the research voluntarily, but are doing the work voluntarily. This is unfortunately ignored by many researchers, which created many conflicting results. To find a sample of respondents who are motivated and working for themselves voluntarily is possible in this research. The chosen sample is taken from entrepreneurs who are working as distributors in the MLM industry. It is significant that these distributors are motivated to distribute the products and services voluntarily.

However, there is little empirical research into the motivation of these distributors. This research is the first substantial study of the motivation of these entrepreneurs.

A self-reporting rating instrument is designed for the purpose of measuring and understanding the motivation of distributors. Using

multivariate analysis, i.e., factor analysis and Multiple Linear Regression analysis, the relationship between valence, instrumentality and expectancy of distributors and other independent variables and indicators of motivation and performance are analysed.

The underlying factors of motivation uncovered by multivariate analysis are tested for their relationship with the model proposed by Vroom's theory of work motivation. The results should be relevant to those working as distributors and within the network marketing organisations. Both the process of creating the instrument for measuring motivation and the process of evaluating the data provide useful guidelines for future researchers who wish to measure or understand motivation for the sample of their choice. The conclusion includes evaluations and comments to the theory of motivation with suggestions for further research.

### **1.3 Importance of the Chosen Work Motivation Theory**

It is important that the model for the work motivation must be able to describe and measure accurately the motivation of distributors. In Chapter III, extensive research evaluation into various models of work motivation is carried out to find a reliable model and process of measuring motivation. The model chosen must provide a clear framework within which to conduct and measure motivation.

In Chapter III, we argue that the “Expectancy Theory” on work motivation originally proposed by Victor Vroom (1964) should be used for this research to study work motivation of distributors. It has been validated and tested in organisational and industrial environments for predicting occupational preference and job choice reasonably well (Brooks & Betz, 1990; Wanous, Keon, & Latack, 1983). It has been used to predict performance, effort, and job satisfaction (Campbell & Pritchard, 1976; Campbell, Dunnette, Lawler, & Weick, 1989; Wanous, Keon, & Latack, 1983).

Organisational and industrial behavioural research has shown that the Expectancy theory established by Vroom is reliable and valid in explaining motivation. This was established by Galbraith & Cummings (1967); Mitchell (1974); Schwab, Olian-Gottlieb, & Heneman (1979); Reinharth & Wahba (1975).

It has also been established as reliable and valid to give explanation on motivation in educational psychology studies by Yates & Edwards (1979); Miskel, DeFrain, and Wilcox (1980); Wen (1992); Smith (1994); and Johnson (1995).

## **1.4 Research Methodology**

A group of entrepreneurs known as distributors residing mainly in England is the main chosen sample. They work voluntarily as distributors (self-employed) besides holding a full-time job. When the secondary income exceeds that of the full-time job, they may then give up the latter.

In the current climate of job insecurity, long stressful working hours, and lack of financial capital to invest in franchise or small business, network marketing provides an opportunity for financial freedom and security without a high requirement of investment. Distributors are able to put as many hours into the business as they see fit.

To discover the motivation of distributors, we need an instrument that is designed with validity and reliability in determining the cognitive factors of distributors. Extensive literature reviews and evaluations are carried out on the following:

- a. Models of work motivation theory in general psychology, organisational behaviour, social psychology, and industrial psychology.
- b. Network marketing journals and books.
- c. The area of entrepreneurship.

An initial Questionnaire (Questionnaire A, Appendix 2) is formulated initially through two sessions of personal interviews with a group of experienced distributors from different network marketing organisations. In the first personal interview session, they provided the most desirable goals for being a distributor. Comparisons are made between the desirable goals of distributors and those found in network marketing literature, organisational and industrial psychology literature.

A survey questionnaire is designed, tested and refined on the same experienced distributors, called "Network Marketing MLM Questionnaire" to uncover the cognitive factors of work motivation (Questionnaire B, See Appendix 3).

This instrument is then used to study distributors from diverse network marketing organisations and backgrounds. The overall total motivation score is calculated using Vroom's theory of motivation.

The above procedures and the analysis of the characteristics of the data, outliers test, reliability tests such as Cronbach alpha tests are conducted to ensure measurements are reliable and appropriate for the three independent variables.

Factor Analysis is then used to discover the underlying factors of motivation that explain the motivation of the England independent distributor sample. This should uncover a small group of underlying not-so-observable independent factors (or dimensions) that may explain the complex phenomena of motivation.

Multiple Regression Analysis and t-test are then used to determine whether these dimensions are significant predictors of the total overall motivation score. They are likely to be significant predictors, both individually and collectively, on the total overall motivation factor. These two analyses provide information about the validity of the factors in Vroom's theory of motivation.

The above tests are carried out again on a sample of 130 distributors from diverse backgrounds and network marketing organisations with the final questionnaire (Questionnaire C, Appendix 5). The final tests are expected to confirm the same results.

## **1.5 Summary of Research Stages**

To achieve the main aim of this research, the nine steps below are to be followed:

1. To evaluate the theory of work motivation from different disciplines to find one model that may be used to understand the motivation of distributors.
2. To understand the reasons why distributors are motivated to work, we interview a small panel of eight distributors who have been working in the business for longer than three years. This is one of the sources of information needed to help us determine a working list of significant outcomes and expectancies to measure VIE of motivation. Other



sources of information are from organisational and behavioural literature, applied psychology literature, educational research literature, popular network marketing books, magazines and training journals.

3. A self-reporting rating instrument (Questionnaire A) for measuring motivation of distributors is developed using the final working list of outcomes and expectancies derived from the above processes.
4. The questionnaire is tested and refined again by the panel of previous eight distributors to ensure that they are acceptable and valid for inclusion in the questionnaire.
5. The refined questionnaire is used to collect data from the first sample of 51 distributors to calculate the VIE score and the total motivational score according to an operational version of Vroom's model of calculation.
6. The data collected are analysed using factor analysis to generate the underlying independent factors. These factors should show that VIE are independent variables of motivation.
7. The characteristics of the data are examined to check for outliers and identify items that have the highest mean scores.
8. Reliability tests, such as Cronbach alpha, are used to test the appropriateness of the measures.
9. The appropriateness of using factor analysis is tested.

10. Using multiple linear regression analysis, these factors are tested with the original model of work motivation to see their relationship with the total force of motivation (FM), the total score of expectancy (ET), and the total score of valence and instrumentality (VIT). If they show no significance relationship, then it is unlikely that the original theory is appropriate for explaining motivation of distributors.
11. Using multiple linear regression analysis, the underlying factors data is tested with other independent variables and indicators of motivation and performance, for example, age, education, training, culture, speed of promotion, quality of support from sponsor and uplines, distributor's status and the effort and investment put into the business.
12. The list of other independent variables and indicators of motivation and performance is further modified.
13. Data from the larger sample of 130 distributors is analysed again using reliability tests, factor analysis, and multiple regression analysis to look for consistency of results.
14. The appropriateness of using multiple linear regression analysis is thoroughly tested.
15. Limitation of the research discussed with evaluation and implications of findings and directions for future research.

## **1.6 The Importance & Benefits of this Research**

It is important to establish the reasons that motivate people at work, especially entrepreneurs. In this instance, what motivates people to work as distributors besides having a full time job? The success of these distributors is crucial to the survival of the network marketing industry. These distributors are both “customers” and “lifelines” of the network organisation because they are the main buyers, distributors, promoters, and sponsors of the products and services. Many women are active in this industry. However, for easy reading and presentation purposes, the male gender will be used to represent both masculine and feminine genders.

According to literature from within the network marketing industry, it provides long-term residual income with relatively small investment. The distributors may work when they want, compared with traditional jobs of long working hours, job insecurity and insufficient financial security. Distributors may start out initially as part-timers while learning the trade of the business. They may become full-time distributors when the income from their network marketing business exceeds the income of their full-time jobs.

As will be discussed later, such literature in the network marketing industry reflects mainly experiences of successful distributors. There is little reported empirical research to support these testimonials. During the 60s and 70s, much research was undertaken on motivation but little by way of empirical research being done. Most of the motivational theories provided highly generalised models and do not provide a clear framework within which research can be conducted and measured.

There are conflicting empirical results for the validity of Vroom's theory of work motivation but none in the area of entrepreneurship.

This research will therefore add understanding as:

1. It uncovers the most desirable goals of distributors as entrepreneurs in the England.
2. It compares desirable goals derived from distributors with those in other industries reviewing their similarities and differences.
3. It provides us with the description and content of the cognitive factors of motivation and their inter-relationship with each other and motivation.
4. It confirms, using factor analysis, that valence, instrumentality and expectancies are vital cognitive factors of motivation and are the main independent factors of motivation.
5. It uncovers, through factor analysis, the main underlying factors of motivation for the distributors in the England.
6. It confirms the validity, reliability and consistency of Vroom's theory of motivation for understanding motivation in entrepreneurs in the network marketing industry.
7. It should help distributors to understand themselves better and may equip them with better understanding on how to be successful.
8. It enables distributors to understand others better. That they are not alone in the world of entrepreneurs.

9. It provides a basis for trainers and organisers of training programmes in the network marketing industry to plan their training programmes better.
10. It helps to uncover any significant difference between motivation and other independent variables and indicators of motivation and performance.

## CHAPTER 2- THE NETWORK MARKETING INDUSTRY

This chapter investigates the structure of network marketing organisations, the nature and history of the industry, the different organisations within the industry, products sold, competitive strategy used, and the importance of management. The information is taken from literature in the network marketing arena to investigate their relationship to distributors.

These distributors are distribution channels and are vital to the existence and success of the business. Therefore, it is in the interests of network marketing organisations to ensure that they have many successful distributors. It is important to know the factors that motivate distributors. Without these entrepreneurs, such organisations would not have existed in the marketplace.

Network marketing is a development in home-based business. There has been a large increase in home-based business in countries like USA, Canada, Australia, Indonesia, Germany, People's Republic of China, Brazil, Mexico, UK, Republic of Korea and Japan. It is also expanding into Poland and the Netherlands ([www.amway.com](http://www.amway.com), December, 2003). It is most popular in the USA and Japan because of its acceptability, capacity of sales and membership, thereby influencing the economy as a whole. In the latter, the sale of products, goods and services, through the channels of network marketing, accounts for over 50% of the country's GDP ([www.mannotech.com](http://www.mannotech.com); notes taken during five Mannotech meetings in London, 2002).

Network marketing is the term used to represent “word of mouth” or “referral” distribution network. Here the independent distributors are the sole distributors of the products. It replaces traditional methods of selling goods and services to end-users such as retailers, wholesalers, and advertisers. Network marketing is sometimes known as “the small people’s franchise”, where individuals have exclusive rights to sell the company’s products and receive commissions and bonuses as agreed by contract. Other names for network marketing are multi-level marketing (MLM); network distribution; referral marketing; progressive marketing; home-based-business and word-of-mouth distribution business.

“Direct selling is the UK’s largest provider of part time, independent business opportunities. It is an alternative channel of retail distribution which accounts for sales in excess of £1 billion per annum and which offers the public a wide range of consumer goods and services. In 1997, direct selling companies provided over 450,000 men and women with the opportunity to start their own small business with only a modest initial investment.” (Direct Selling Association, 2001).

## **2.1 Definition of a Network Marketing Organisation**

How do we define network marketing organisations? They are similar to other organisations with many departments, such as marketing, management information systems, research and development, warehouses, and finance. The difference lies in the distribution channels, which are made up of distributors. The salaried staffs are not employed directly to sell the

products or services but to provide services to distributors. For example, the marketing department have official advertising pamphlets, websites, posters, and products leaflets that distributors use as part of their business. They also check and approve distributors' personal advertisements as they promote their organisation's products and services to others.

Traditional companies sell their products and services through intermediaries such as wholesalers and retailers who buy in bulk and distribute products to individual consumers.

However, network marketing organisations do not follow the path of traditional businesses. They take products directly (e.g., by mail order) to customers thus bypassing wholesalers and retailers through their distributors. These distributors act as independent intermediaries by buying the products, goods and services for themselves. They would recommend other potential distributors to buy products directly from the network marketing organisations, thus expanding their business by "word of mouth".

Sometimes, these distributors sell products directly to their contacts, thereby acting as retailers or wholesalers. When their contacts want to get the products at the distributor's price, they help them to become distributors and buy products directly from the organisations at prices that are usually 10-30% cheaper. When distributors buy more from these network marketing organisations, they are offered further discounts, receiving benefits similar to those of wholesalers.

As a result, the new distributors become "agents" who can sponsor and train others to become "agents". However, unlike other businesses,



these agents may become sponsors, commonly known as “brokers” in other industries. They can sponsor other agents immediately, with or without the help of experienced agents.

This is very different from businesses, such as insurance. Agents in insurance would usually work for a broker who is only allowed to recruit agents. Therefore, when an experienced agent becomes a broker, he then competes with all other brokers.

Network marketing organisations pay sponsors a small income whenever their new recruits (agents) buy products from the organisations. When the products are sold, they receive income. It is, therefore, in the interests of sponsors to help new distributors in sponsoring, recommending, marketing, training and using the products appropriately so as to train the “agents” to be as good as themselves, if not better. In this way, they are rewarded through the effort of the downlines they have sponsored.

In the process, the distributors can recruit an unlimited number of new members (known as “downlines”). These distributors are potentially autonomous of each other from the day of joining. They could buy and communicate with the organisation as a “child would with his parents”.

In a typical example where independent distributor “A” helps “B” to become a distributor, the former is a sponsor or upline of “B”. “B” is then “A” first level / generation downline. If “B” recruits “C” as a result of the help of experienced distributors, this new person “C” is the first level downline of “B”

and second level downline of “A”. Therefore, “C” is a downline of both “B” and “A”.

A network marketing organisation rewards distributors for recruiting downlines into the business when goods are sold. There are rewards for training new distributors who then build up their network by getting others to follow their examples. The rewards are mainly in monetary terms like bonuses, commissions or discounts. However, others do allow for cars or holidays incentives.

The annual membership fees for becoming a distributor range from US\$ 10 to US\$ 100 in the USA, or £15 to £250 in Europe. Some companies have made it easier for new members to join. In 1999, Pro-Ma provided new members with free membership for the first year. Changes International, whose parent company is Goldshield plc, provided members with free membership until January 2002 when the membership is £20. From that date, customers are allowed to join the company as direct customers and not as distributors paying the same price for the products, which is according to the quantity purchased.

On enrolment, distributors have a seven to fourteen-day “cooling-off” period in the United Kingdom. They are not allowed to buy too many products from the organisation on enrolment. Many companies practise the refund policy, where at least 90% of the product values bought by members, who resigned, are refunded. However, in 1997 the refund policy has been changed by some network marketing organisations, which refund customers for products bought within the first month.

Changes International now allows customers and distributors who are not 100% satisfied with the products to return them within a year of buying. Mannatech allows new customers to have free membership if they buy appropriate products on enrolment. They have the benefit of buying products at distributor's prices and can also generate income through Internet selling. This meant that downlines and direct customers who join and buy products directly from the network marketing organisations would benefit their sponsors.

Members are allowed to order and buy directly from the network marketing organisations, sell the products and receive training from sponsors in order to train others. Through this method, they have a pool of distributors to promote and sell their products by "word of mouth" advertising. As a result, they reduce their cost of advertising, sales, and promotion.

## **2.2 History of the Network Marketing Industry**

The network marketing industry was for a long time an oligopolistic industry, and is still very much the same. Amway is the oldest established organisation; formed in 1959 by Rich De Vos and Jay Van Andel. Its range of products started with products in the domestic and industrial chemical cleaning market, which targeted housewives and companies in the cleaning of offices and buildings. Being a new type of business, many companies did not take the idea on board. However, this changed when Amway's

successful lawsuit against the US Federal Trade Commission (FTC) from 1975 to 1979 helped to establish network marketing as a legitimate business.

There was no competitor in this industry for a long time until Avon came with its range of beauty care products. To cut down on competition, Amway bought over 20% shares in Avon. Amway eventually moved into all 'conceivable' areas of consumables with over 3 million distributors worldwide ([www.amway.com](http://www.amway.com), August, 2000). According to Scriven and Gregory (1996), they handled goods and services of companies such as Sony, Coca-Cola, and MCI. In Europe, it handled goods and services of companies such as Vidal Sassoon, Crayola, Russell Hobbs, Pierre Cardin, Remington, Matchbox, Memorex, Bosch, Talkland, and Philips. Its annual sales (in US\$) were: in 1960 (\$500,000), 1965 (\$35m), 1970 (\$120m), 1975 (\$250m), 1980 (\$1,100m), 1985 (\$1,200m), 1990 (\$2,200m), and in 1995 (\$6.3 billion).

An increasing number of companies are using the network marketing approach to promote and sell their products. In the 1970s, there were about 30 US network marketing organisations. In 1996, there were more than 1,200 network marketing organisations worldwide with annual sales of about \$50 billion (Fogg, 1996).

### **2.3 Organisations Within the Network Marketing Industry**

There are many network marketing organisations starting each year. According to the Direct Selling Association in the UK (DSA), their members

are more likely to be established organisations. A guide to earning opportunity in direct selling from the DSA (August 2001) provides the following information regarding their members, and the success and the size of the industry.

“Some direct selling companies operate on conventional management principles whilst others are organised on a network marketing basis where direct sellers have the additional opportunity to build, train and motivate their own distribution networks. Whichever way they are organised, the majority of direct selling companies in the UK are members of the Direct Selling Association.

The DSA was formed in 1965 to promote the highest standards in direct selling. In addition to this Code, which governs the way direct sellers deal with each other, and sets high standards for the way earnings opportunities are promoted, the DSA launched a revised Consumer Code in August 1997 which deals with the way goods are sold. Together the DSA Codes offer a level of protection to both consumers and direct sellers that exceeds that provided by law. They are administered by an independent Code Administrator.” (Direct Selling Association, 2001).

The competitive marketing strategy adopted by the network marketing organisation has been met with the following comment from Nigel Griffiths MP, the Parliamentary Under Secretary of State for Competition and Consumer Affairs, Department of Trade and Industry, as found in the front page of the DSA’s guide to earning opportunities in direct selling (August 2001):

“I commend action by businesses and trade associations to raise standards in their sectors. Trade associations like the Direct Selling Association have an important role to play in leading the way. This code, is a helpful indication of the commitment of DSA members to self-regulation and the setting of high standards for direct selling opportunity.” (Direct Selling Association, 2001).

The success of network marketing can be reflected in a number of the organisations trading on the stock exchange. Some of them are: Goldshield Group PLC (London); Mannatech Inc (NASDAQ); National Safety Association International (NASDAQ); Natures Sunshine (NASDAQ); Nutrition For Life (NASDAQ); Advantage Marketing Systems (AMEX); Rexall Sundown Inc. (NASDAQ); Travelmax (AMEX); Usana (OTC); Vitatonics (OTC); Nu Skin Enterprises, inc. (NYSE); Yamanouchi Pharmaceuticals (Shaklee) (Japan); Royal Numico (Unicity) (Netherlands); Cell Tech International (OTC BB) and Voyager (OTC). The stock performances of MLM companies are compiled on the [www.mlmlegal.com/quotes.html](http://www.mlmlegal.com/quotes.html) providing PE ratio and EPS information.

## **2.4 Characteristics of Network Marketing Products**

According to the MLM Insider magazine (MLM Insider, 1996), the products of network marketing organisations have many advantages over their traditional counterparts.

The best network marketing organisations are rated according to criteria like length of existence (more than 9 months old, strength), competence, integrity of company management, products, pricing, presentations, support and compensation plans (MLM Insider, 1996).

Most network marketing organisations are using personal contact or “word-of-mouth” strategy whereby, goods are introduced to the public; meeting the different needs and wants of today’s generation. The largest group of such organisations promotes health, nutrition, dietary products and services. The next largest group is in the beauty and skincare products. It seems that the cause for the consistent growth in the skincare and health products markets are due mainly to “baby boomers” born between 1946 - 1964 in the USA and UK.

## **2.5 The Competitive Marketing Strategy of Network Marketing Organisations**

Porter suggested that successful organisations usually tried to establish a long-term competitive advantage and “parity” with their competitors through low overall cost leadership in their particular market segment (Porter, 1980). He suggested that firms must take either one of the two generic competitive positions:

- Cost leadership
- Product differentiation

Product differentiation strategy is a company's strategy to ensure its products are seen to provide better value and benefits than its competitors. This is usually used by small organisations to gain small market shares.

Applying this to the network marketing organisations, for example, we see that Enviro-tech International Inc. entered the network marketing industry with only two products. It has a complete car valet system called "Dri Wash 'N Guard" and a total-body care formula called "Bodypruf". This is an example of a network marketing company selling only a small number of products and having success with its product differentiation strategy. The car product is a direct substitute to products of many large network marketing organisations such as Amway and Pro-Ma. Its body care formula is also a direct substitute to Avon, Pro-Ma, and Colgate-Palmolive.

It started business in the USA in 1991 and after 26 months of operation, has around 30,000 distributors in the USA, Canada, Scandinavia and Mexico. The 1993 turnover in the USA alone was about \$25m (Chapple, 1993). By 1996, it was one of the best network marketing companies (MLM Special Issue, 1996).

It seems, however, that the more established network marketing organisations usually adopt cost leadership strategy. The largest multi-level marketing organisation in the world, Amway, focused on gaining market share in many different sectors. It sells products and services such as



appliances, nutrition and wellness, personal care, electronics, home furnishing, fashions, toys, household cleaners, office supplies, water treatment, and other specialty products. In addition, when a product meets Amway's quality standards, it becomes available through their PERSONAL SHOPPERS® Service and specialty catalogues.

## **2.6 The Importance of Management of a Network Marketing Organisation**

This section investigates the impact of the strength and experience of the management team of network marketing organisation on the performance of distributors.

Given that network marketing is a people-to-people business, network marketing organisations must motivate distributors in the company (Rubython, 1993). This is reflected by the amount of time they spent organising training sessions to increase their desires to be successful. This would increase their performance by giving them a sense of pride for working with the organisation. Distributors may be encouraged to teach others and some have been asked to participate in the strategic planning and control and the implementation of the strategy. However, it is the network marketing organisations that make the products and not the distributors.

If the management team does not have personnel with a successful record of accomplishment, there would be a lack of confidence from the

financial market and distributors. Mistakes made may be crucial to the long-term growth and survival of any organisation.

Such organisations maintain a large customer base and have strong cost leadership strategy. Distributors may be de-motivated through misunderstanding arising from lack of feedback from the management of a network marketing organisation. For example, Quorum lost many UK distributors in early 1994 through irregular changing of compensation and company policy without the approval of their distributors. It closed down its European operations very quickly (Quorum Crashes – Inside story, 1997).

The distributors did not understand why the membership fee had to be paid in January even though they just joined a few months ago. Any changes made without distributors' awareness meant that many top distributors might leave the organisation together with their network of downlines.

The latest MLM arrival into the UK market in 2004 is the health and wellness company called Melaleuca ([www.melaleuca.com](http://www.melaleuca.com)). It has won many trophies in the past like - Winner of the Inc.500 Hall of Fame. Melaleuca Inc., has already started in HK, Japan, NZ, Australia and Taiwan and been operating in the USA for 18 years with over 300 products.

What is amazing is that it only require independent marketing executives (distributors) to buy less than £50 each month to qualify for all their incomes from their customers network. Many of their products are patented and trademarked to promote health and wellness. Products range from hair, body and face cares to linen eco-care, cleaning and washing products. Their patented products for aerobic training, minerals, vitamins, joints and heart

antioxidants products are all reasonably priced like all the other products. Their main selling point is that all their products carry the full (100%) guarantee to promote wellness and satisfaction or your money back after two months.

## **2.7 Customer-based Marketing Strategy**

The survival of any network marketing organisation depends on customer loyalty. Customer loyalty generates sales and incomes and not so much the network marketing system. Through a team of motivated distributors (who are not bound by location and traditional selling methods) who are willing to work hard to promote the opportunity of buying the products. It also offers the opportunity to earn extra income. Many households are likely to switch shopping at the retail stores to buying from the network marketing organisations.

In order to keep track of the changes in consumers' needs, the management may create a database of customers' profiles and distributors' buying activities. Information is obtained when customers and distributors buy products and services from them.

Management use the database to consider and evaluate the customers' needs and wants and those of distributors. In this manner, the organisation will have information concerning movement of goods and make

plans in accordance to the stock level (or buying patterns of the consumers) and the needs of the target market.

The purpose of this strategy is to satisfy the needs, wants and values of its target market serving them effectively and efficiently. This is part of a strategic effort to develop business profitability through professional service and closer links with customers (Griffiths, 1994). For example, Melaleuca provides a wealth of quality, money saving services available exclusively to their customers. They offer low cost long-distance phone services to saving money on Premium Internet services, and travel services to credit cards facilities. This does not apply to the UK market yet.

Distributors are closer to customers and are likely to understand them better compared to management. Feedback from distributors and customers helps management to understand the direction the business is moving and make the necessary strategies to fulfil customers' needs and wants. However, many network marketing organisations deal mainly with their distributors and less with customers since they expect their distributors to deal with customers.

Most new network marketing organisations enter the industry by "focusing" on a specific need of the market segment. They seem to take the "niche" marketing strategy by selling merchandise that are special or unique in the marketplace at the time of entry. This would create brand awareness and require time for building up a group of distributors.

After entering the market, they would then establish themselves by adding more complementary product lines or ranges in their attempt to capture larger market share through cost leadership strategy. This progressive growth is seen in many large network marketing organisations. It seems that their strategy is to create value-added products to meet customer needs and wants, and as a result create a larger pool of loyal customers and distributors. Another strategy is to create distributors who are able to make money, who in turn help others to do the same.

The success of this strategy would generate a high percentage of repeated purchases. This “word of mouth” promotion helps to increase the size of its market share of customers. For example, a majority of Amway’s regular customers are those who initially encountered the company through buying its household products. New products were then introduced to maintain consumers’ interest in the company’s products. Amway has a mixture of consumable and non-consumable products. The customers would purchase consumables, like detergents to replenish domestic stocks, and at the same time purchase non-consumable products from another range, e.g. security alarms.

Organisations that sell consumable products are likely to have a higher number of repeated sales compared with those selling non-consumables e.g. electronic goods. For the latter, sales are primarily gained only by finding new customers. Many distributors have shifted their loyalty by becoming more interested in selling consumable rather than non-consumable products. To retain these distributors, the non-consumable

organisations must have a portfolio of consumable besides the non-consumable products. The greatest test would be in retaining full-time trained distributors who are loyal to the organisation.

One of the reasons why most network marketing organisations would not be able to maintain long-term growth when faced with large competitors (who enter their market segments with cheaper substitutes) is that they are not operating under low production cost. The R&D department is unable to introduce new products to capture the market share as business increases. Many of the network marketing products are far more expensive than those found in the retail stores. They do not seem to be providing better value and better performance products. It usually requires large investment to join these organisations. The reward structure seems to be rewarding those who have started early in the business, or those who carry their large team network wherever they go.

As mentioned earlier, the largest number of network marketing organisations is found in homecare as well as health, nutrition, and dietary products. In the future, this could cause hostile competition as the market becomes more saturated.

Having recognised the vital importance of distributors as well as the structure and managerial issues that affect the success and maintenance of distributors, the next section is focused on the motivation of distributors.

## **CHAPTER 3- MOTIVATION OF DISTRIBUTORS**

This section reviews the general literature on motivation of distributors. Given the lack of empirical research, these writings clearly are potentially valuable to understanding motivation of distributors.

### **3.1 Motivation of Successful Distributors**

How are distributors motivated? What are the secrets of their success? These questions help to discover the desirable goals that motivate them to work as entrepreneurs.

Network marketing business allows distributors to be flexible. It can vary from selling small to large quantities of products and setting up short or long network of downlines in the business. This is a “people to people” business. Academic qualification does not seem to be a pre-requisite to be a successful distributor earning substantial income. This is different to working for an employer, and unlike any other industry. It may take a while to understand the industry, organisation, management, products and compensation plan.

Trevor Clothier, a networking veteran who runs TGO, a security products company, believed that network marketing is a “deskilled” process. The distributors’ skill levels in network marketing are basically elementary.

Not much skill in selling is involved, as most distributors do not have that expertise (Rubython, 1993).

However, according to Rubython, the secret to distributors' success is to sponsor and train others to create a large network. It is a duplication process. Clothier believed that the biggest cause for failure is that many distributors have no network marketing knowledge and business expertise. However, they tried to apply techniques that were successful in their previous jobs to network marketing. It is a very simple business but takes a while for new distributors to understand (Rubython, 1993).

Kalench (1993) believes that successful distributors do well because they feel good recommending the products and services to people they meet. It is necessary for them to communicate clearly and confidently the business opportunity to potential members and customers.

Kalench believes that in order to do well financially and have a better lifestyle, a distributor has to be willing to work hard, open-minded and ready to listen to others. This would result in them being able to enjoy quality time with their family and friends, doing things they always wanted to, and helping others to do likewise.

The Direct Selling Association (DSA), which represents the majority of the network marketing organisations operating in the UK, is close to a regulatory body. Its director, Richard Berry, believed that even though people without selling experience can and do make excellent distributors, one could



exclude the art of selling entirely, since no commissions would be made if no products were sold. However, network marketing is a different kind of selling.

According to the head of the UK Network Marketing Association, Ed Ludbrook, he believes that network marketing is a motivational business and has fuelled the rise of motivational “gurus”, such as Anthony Robbins, who regularly draws crowds of distributors to his seminars. Making an independent distributor feel “good” is the real key to success.

Emotional compensation matters almost as much as cash though many distributors like to be financially independent! The key to success is to “like people” (Rubython, 1993). Successful distributors aim to have independence and lifestyle that comes with financial security, without having to work long hours away from their families.

According to Clothier, network marketing is about duplication i.e., the ability to teach or demonstrate the skills to move products from the source. It is the desire to be successful that drives distributors to do well (Rubython, 1993).

Anyone who are prepared to put in time and effort can be successful in the network marketing business. It is an opportunity to own a business promoting all the products of the network marketing organisation. Since it is a person-to-person business built on the success of helping others, those who are disabled, have no qualification, of ethnic minority group, senior citizens, or even a refugee can be a successful distributor! The important factor is that

a distributor has a positive attitude towards people, the products and services provided by the organisations.

It is important that network marketing organisations try to provide high quality value products and give excellent after-sales services. Without these, distributors would lose faith in the organisations and their products. Therefore, they would not recommend the products or services to their friends and relatives.

According to Failla & Failla (1993), the main motivational force to success is “desire,” which must be real. They claimed that the type of desire that moves people to achieve their goals in MLM is:

“... the desire to have money they need to meet financial objectives and the time necessary to fully enjoy life and the fruits of their efforts. We called this “Owning Your Life” and it is the secret as to why Multi-Level-Marketing is growing so fast and also incredibly successful.” (Failla & Failla, 1993, pp. 68-69).

They seem to indicate that network marketing distribution is an opportunity to have financial stability and enjoy a full and satisfying lifestyle. However, they were aware that it would not be the choice for everyone. The main reason why distributors fail is due to lack of desire to succeed. These distributors have no clear focus, get easily dissatisfied, complain too much and are not really doing what is necessary to realise their dreams. The outcomes recognised may be used as part of the strategy to motivate distributors.

Successful distributors are those who are not afraid of rejection but accept it and know that there will be others willing to listen and learn about the business opportunity. They are most likely to buy the products and even join the company (Kalench, 1993).

According to Kalench (1993), in order to be financially independent, successful distributors need to sponsor people and train them to do the following:

1. Meet and motivate potential contacts to be interested in the products and the organisation. The tools available are books, audios and videocassettes. The key is to make the new distributors feel good about the products, the company, and the business.
2. Sponsor new distributors into the organisation as downlines, training and helping them with any problems. This would motivate them. A good sponsor is different from a recruiter. A recruiter is interested only in signing new recruits and offers no help in building up their business. To be a good sponsor, there must be real commitment to be a support to recruits. To distinguish a recruiter from a sponsor, new potential members should ask what their sponsors would do to help them with their ongoing business.
3. Train and coach the first generation downlines. These downlines would do likewise in training and coaching their downlines with or without the help of their sponsors. The sponsors with competent, conscientious, well-trained, ambitious and happy downlines will benefit in the long term. These new distributors can learn a lot about

the business by being involved with their sponsors through the process of sponsoring and training others.

4. Be committed to overcome frustrations and fear of new distributors.

This in turn would increase their faith in the business. Helping them to keep focus on the goals they want to achieve in life (Kalench, 1993).

### **3.3 Major Goals of Distributors in Network Marketing Literatures**

The goals that could be desirable and attractive to distributors from the above popular network marketing literatures are as follows:

- a) Having better quality lifestyle;
- b) Having time to enjoy life;
- c) Being able to spend more quality time with the family and friends;
- d) Having financial security and independence;
- e) Exercising own leadership style;
- f) Training and teaching others to be successful;
- g) Not having to report to a superior;
- h) Promoting products that benefits others.

These outcomes may be used to encourage downlines, motivating them to work as a team. It is important to build a small team of distributors who are jointly committed to a common purpose, agreeing on performance, goals and objectives. Then the team may be able to develop high complementary skills and define a common working approach, while they hold themselves mutually accountable to demanding challenges they face as a team (Katzenbach & Smith, 1993).

## **CHAPTER 4 - LITERATURE REVIEW OF WORK MOTIVATION THEORY**

It seems that literature on work motivation has produced an endless stream of fragments leading nowhere with little advance in building and testing theoretically based models. The researcher believes that models or theories of human behaviour and motivation provide an orderly image of the working world, which may guide the manager's actions. Therefore, from this literature review, attempts will be made to examine theories and models to help in the understanding of work motivation on distributors.

It is important to investigate the literature for motivation to find ways of evaluating motivation from various models, irrespective of whether the models have value, reliability and validity. It is the researcher's belief that work motivation today represents a healthy field of inquiry. Motivation research can provide insights that can help to explain behaviour in individual in work organisation, especially those in the network marketing industry.

To begin with, each model of motivation will be described providing detailed critical analysis of it. The objective is an attempt to look for order, predictability, measurement, and control within management science of motivation. The search for understanding motivation is to address the complexity of individuals, working environment as systems, and the reality of every day practice at work. It seeks to reflect the search for certainty of performance in operations so as to enhance the measurement and control of performance, to construct abstract models to represent the real world and to

manipulate and test these models for the purpose of aiding decision-making for all concerned.

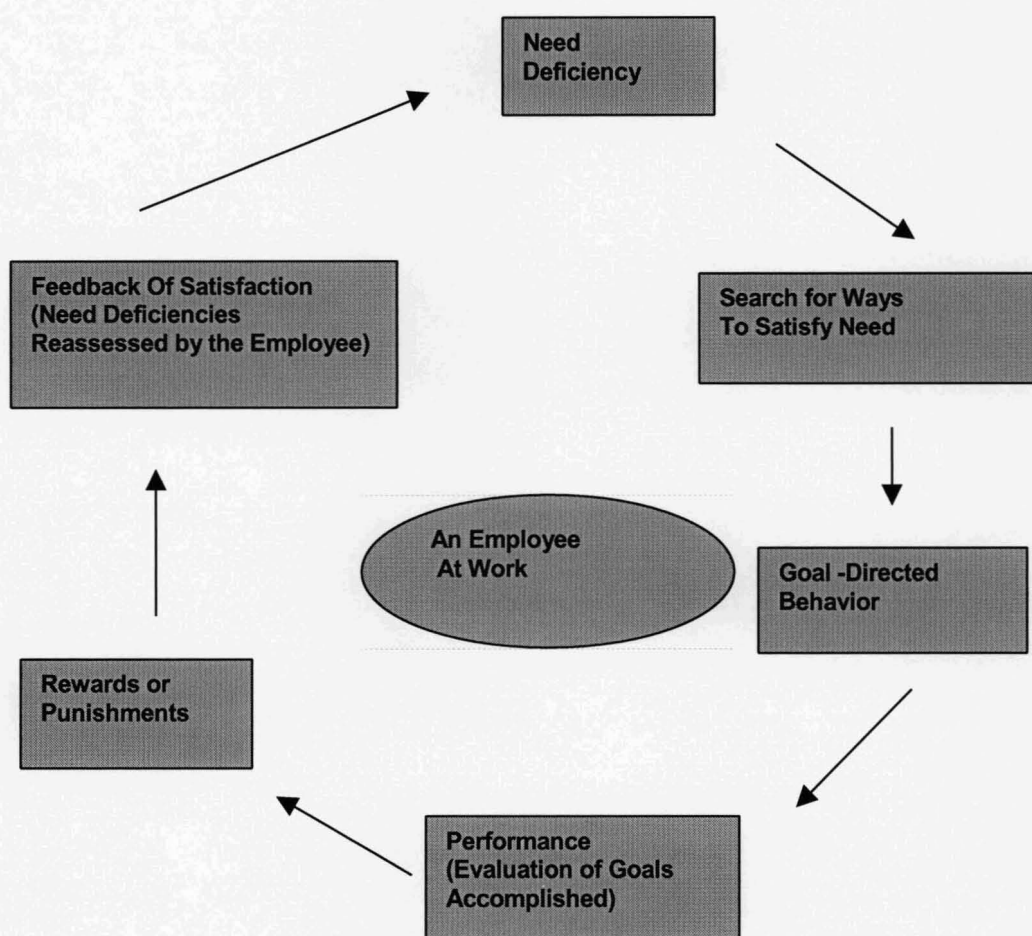
#### **4.1 Introduction to Motivation**

There are many definitions of motivation. It can be defined as a concept of the forces that initiate, energise, direct, sustain and stop behaviour (Gibsons, Ivancevich, & Donnelly, 1988). FIGURE 4.1 below illustrates a simple motivation model, which shows the interactive, circular process of work motivation. Each person has different needs at one particular point in time and as a result, goals are likely to differ. Goals and needs are not motivation, as it occurs when a person has wants he is prepared to put effort into achieving. Wants are specific goals that arise out of basic needs.

The model below is simplistic and does not explain motivation clearly; given that motivation is a very complex phenomenon, with goal-directed behaviours that may be affected by both rewards, environment, ability and performance.

This simple model helps us to understand that an employee is constantly evaluating goals accomplished after goal-directed behaviour and reassessing deficiencies of need after receiving rewards or punishment (or the lack of them).

There seems to be two main models of the theory of work motivation. Many contemporary theories of motivation models are mainly a combination of the integration of expectancy, and content theory.



**FIGURE 4.1: A SIMPLE MODEL OF MOTIVATION (AS DESCRIBED BY GIBSONS, IVANCEVICH, & DONNELLY, 1988).**

The two main models of motivation are commonly known as “Content” and “Process” theories, as proposed by Gibsons, Ivancevich, & Donnelly (1988); Vecchio (2002); Gibsons J. L., Ivancevich, J. M., Donnelly, J. H. Jr. & Konopaske, R. (2002); Mayes (1978), Campbell, Dunnette, Lawler, and



Weick (1970). It seems that motivational processes can be studied from these two main points of view and at different levels of complexity (Campbell, Dunnette, Lawler, and Weick, 1970).

## **4.2 Content Theories of Motivation**

The first group of models for understanding motivation is called the content theories of work motivation. Basically, content theories focus on the “what” factors that motivate people to perform. They are mainly concerned with different rewards that motivate people at work. They focus on the need and want factors “within” the person that energise, sustain, direct, and stop behaviour. They attempt to determine “what” specific needs initiate or energise behaviour in employees.

The most popular content theory models of work motivation are Maslow’s needs theory (1943; 1954), Herzberg’s two-factor theory of motivation (1959), McClelland’s learned needs theory (1961) and Alderfer’s three-level order need theory of motivation (1969; 1972 & 1979).

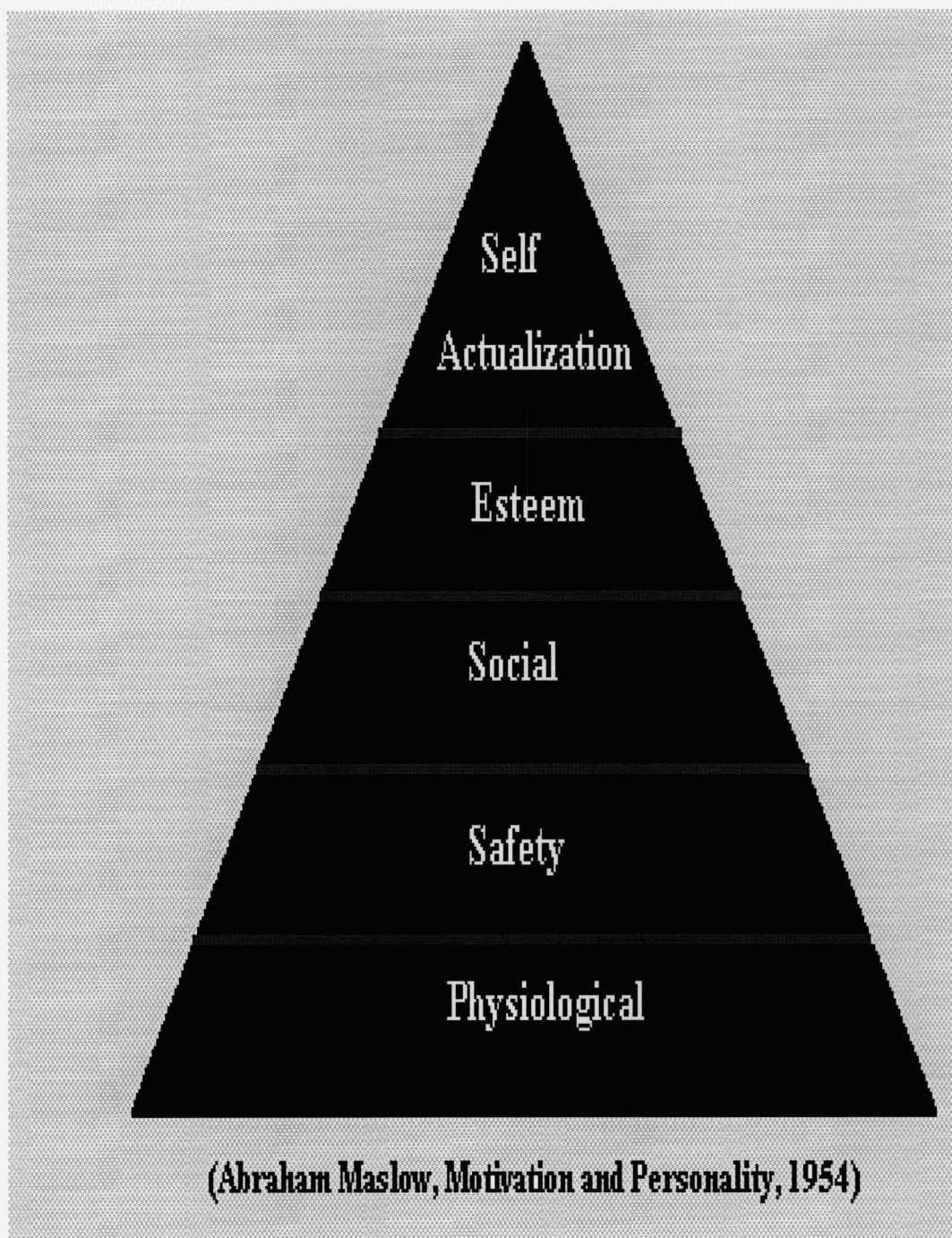
#### 4.2.1 Maslow's Hierarchy of Needs Theory

One of the early theories was the model of motivation by Maslow, known as the "Hierarchy Order of Needs theory".

"Maslow's name was the fifth most often named in a National Industrial Conference Board study which asked "companies" which behavioural scientists had influenced them." (Lee, 1980, p.63).

According to Maslow, human beings are motivated by an attempt to satisfy the need that is most important at that specific point in time (Maslow, 1943; 1954). He proposed that there are five different levels of needs. He believes that in a working situation people, employees tend to reach for higher needs once their basic or lower needs are met. Such needs when satisfied are very unlikely to motivate employees further. His model of motivation assumed that employees and employers in general have an inner need to grow and develop.

Maslow believed that the strength of any particular need or motivation in any individual is determined by its position in the hierarchy. Lower-order needs are dominant until they are satisfied, then the higher-order needs would come into operation (See Figure 4.2.1).



**FIGURE 4.2.1: MASLOW'S HIERARCHICAL ORDER OF NEEDS**

From Figure 4.2, the hierarchical order of needs theory proposed by Maslow may be explained as follows:

- 5) Self-Actualisation needs (i.e., self-fulfilment and realisation of one's potential).
- 4) Esteem needs (Ego needs e.g., achievement and recognition).
- 3) Social needs (e.g., need for love and the need to belong and for friendship).
- 2) Safety needs (i.e., security, stability, and freedom from physical danger).
- 1) Physiological needs (i.e., the need for food, water, air, and gender).

Physiological needs in level 1 are the lowest order of needs, and self-actualisation needs are the highest order of needs.

Maslow's theory makes a significant contribution in terms of making management aware of the diverse needs and motives of employees at work. The exact nature of these needs and how they are related to each other is not clear. McClelland and Alderfer proposed their theories to try to overcome some of the problems of Maslow's theory.

Critique of the need hierarchy theory –

- (a) The five need hierarchy have not been verified empirically.
- (b) There are mixed empirical results to support the basic premise of prepotency (that higher level needs become activated as the lower level needs become satisfied).

- (c) There is lack of empirical support due mainly to definitional clarity and methodological rigor. There are too many definitions for the higher order needs with complex variables.
- (d) Self-actualisation need may not be a need at all. It is likely to be a socially desirable response resulting from certain cultural values.
- (e) Many of the questionnaires designed to measure the need categories have severe psychometric weakness, such as the most popular NSQ questionnaire, which does not reflect Maslow's need classification scheme (Wahba & Bridwell, 1973; 1976).

#### 4.2.2 Alderfer's Need Theory of Motivation

Maslow's satisfaction-progression model was modified by Alderfer (1972) in his three-level order need model, known as "ERG" needs of motivation. In Alderfer's model of work motivation, the three-level order needs are existence, relatedness and growth. It is possible to have more than one set of needs activated at the same time. Similar to Maslow and Herzberg, he sees value in categorising these needs. While Maslow argued that people have certain inherent hierarchical needs, but Alderfer suggested more of a continuum of pre-potency needs. To predict what behaviour any given person will be motivated to engage in would require an assessment of that person to determine the most significant these three needs to him or her. The individual would then be expected to engage in behaviour that would lead to the fulfilment of these pre-potency needs.

Alderfer's existence needs relate to levels 1 and 2 of Maslow's model and the relatedness need summarises levels 3 and 4. The growth needs of Alderfer are related to the self-esteem and self-actualisation needs of Maslow (levels 4 and 5). Growth needs refer to the human needs to grow, develop and fulfil one's potential by overcoming new challenges and seeking new opportunities. He contended that there are two processes of motivation, satisfaction-progression and frustration-regression processes of motivation. Frustration experienced by people at work is likely to lead to regression in motivation (frustration – regression process), and satisfaction at work is likely

to lead to progression (satisfaction- progression process). This meant it is possible to move up or down the three sets of needs (Alderfer, 1979).

#### 4.2.3 McClelland's Learned Needs Theory

McClelland (1961 & 1967), in his "Learned Needs Theory" of motivation, proposed that people at work have three different needs that influence their job performance, i.e. the need for affiliation, power, and achievement (See Figure 4.2.3 for the factors that made up each learned need).



**FIGURE 4.2.3: MCCLELLAND'S LEARNED NEEDS THEORY (1961)**

McClelland and Boyatzis (1967) found that there is an association between long-term success in management and the three needs. They

proposed that these three needs were strongly influenced by personality, environment and culture of an individual (McClelland, 1965). It is important to note that his research proposed that through training programmes these needs may be taught and learned to increase achievement motivation in individuals.

McClelland's need for achievement in his model of motivation is related to the need for growth in the motivational models of Alderfer and Maslow. The need for power and affiliation is related to their 'social' needs.

#### 4.2.4 Two-factor Theory of Motivation by Herzberg

Herzberg (1966) and Herzberg, Mausner and Snyderman (1959) proposed a two-factor theory of motivation (See Figure 4.2.4). Herzberg divided the motivation need into two dimensions. The lower level was the dissatisfiers or hygiene factors, and they relate to extrinsic job conditions of employees. These hygiene factors are company policy and administration, technical supervision, interpersonal relationship with supervisor, interpersonal relationship with peers, interpersonal relations with subordinates, salary, job security, personal life, work conditions, and status. These needs prevent dissatisfaction. This is the necessary condition or "takeoff point" for motivation but they do not lead to it. Here, motivation has a theoretical zero level.



**1** **Motivator factors increase job satisfaction:**

- ▼ Achievement
- ▼ Recognition
- ▼ Work itself
- ▼ Responsibility
- ▼ Advancement
- ▼ Growth

**2** **Hygiene factors are those whose absence can create job dissatisfaction:**

- ▼ Supervision
- ▼ Company policy
- ▼ Working conditions
- ▼ Salary
- ▼ Peer relationship
- ▼ Security

**FIGURE 4.2.4: TWO-FACTOR THEORY OF MOTIVATION BY HERZBERG (1966)**

The higher level of Herzberg (satisfiers or motivators) are related to intrinsic job conditions and are similar to Alderfer's relatedness and growth needs, and Maslow's higher level needs (i.e. levels 3, 4, & 5). The motivators, according to Herzberg, are achievement, recognition, advancement, the work itself, the possibility of personal growth, and responsibility.

Herzberg contended that motivation is not uni-dimensional but two-dimensional. Unlike content theories where process of motivation is believed to move in one direction, that is, being motivated or being de-motivated, Herzberg proposed that it is two-dimensional. When motivators are present, employees are likely to be motivated. However, when they are missing,

employees do not experience much dissatisfaction. He proposed that the opposite of job satisfaction is not job dissatisfaction. Instead, it is a lack of job dissatisfaction. It is only when hygiene factors are missing that employees take actions to restore them, such as working slow, strike actions or absenteeism. Up to this point, the management had generally focused on the hygiene factors to solve motivational problems at work, such as higher pay, or better working conditions. Herzberg showed the importance of job content and why management's solutions did not work when they were focused on hygiene factors which merely prevented dissatisfaction. The weakness of his theory is that it is oversimplifying motivational processes, and there seem to be job factors that lead to both motivation and dissatisfaction.

#### 4.2.5 Scientific Management Model of Motivation

Generally, there was increased interest in motivation, performance and efficiency of employees by social scientists following the industrial revolution. Implicit in some of the earlier ideas of management were conceptions of motivation, commonly known as "principle of scientific management." It is one of the most influential models of work motivation, which was developed by Taylor (1911). He proposed detailed and careful task analysis, training, standardisation of employees' movements and close

supervision at work, believing that the single most important motivator for all work is money.

#### 4.2.6 Human Relations Model of Work Motivation

The “Hawthorne” studies developed the premise that employees’ attitudes and in particular, the work group are critical determinants of employees’ motivation and performance. The Hawthorne studies were directed by Elton Mayo, (a Harvard sociologist and industrial researcher) and reported by Roethlisberger and Dickson (1939). Mayo believed that “human relations” is the most important motivator at work.

#### 4.2.7 Humanism Model on Work Motivation

McGregor made a significant shift in his ideas from the human relations philosophy to the new humanism theory of motivation. He believes that managerial assumptions about human nature and behaviour are all-important in influencing and determining manager’s style of motivating and operating in the work place. He believes that these assumptions influence the way managers organise, lead, control, and motivate people. Managers who accepted one set of assumptions,(for example, the tradition view of human nature) he called Theory X. They would tend to manage using

traditional view of direction and control (McGregor, 1960, pp.33-34). See Figure 4.2.7 for the assumptions of the Theory X and Y.

However, when managers shift to the new theory with respect to the management of human resources (Theory Y image of human nature), they would not structure, control, or closely supervise the work environment. They will attempt to aid the maturity of subordinates by giving them wider latitude in their works. (See Figure 4.2.7) They would try to encourage creativity, use less external control, encourage self-control, and motivate people through the satisfactions that came from the challenge of work itself (McGregor, 1960, pp.47-48).

He believes Theory Y could lead to the “creation of conditions so that members of the organisation can achieve their own goals best by directing their efforts toward the success of the enterprise.” (McGregor 1960 p.49). External control by management would be replaced by getting people to be committed to the goals of the organisation since they believe it is the best way to achieve their own goals.

McGregor’s contribution to the theory of motivation is that he believes that harmony at work can be achieved by changing the assumptions managers held about workers.

When managers see that workers can be trusted, they could exercise self-motivation and control. It is important to realise that how workers and people were treated was largely a self-fulfilling prophecy.

Theory X Assumptions:

- X** People inherently dislike work
- X** People must be coerced or controlled to do work to achieve objectives
- X** People prefer to be directed

Theory Y Assumptions:

- ✓** People view work as being as natural as play and rest
- ✓** People will exercise self-direction and -control towards achieving objectives they are committed to
- ✓** People learn to accept and seek responsibility

**(Douglas McGregor, The Human Side of Enterprise, 1960)**

**FIGURE 4.2.7: MCGREGOR HUMANISM MODEL OF WORK MOTIVATION (1960).**

It is likely that if a worker was assumed to be lazy and manager treated them as if they were, then they would be lazy. However, if managers assumed that people desired challenging work and exploited this premise by increasing individual discretion, works would in fact respond by seeking more and more responsibility. According to Maslow, it seems that the theory does not account for managers reverting to theory X when growth is threatened and crisis existed (Maslow, 1987, p.xii).

Maslow still had his doubts about the validity of theory Y:

“...a good deal of the evidence upon which (McGregor) bases his conclusions comes from my researches...But I of all people should know just how shaky this foundation is...My work on motivations came from the clinic, from a study of neurotic people...I would like to see a lot more studies of this kind before feeling finally convinced that this carry-over from the study of neurosis to the study of labor in factories is legitimate.” (Maslow, 1987, p.55)

#### **4.3 Large Scale Research on Motivation**

The motivating outcomes derived from these content theories are useful in helping us understand what motivate employees to work. This is a source of information that may be used to formulate the content of the desirable goals of distributors.

A large-scale research study on motivation conducted in the USA by Jamieson & O'Mara (1991) has provided validity to the outcomes that are desirable to employees in general.

To avoid making assumptions about employees' widely held values that might be incorrect, Jamieson and O'Mara surveyed a widely diverse groups of 350 managers and human resource professionals who work with changing workforce issues on areas such as obedience, authority, job security and money. This list was combined with a list of approximately 200 graduates from the Master of Science in Organisation Development

programme at Pepperdine University (USA), which includes both managers and internal and external consultants in management of change in workforce. Both lists were widely dispersed around the United States. 84 people responded to their survey on values (Jamieson and O'Mara, 1991, pp.28-29).

Respondents were asked to identify the work-related valuable outcomes believed by majority of people in their workforce now and that will continue to be important in the near future. Jamieson and O'Mara (1991, pp. 28-29) found nine such work-related valuable outcomes. They challenge managers to balance the needs and desires of the majority of working people with the need to recognise and value individual differences. These outcomes should be taken into account in designing organisation, jobs, making decisions, setting policies, managing people in general, and motivating and rewarding employees.

The value of this nine work-related valuable outcomes helps to formulate the content of the outcomes that are likely to be desirable to distributors. It is wrong to assume these outcomes are accurate for every organisation without thoroughly identifying the specific values that are represented in each organisation. We shall analyse these outcomes with those derived from other literatures in Section 6.6. The nine, which they discovered, are as follows:

1. Recognition for competence and accomplishments. People want to be recognised for their contribution, both as an individual and as a team.

2. Respect and dignity. People want to be treated with respect and dignity, valued for who they are, in response to their ideas, and through their jobs.
3. Personal choice and freedom. People want to be able to make their own personal judgement and be more autonomous to decisions that affect their lives.
4. Involvement and responsibility. People want to be informed, included, and involved in important decision making at work, particularly those affecting their work and quality of life there.
5. Pride and responsibility in one's work. People want to have a sense of pride and achievement for their jobs.
6. Quality of lifestyle. People want to have high quality of lifestyles, especially the desire for time with family and time for leisure.
7. Financial security. People want to know that they can be successful and be financially secured during difficult financial situations. This is different from the continuous pursuit for money, but enough to feel secure, enjoy a comfortable lifestyle, and ride out bad times.
8. Self-development. People want to continually improve themselves, to do more with their lives, to reach their potential, to learn and grow. There is a strong desire to take initiatives and opportunity to further themselves.
9. Health and wellness (well-being). People want to organise their life and work that can contribute to long-term health and wellness.



Note that Herzberg has identified some of these outcomes in his research, such as recognition, accomplishment, responsibility, health, fitness and well-being. Others identified them as follows:

- Social scientists (respect and dignity and recognition);
- Alderfer (Self development = growth, involvement = relatedness, health, fitness and well-being = existence);
- Maslow (safety needs = health, fitness and well-being, self-actualisation needs = self- development, esteem needs = recognition for competence and accomplishments);
- McClelland (achievement needs = pride and responsibility in one's work, power needs = personal choice and freedom and financial security).
- Scientific Management (money = financial security).

#### **4.4 Empirical Supports for Content Theory of Work Motivation**

Generally, content theories were over generalised, that is, the relationships between variables were poorly specified and not really tested. Until now, content theories have not been subjected to extensive investigation except Herzberg's model, which received very poor empirical support.

There is a conflict between the validity and reliability of the model of content theory (Lee, 1980). Since the goal of science is explanation and

generalisation, then the simple description of content theory is not sufficient to meet the goal. Explanation requires conceptual analysis of the factors involved and the underlying processes (Locke, 1969, p.313). These conditions are necessary in order to provide understanding and analysis of empirical results found (Mobley, 1971, pp. 3-4). Mobley commented that:

“... the adequacy of the assumptions one makes regarding the “attributes of the entities” and the “nature of the process” must themselves be evaluated if they are to be used in “explaining” behavior.” (Mobley, 1971, p.4).

These conditions seem to be missing in content theories of work motivation. They attempted to specify the specific things that motivates employees but failed to explain and describe the major classes of variables and how they influence the process of motivation and performance.

Content theory received poor reviews. There is an over-emphasis on social or economic factors by the human relations school and the scientific management school, respectively. This is an over simplified model which is not based on strong empirical grounds (Lee, 1980).

Content theories of work motivation are oversimplified because of their inadequate allowance for individual differences. Empirical data on individual differences meant that it is difficult to assert that the motivation or performance of employees can be understood simply in terms of “what” factors of motivation (Mobley, 1971). No attention is given to the nature of the interaction between differential and situation variables (Vroom, 1964).

The specific problems and limitations of each of the major content theories mentioned above are as follow:

1. Maslow's need hierarchy failed to receive support. This is because it does not take into account the dynamic nature of the needs of different individuals. Maslow's model has popularity in industrial circles even in today's management circle, but is an over simplified model of work motivation.
2. Many of the abridged versions of the Need hierarchy theory provide no evidence, which supported the theory, since there is not much evidence to support it. The theory "seems, for most people to have a direct personal, subjective plausibility. Yet, it still lacks experimental verification and support. I have not yet been able to think of a good way to put it to the test..." (Maslow, 1970).
3. Maslow (1968) himself believed that his model did not have a strong foundation and needed to be tested extensively:

"But I of all people should know just how shaky this foundation is as a final foundation. My work on motivations came from the clinic, from a study of neurotic people. The carry over of this theory to the industrial situation has some support from industrial studies, but certainly I would like to see a lot more studies of this kind before feeling finally convinced that this carry over from the study of neurosis to the study of labor in factories is legitimate. The same thing is true of my studies of self actualising people ...

There are many things wrong with the sampling; so many in fact that it must be

considered to be, in the classical sense anyway, a bad, poor, or inadequate experiment. I am quite willing to concede—because I'm a little worried about this stuff which I consider to be tentative being swallowed whole by all sorts of enthusiastic people who really should be a little more tentative in the way that I am. (Maslow, 1968, pp. 55-56).”

4. Alderfer's ERG theory has received very little empirical support. Do humans have three categories of needs only? Since self-report scales are used to assess these needs, it is difficult to have good predictability (Gibsons, Ivancevich, & Donnelly, 1988).
5. Herzberg 2-factor theory failed to meet scientific measurement standards. Its main data came from interviewing accountants describing their critical job incidents. The research failed to take into account that no one has the same needs and preferences. It is likely that needs change with society (Gibsons, Ivancevich, & Donnelly, 1988). The methodology of asking people to report on satisfying and dissatisfying incidents meant that they are unlikely to attribute their satisfaction to job context factors, since they are usually outside their control. They are likely to attribute satisfaction to events they can control in the job content area. Therefore, job context (environmental) factors are likely to be blamed for the workers' dissatisfaction when asked in this manner. Another criticism of the Herzberg theory is the conclusion. If the theory and conclusion are correct, those who are highly satisfied are highly motivated and high producers. However, the results from Herzberg and all other results have so far not shown

significant positive relationship between worker satisfaction and productivity. This may be because a satisfied worker who may prefer to be told what to do at work may not be a high producer. Work is meant for some people but not an end in itself. Labour unions have not been supportive of the theory. It has been suggested that enriching the job, increases wages. The better the wages, the greater the job satisfaction. There is no better cure for the blue-collar blues.

6. McClelland's learned needs theory used the Thematic Apperception Test to project respondents' needs. However, the results were very difficult to interpret, and empirical research failed to substantiate the effect of training on the changing needs (Lee, 1980).

#### **4.5 Process Theories of Work Motivation**

The process theories of work motivation are concerned with the “how” factors of motivation. They are concerned with predicting behaviour of employees in the dynamic work environment when they are aroused (Gibsons et al., 1988; Vecchio, 1988; Mayes, 1978).

Empirically, process theories have shown mixed results. In general, researchers have consistently found process theories to have a certain degree of predictability and utility for understanding motivation (Mayes, 1978; Gibsons et al., 1988; Dachler & Mobley, 1973; Georgopolous, Mahoney &

Jones, 1957; Hackman & Porter, 1968; Pritchard & Sanders, 1973; Andrews, 1968; Lawler, 1968; Pritchard, Leonard, Von Bergen & Kirk (1976); Weick, 1966). This is further explained below.

Amongst the most popular and influential process theories are expectancy theory, equity theory, goal theory and reinforcement theory. We will begin with examining the Equity theory of work motivation.

#### 4.5.1 Equity Theory of Work Motivation

The Equity theory of work motivation is mainly the work of Adams (1963 & 1965). Adams proposed that groups or individuals compare the ratio of inputs to outcomes at work with the corresponding ratio of inputs to outcomes of another individual or group that is significant to them. This is similar to the social “Exchange theory”, where most individuals expect certain rewards (outputs) in exchange for their contributions (inputs).

If the employee perceives inequity, she/he will act to correct the inequity by:

- ▼ Lower productivity
- ▼ Reduced quality
- ▼ Increased absenteeism
- ▼ Voluntary resignation.

Adams believed that perceived inequity motivates people to restore “equity” by reducing the tension level and perceived inequity. He proposed (1965) that most individuals would adopt the least costly option to restore

equity (in reference to a significant person or group of people). This seems like a “valuation” technique adopted by individuals (rather than a theory or a model) and is difficult to test empirically.

This theory helps us to understand both the causes and the likely consequences of feelings of unequal treatment among organisational members. Equity theory is the comparison process of an individual who takes into account the ratio of both the inputs and outcomes. Inputs may be the contributions an employee makes to the organisation. Outcomes are rewards that he receives from the organisation. He then compares this ratio to some other (comparison) person in the organisation. When the two ratios are perceived not to be in balance, inequity exists, and he may take some action to resolve the inequity.

#### 4.5.2 Goal Theory of Work Motivation

Goal theory of work motivation is a popular model of the theory of motivation. It is mainly the work of Locke (1968; 1975) who did not propose goal setting as a theory of motivation but as a motivational technique. He proposed three variables or processes that motivate individuals to perform better:

1. Clear goals. Goals are what an individual is consciously trying to achieve. They must be clearly understood, communicated, and conveyed. This meant that the more specific the goal, the better the accomplishment. Rather than saying; “ Do the best you can”, use the

saying, "Produce 1000 units of products that will pass through quality inspection at the end of this week".

2. Difficult goals. Goals should not be easily reached. The goal should challenge (but not exceed) the individuals' ability rather than leaving it up to the employees to spread a four-hour job over an eight-hour day.

3. Acceptable goals. The performers must personally accept the goals. Incentives are also necessary to reward the meeting of the goals. They could be financial or non-financial rewards.

4. Employees must have a means of keeping track of their performance by receiving feedback of results. In this way, they are able to see the relationship between their current performance and the expected performance.

In summary, specific goals increase performance, and difficult goals, when accepted, result in higher performance than easy goals. This theory was supported by empirical research by Locke (1968; 1975), Yukl and Latham (1975), and Steer & Porter (1974). One of the goal of research is to advance teaching and practice, as they are the crucial points in which we test the vigour of management theory and research. The idea of Locke is more useful for practitioners, since it finds the integration between behavioural science methods and findings with the practical world of managers as it relates to general management theory.

Research by Durand (1975) and Timmons (1971) reported that participants who were given training programmes to develop clear goal-



setting to help them think and act in a high achievement manner, have higher probability of success in their careers (i.e. higher rate of promotion, salary progress, and business expansion) than those who were not given these goal-setting training programmes.

Locke and his associates examined four widely used techniques and their impact on employee productivity. They discovered in their research that monetary incentives showed the greatest median increase on productivity. This was followed by goal setting, while job enrichment and participation lagged behind (Locke, 1980, pp. 363-388). Money seems to have credibility as a motivational factor. However, Locke and his associates argued that it is the instrumentality of money that allows individuals to choose how they wish to satisfy their needs given that it is a medium of exchange (Locke, 1980).

The goal setting process begins with the assumption that an individual knows something about the nature and properties of things existing in the work environment. It assumes that human action is purposive; behaviour is regulated and maintained by goals and intention. This knowledge of something is usually gained through perceptions and the exercise of reason and judgement to determine what action is best among a set of alternatives. An individual make decision based on his own personal value standards and his perception of the environment. As in expectancy theory, instrumentality refers to a probability that an outcome will occur.

Critique of goal theory – According to Miskel (1982):

- (a) The greatest deficiency in the model is the failure to specify the determinants of goal acceptance and commitment. Latham and Yukl believe that expectancy theory provides promising directions for elaborating goal theory since expectancy (that effort will lead to goal attainment) has correlated with goal acceptance (Latham and Yukl, 1975).
- (b) The shortcoming in the mechanisms which explain how goal acceptance, goal difficulty, and other variables combine to determine effort.
- (c) The problem of moderating effects of task complexity and accurate performance measures. It seems that goal theory is a good tool for predicts of simple jobs with concrete, countable outcomes. However, it is not effective when tasks are complex and dimensions are difficult to be measured quantitatively. It does complement and enhance other theories of work motivation, especially expectancy theory.

#### 4.5.3 Reinforcement Theory of Motivation

The Reinforcement or Operant conditioning theory of work motivation is built on the Learning theory of past stimulus and response. It places a

heavy emphasis on the strength of the relationship of work environment variables as the controlling factor in affecting behaviour and future efforts. The main factor that controls behaviour is called a Reinforcer. This is simply any consequence that follows immediately after a response to increase the chance of that behaviour being repeated. The types of environment variables in organisational settings that are identified as important are work group, recognition, pay, praise, the supervisor and company rewards system. This principle of behaviour has been applied to work settings with some support for the hypothesis that reinforcement increases performance.

The theory assumes that any present behaviour is based on the consequences of the strength of past experiences to the work environment variables (Thorndike, 1911; Hull, 1943; Skinner, 1948, 1953, 1971). This meant that people learn from the results of their past experiences. This is why it is sometimes called the social learning theory. Reviews of the Reinforcement theory are available from Babb & Kopp (1978), and Davis & Luthans (1980).

In order to avoid pain and seek pleasant outcomes, individuals are likely to repeat an action, which has led to positive consequence in the past. Negative consequences of past experiences would lead individuals to avoid them. To understand and control behaviour, reinforcement theory proposes that we need to know the reinforcement contingencies that affected the individual in the past.

Past formulation of behaviour was modelled solely on past experiences, where  $\text{Effort} = \text{Drive} \times \text{Habit}$ . Here "drive" is the energising

influence, which determined the intensity of behaviour. "Habit" is the strength of the relationship between past stimulus and response.

Contemporary reinforcement theory has modified this theory in response to empirical evidence. The revised formulation has taken into account the importance of incentive, which is the anticipatory reaction to future goals. It seems that the greater the rewards or outcomes, the greater the motivation to seek these goals. Both the goal theory of motivation and reinforcement theory are based on the fact that rewards should be closely linked to behaviour. Rewards should be frequent and consistent, and people should be motivated by both expected and past outcomes (Mitchell, 1982).

Only a few empirical studies have examined the reinforcement theory. Empirical supports are found in research where various procedures were used as reinforcers and where behaviours of individuals were compared with those that were not reinforced (Adam, 1975; Komaki, Waddell & Pearce, 1977). However, confusing results were found in such empirical research.

In the research of Yukl & Latham (1975), Yukl, Latham & Purcell (1976), Deslauriers & Everett (1977), Yukl, Wexley & Seymore (1972), Berger (1975), Pritchard, Leonard, Von Bergen & Kirk (1976), and Latham & Dossett (1978), a big difference was found in performance between those using a structured reward schedule and those who did not.

However, there is very little difference in performance between the types of schedules. In many cases, there were inconsistencies across studies in the definitions of schedules and reinforcement, and with the

original definitions provided by Skinner (Mawhinney, 1975). Methodologically, in many reinforcement studies, numerous other factors could have improved performance (Locke, 1977). For example, Adam (1975) used feedback, and Komaki, Waddell & Pearce (1977) used goals as reinforcement.

#### Critique of reinforcement theory-

- (a) Oversimplification of reinforcement theory meant that it ignored too many complex social processes, such as conflicting stimuli that are presented in a work situation that can produce simultaneously rewards from one group and punishments from another.
- (b) Behaviour modification in work motivation is seen as a threat to personal autonomy and is tantamount to bribery. The greatest potential for reinforcement theory may be in the work settings where tasks are routinised and programmable, but it is unlikely to be useful for distributors.

#### 4.5.4 The Expectancy Theory of Work Motivation

The Expectancy theory of work motivation explains the cognitive process of stimulus and response, and the individual differences in choice behaviour. It also takes into account the content or desirability of outcomes or goals that individuals are willing to make an effort to obtain.

In the expectancy theory of work motivation, behaviour is based on the conscious intention of an individual's belief, expectations, and anticipation of future outcomes (or desirable and achievable goals).

Its foundation is derived from the works of Lewin (1938), Tolman (1932, 1959), Georgopoulos, Mahoney, Jones (1957), the concepts of choice behaviour and utility from classical economic theory and the content theory of motivation.

Building his theory around the study of human behaviour, Lewin (1938) proposed that physiological and psychological needs in people create the desire to fulfil them (called Potency) and influence the perceived attractiveness of various outcomes (called valence).

There are many different versions of Expectancy theory, which is not associated with any particular person. The first person to propose this theory for work settings is Victor H. Vroom (1964). His model is arguably the most popular of the process theories (Connolly, 1976; Mitchell, 1980; Schwab, Olian-Gottlieb, & Heneman, 1979; Wen, 1992; Smith, 1994).

Researchers have built upon the original work of Vroom (1964) to describe and predict a variety of work-related variables. It has been used to

predict performance, effort and job satisfaction (House & Wahba, 1972; Reinharth & Wahba, 1975; Campbell & Pritchard, 1976; Campbell, Dunnette, Lawler, & Weick, 1989).

Vroom suggested that his model could be used to predict choice of occupation, remaining on the job and effort. This has been referred to as the “behavioural choice” and “job effort” models.

Theoretically, his theory performs best under voluntary conditions (Vroom, 1964; Porter & Lawler, 1968). This meant that the theory works well when people view their investment in work from a “voluntary” perspective, where they are not forced to do their work. It is the dominant theory in organisational and industrial psychology (Lawler, 1973; Vroom, 1995).

There are many different models of the integration of contemporary theories of motivation; each is mainly a combination of expectancy and content theory with feedback loop (See Figure 4.5.4).

According to the researcher, the main ideas behind these different theories of motivation are that motivation works best by recognising individual differences; matching people to jobs; using goals; individualising rewards; linking rewards to performance; checking the system for equity and never ignoring money as an important reward.

It seems that assumptions about human nature guide our thoughts but no one set of assumptions is going to cover for everyone all the time. Managers need to match the nature of the task performed and the needs of the people doing that work. Since it is likely that every human has varying need patterns and operate best when the task and the organisational design

fit these needs. Theory X managers may be able to motivate people who desire more structure and methods that are more formal. However, they may not desire to participate in decision making, taking risk and being creative. Those who are self-motivated, needing more responsibility, and creativity at work would find their match in the Theory Y managers.

Summary of the critique of expectancy theory –

- (a) Generally, expectancy theory lacks power to explain large percentage of variance in criterion variables, such as effort and performance. Research carried out using within–subject tests have the best result. At its best, expectancy theory rarely explains 50% of the variance in the criterion indicators.
- (b) It over intellectualises the cognitive process that people actually calculate probabilities and values, multiply them together, and then decide how to act.
- (c) A persistent problem that remains is the mathematical operations used to combine variables.



#### 4.5.5 Summary

It seems that the expectancy theory has emerged as a popular model to explain work motivation for distributors with its several shortcomings.

Although this literature review has covered a large area of work motivation theory and research, it certainly is not exhaustive. The material related to motivation is vast. Those that do not seem to benefit work motivation theory for distributors were not considered, such as attribution theory.

Literature review and research indicated that content theories appear to be weak for use in work motivation.

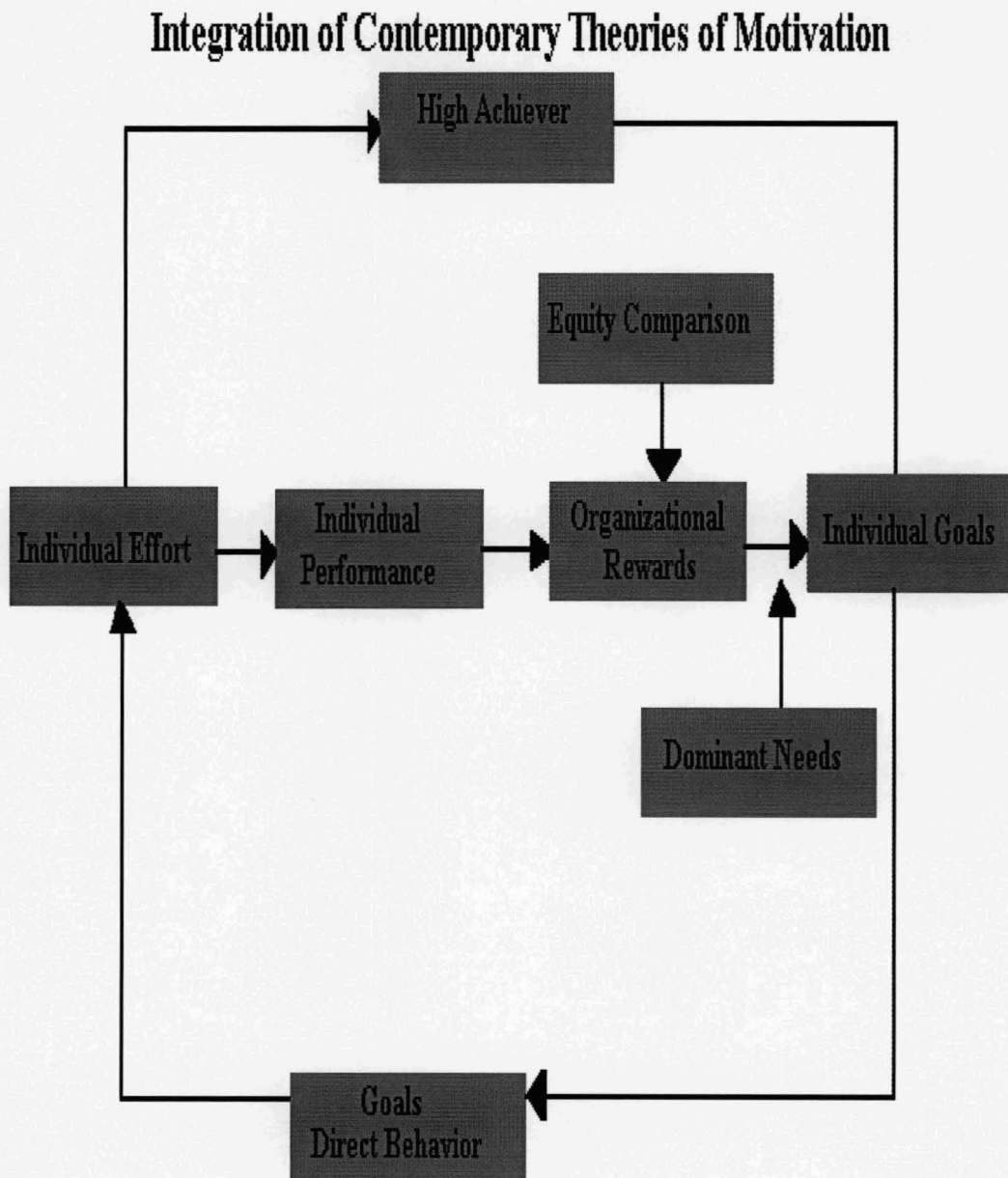
This researcher suggests that both cognitive and behavioural approaches to work motivation have potential use for the study of distributors. Neither should be rejected on ideological or emotional grounds.

This researcher believes that content and process theories should be reviewed and used as complementary approaches to understanding work motivation behaviour.

Expectancy and goal theories have compatible concepts and generalisations since they both contain the concept of instrumentality as a probability that an outcome or reward will occur.

It seems that expectancy, goal, and behavioural theories all suggest the concepts of reinforcers and feedback. Methodological considerations need to be addressed. A within-subject test should be used. It is necessary for this study to have instruments with high reliability estimates and diverse validity indicators.

There need to be a systematic data regarding the precise nature of job outcomes in corporate adult terms. Some of these outcomes are provided by content theories. Methodologically rigorous tests are needed to test the issues above.



**FIGURE 4.5.4. INTEGRATION OF CONTEMPORARY THEORIES OF MOTIVATION**

## Chapter 5 – Vroom's Expectancy Theory of Work Motivation (1964)

Victor Vroom (1964) explained that human motivation is based on the theoretical model that individuals consciously make choices and decisions about their behaviour. They are influenced by their own perceptions of the probability and importance of the consequences of their actions. He suggested that individuals at work "prefer" and "anticipate" certain outcomes from their behaviours over others.

Vroom believed three factors, that is, "Valence", "Instrumentality", and "Expectancy" could explain the force of motivation (FM) (FIGURE 5.1). According to him, motivation is the combined result of the interaction between VIE (Vroom, 1964; Campbell, Dunnette, Lawler, and Weick, 1989). His formulae is  $FM = \sum(VI) E$ .

An individual has ideas about possible consequences of his actions and makes conscious choices among consequences according to the probability of occurrence and the value to him (Campbell, Dunnette, Lawler, and Weick, 1989; Vroom, 1964). This is the theoretical basis of this research.

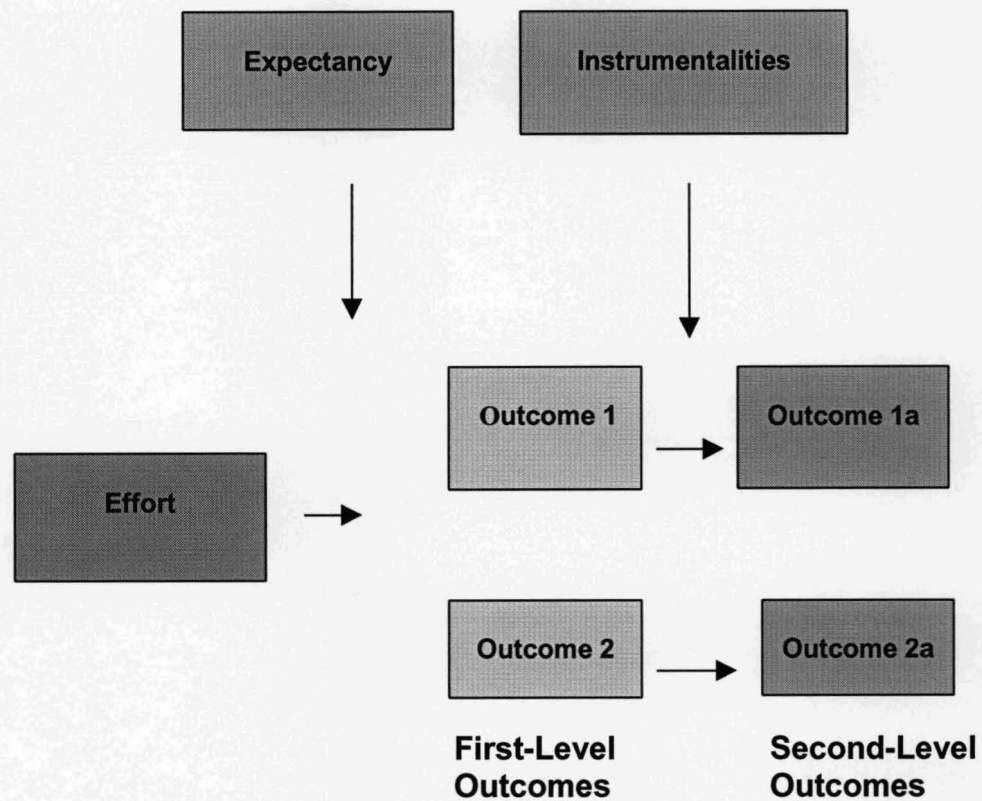
Consequently, recognising the apparent failure of many investigators to consider the possible theoretical implications of their research, Vroom proposed that motivation occurs because of what an individual (independent distributor) expects as a result of what he chooses to do. It is this internal evaluation that influences the choices he makes. Therefore, Vroom chose to focus on the individual. He commented:

"I resolve to restrict myself to problems of *individual* behavior. Although research on the behavior of groups and formal organizations was of interest to me, I doubted that meaningful generalizations would emerge which would "cut across" phenomena at different levels of analysis." (Vroom, 1964, p. vii).

Individuals choose their course of action and behaviours by evaluating the subjective probabilities and desirability of the outcomes. They perceive their chances of succeeding and achieving outcomes that they believe to be satisfying. Vroom chose to focus on work attitude and behaviours.

Vroom chose to focus on the explanation of individual behaviour rather than its control. VIE does not describe what is the content or individual differences of these cognitive variables, since no one has the same combination of VIE. However, it does take into account both the content and process aspects of work motivation. We shall examine the VIE model using empirical research to understand whether similarity of the content can be found.

Therefore, this research intends to use Vroom's model of the theory of work motivation. Initially, the study has to discover the content of these cognitive variables as they apply to entrepreneurs who are distributors in the network marketing industry. Many of them work together with their partners and family members as a business.



- ▼ **Effort** -----> **Performance linkage** (How hard will I have to work?) This is Expectancy.
- ▼ **Performance** -----> **Reward linkage** (What is the likelihood of getting the reward with my performance?) This is instrumentality.
- ▼ **Attractiveness** (How attractive is the reward?) This is valence.

**FIGURE 5.1: EXPECTANCY THEORY OF MOTIVATION BY VROOM (1964)**

The diagram in FIGURE 5.1 is adopted from Nadler, D. A., & Lawler, E.E., III (1983). Motivation: A diagnostic approach," in J.R. Hackman, E.E. Lawler, III, & L. W. Porter (eds.), Perspectives on behavior in organizations, (2<sup>nd</sup> ed.) (pp. 67-78). New York: McGraw-Hill.

These VIE concepts of Vroom have been central to many of the major cognitive theories of motivation, each incorporating these three main components in different degree of emphasis. The VIE work motivational

theory has been modified by researchers such as Porter & Lawler (1968), Graen (1969), Lawler (1973).

This VIE concept is found in the following areas of research. This list reflects the importance of motivational theory to these areas:

1. Industrial and organisational psychology (Mitchell, 1974),
2. Coalition formation (Wahba & Lirtzman, 1973),
3. Theories of learning (Bolles, 1972; Rotter, 1954),
4. Social power (Nagel, 1968),
5. Verbal conditioning (Dulany, 1968),
6. Attitudes (Peak, 1955; Fishbein, 1967),
7. Decision making, attitude formation, personality development (Mischel, 1973),
8. Achievement motivation (Atkinson, 1964), and
9. Organisation behaviour (Mitchell, 1974).

## **5.1 The Concept of Expectancy**

Vroom defined expectancy as follows:

“Whenever an individual chooses between alternatives which involve uncertain outcomes, it seems clear that his behavior is affected not only by his preferences among these outcomes but also by the degree to which he believes these outcomes to be probable. Psychologists have referred to these beliefs as expectancies (Tolman, 1959; Rotter, 1955; Atkinson, 1958b) or subjective probabilities (Edwards, 1954; Davidson, Suppes, and Siegel, 1957)...An expectancy is defined as a momentary belief concerning the likelihood that a particular act

will be followed by a particular outcome.” (Vroom, 1964, p.17).

“Expectancy is an action-outcome association. It takes values ranging from zero, indicating no subjective probability that an act will be followed by an outcome, to 1, indicating certainty that the act will be followed by the outcome.” (Vroom, 1964, p.18).

Expectancy refers to the perceived expectation that effort expended by individuals will lead to successful performance. FIGURE 5.1 shows the relationship of expectancy to motivation. This is the first component of motivation.

It is at its minimum strength (with zero score) when an individual believes that his action will never attain the desired performance. Conceptually, it is measured as a probability estimate of expectation from 0.00 to 1.00, with maximum strength to indicate an individual's momentary subjective belief that action or effort expended will definitely lead to desired performance. Therefore, this meant that an individual explicitly knows this subjective probability.

Investigation of past research shows that there is hardly any problem with the measurement of expectancy (Mitchell, 1974; Reinharth & Wahba, 1975; Smith, 1994). The following are different methods (scales) of measuring expectancy:

1. Expectancy measured as a probability of .00 to 1.00 (Arvey, 1972; Holmstrom & Beach, 1973; Mitchell & Pollard, 1973; Pritchard & Sanders, 1973; Turney, 1974).

2. Expectancy measured on 5-point scales (Dachler & Mobley, 1973; Graen, 1969).
3. Expectancy measured on 7-point scales (Lawler & Suttle, 1973; Mitchell & Nebeker, 1973; Sheard, 1970).

There is much literature on the perceived degree of relationship between effort and performance to support it as useful independent component of motivation. Research by Arvey (1972) and Motowidlo, Loehr, and Dunnette (1972) offered support to the theory that people in the low expectancy condition performed lower than those in the high expectancy condition. It stressed the point that performance is not an end in and of itself, but rather a means to a performance goal (Miskel, DeFrain, and Wilcox, 1980).

## **5.2 The Concept of Instrumentality**

From FIGURE 5.1, instrumentality is defined as the perceived probability or likelihood that the first-level of outcomes or performance attained (P) by an individual will lead to a second level of outcomes (O) (e.g., 1a, 2a, etc.) which refers to the desired results or attractive goals of an individual. It is the perception of an individual regarding his chance of receiving a given reward upon successful performance of a given task (Vroom, 1964).



Vroom defined instrumentality as follows:

“Instrumentality ... is an outcome-outcome association. It can take values ranging from  $-1$ , indicating a belief that attainment of the second outcome is certain without the first outcome and impossible with it, to  $+1$ , indicating that the first outcomes is believed to be a necessary and sufficient condition for the attainment of the second outcome.” (Vroom, 1964, p.18)

This variable received support in the classic study by Georgopoulos, Mahoney, and Jones (1957). They surveyed 621 production employees on the incentive scheme that existed in an unionised household appliance factory. The results indicated that the subjects who reported high instrumentality tend to be higher producers.

Vroom proposed that instrumentality should be measured with the scale of  $+1.00$  to  $-1.00$  as an outcome-to-outcome relationship. Investigation by Mitchell (1974), however, found that few past investigations treated instrumentality as proposed by Vroom (1964).

### 5.3 The Concept of Valence

Vroom defined the concept of valence as follows:

“We shall begin with the simple assumption that, at any given point in time, a person has preferences among outcomes or states of nature. For any pair of outcomes, x and y, a person prefers x to y, prefers y to x, or is indifferent to whether he receives x or y. Preference, then, refers to a relationship between the strength of a person’s desire for, or attraction toward, two outcomes. Psychologists have used many different terms to refer to preferences. The terms, valence... incentive... attitude... and expected utility...all refer to affective orientations towards outcomes.” (Vroom, 1964, p.15).

“... we use the term valence... in referring to affective orientations toward particular outcomes... The strength of a person’s desire or aversion for them is based not on their intrinsic properties but on the anticipated satisfaction or dissatisfaction associated with other outcomes to which they are expected to lead.” (Vroom, 1964, pp.15-16).

Valence is defined as the personal perceived value or anticipated desirability that a person places on outcomes or rewards that he would receive through his personal successful performance of a task. A person desires rewards, honours, or outcomes associated with the successful completion of a performance. Valence is an anticipated attraction and satisfaction from a reward, which is not the same thing as the actual satisfaction or value of an outcome received.

Therefore, Valence is an affective orientation toward a particular outcome. It is the perceived relationship between two types of outcomes.

That is, the level of performance achieved and the attractiveness of outcomes derived from the successful completion of the performance. Vroom combined valence and instrumentality together to determine the overall valence of a given performance level.

Vroom conceptualised valence as follows:

“The valence of an outcome to a person is a monotonically increasing function of the algebraic sum of the products of the valences of all other outcomes and his conceptions of its instrumentality for the attainment of these other outcomes.

In equation form the same proposition reads as follows:

$$V_j = f_j \left[ \sum_{k=1}^n (V_k I_{jk}) \right] \quad (j=1 \dots n)$$

$$f_j' > 0; \quad I_{jj} = 0$$

where  $V_j$  = the valence of outcome  $j$

$I_{jk}$  = the cognised instrumentality (-1 =  $I_{jk}$  = 1) of outcome  $j$  for the attainment of outcome  $k$ ” (Vroom, 1964, p.17).

An outcome is positively valent (+1) when the individual prefers attaining rather than not attaining it. It has a valence of zero (0) when he is indifferent to attaining it. It is negatively valent (-1) when he prefers not to attain it (Vroom, 1964).

Like Herzberg, Vroom recognised that there are two different levels of rewards - intrinsic and extrinsic. At different levels of performance, a person can expect to reach different rewards.

Past research on job satisfaction revealed that each individual might be influenced by a wide variety of goals and motivation at work (Herzberg, Mausner, & Snyderman, 1959; Smith, Kendall, & Hulin, 1969; Vroom, 1964;

Weiss, Dawis, England, & Lofquist, 1967; Singer, 1989; Smith, 1994; Mitchell, 1974; Brooks & Betz, 1990; Miskel, 1982). Therefore, not all outcomes are relevant to the subject (Mobley, 1971).

#### 5.4 The Concept of the Total Force of Motivation

Vroom defined the concept of the total force of motivation as follows:

“There are many possible ways of combining valences and expectancies mathematically to yield these hypothetical forces. On the assumption that choices made by people are subjectively rational, we would predict the strength of forces to be a monotonically increasing function of the *product* of valences and expectancies. Proposition 2 expresses this functional relationship.

**Proposition 2:** The force on a person to perform an act is a *monotonically* increasing function of the algebraic sum of the products of the valences of all outcomes and the strength of his expectancies that the act will be followed by the attainment of these outcomes.

We can express this proposition in the form of the following equation:

$$F_i = f_j \left[ \sum_{j=1}^n (E_{ij} V_j) \right] \quad (i=n+1 \dots m)$$

$$f_j' > 0; \quad i, n, j = F, \quad F \text{ is the null set}$$

where  $F_i$  = the force to perform act  $i$   
 $E_{ij}$  = the strength of the expectancy ( $0 = E_{ij} = 1$ )  
that act  $i$  will be followed by outcome  $j$   
 $V_j$  = the valence of outcome  $j$   
(Vroom, 1964, p.18).

## **5.5 Review of the VIE Work Motivational Theory**

For the past thirty years, many theorists have produced different motivation models for work situations with considerable research carried out on understanding motivation and testing the models' abilities to predict behaviour (Mayes, 1978).

Mitchell (1974) reviewed the findings of over 30 applications of the VIE model and concluded that it was predictive of work effort, value of work performance and job satisfaction. However, Yates and Edwards (1979) reported that several researches contradicted the predictive value, for example, Heneman & Schwab (1972) and Pritchard & Sanders (1973).

### **5.5.1 Motivation - The Full Model**

Basically the full VIE model is the multiplicative combined influences of three variables that control forces which an individual brings to a task. It is an effort-reward probability theory, but it does not specify what variables affect motivation, nor does it specify what outcomes people seek as a result of their behaviour in work situation. Vroom (1964) recognised that because of the differences between individuals, their outcomes received from an action have different values. He also discovered that people have a choice to consider other alternative actions in their decision-making.

According to Vroom (1995), he believes that individuals do not always behave rationally as proposed by the Expectancy theory. They are not likely to stop and think about the subjective probability of their efforts and also are

unlikely to know the likelihood of their efforts and work out the overall probability of their choice. However, Expectancy theory of work motivation has stimulated a vast amount of research (Campbell & Pritchard, 1976). Many laboratory experiments were carried out to test these models, e.g. Porter & Lawler, 1968; Hackman & Porter, 1968; Arvey, 1972; Dachler & Mobley, 1973.

It is the belief of the researcher that methodologies and techniques associated with the Expectancy theory are used often in today's business, whether explicitly or implicitly. For example, setting goals, scheduling effort, activities, measuring performance and providing feedback are all different techniques that influence expectation, performance, outcomes and perceptions. The motivational research has shown that there is a big difference in performance between those using a schedule and given feedback and those who do not. However, most of the group studies do not correspond to real life situation or people.

However, one of its main values lies in the way it can help entrepreneurs and managers to increase the effectiveness of rewards offered to employees and to influence their perceptions and performances. It can also help in entrepreneurial and motivational training in organisations and in self-development (Stern, 1995).

It is the researcher's belief that it is best to use the multiplicative combination of VIE. Dachler and Mobley (1973) and Lawler and Suttle (1973) have confirmed that the combined model is the best predictor of performance. However, with the correlation at 0.30, they found that it was in line with other research studies in this area (Pritchard & Sanders, 1973;

Galbraith & Cummings, 1967). Others such as Leake (1988), Wen (1992), Smith (1994) and Johnson (1995) showed that the combined model is the best predictor of performance. This seems to have a small variance (about 10%) which may be linked to the difficulties with the VIE theory and research (see Section 5.7).

Russo's study (2002) found that overall employees had stronger feelings about certain "job feature" which they believed is more important than "job feature expectation certainty".

His PhD research taken at Northcentral University showed that employees who remained with the company exhibited a change in importance and initial expectation set. His results on intent to leave showed that the level of overall satisfaction is significantly related to intentions of leaving. Data revealed that the "job feature" of being a "Good Boss" was the deciding factor in the individual's decision to leave the business. Overall, respondents' decision to resign or remain is based on how effective the supervisor/subordinate communication and organizational citizenship capabilities of the boss were perceived. The findings validated that Vroom's expectancy theory can be used when predicting behaviours in situations where choices are made such as whether to expect an employee to remain or leave an organization.

## **5.6 Measurement of Valence**

There are a number of ways for measuring valence:

1. Use rating scales of important - unimportant (Constantinople, 1967; Greenhaus & Gavin, 1972; Lawler, 1968; Mitchell & Albright, 1972; Wanous, 1972).
2. Use modified paired-comparisons according to the importance of an ideal job (Schwab & Dyer, 1973).
3. Use rating desirability (Lawler & Suttle, 1973).
4. Use Likert scale of attractiveness - unattractiveness or desirable-undesirable (Dachler & Mobley, 1973; Lawler & Shuttle, 1973; Turney, 1974).
5. Use rewards according to preference and rating the degree of preference (Galbraith & Cummings, 1967).
6. Use both the attractiveness - unattractiveness with important – unimportant scales (Mitchell & Nebeker, 1973).

From the definition provided by Vroom (1964), valence is the anticipated attraction from a reward or an affective orientation toward a particular outcome. The attraction dimension should measure it. Yet, important -unimportant dimension has been used most frequently as a measure of valence, even though it does not reflect the anticipated satisfaction.



## **5.7 Difficulties with the VIE Theory & Research**

Wilson started his PhD research at Surrey when he used logistical regression to model the decision of volunteers to enter the athletics coach education programme. Brian concentrated on researching on the conceptual background, the empirical base and the findings using expectancy theory and decided that expectancy theory was virtually un-testable (Long, 2002).

The following researchers have pointed out the difficulties they found with the VIE theory:

1. Heneman & Schwab, 1972.
2. Behling & Starke, 1973.
3. Schmidt, 1973.
4. Mitchell, 1974.
5. Wahba & House, 1974.

The difficulties with the VIE theory and research may be summarised as follows:

1. Rating of one's effort has special problems because it uses the same individual to rate the independent (VIE) and dependent variables. The model, therefore, correlates higher with self-rated effort than with independent ratings. Independent rating involves a supervisor or someone other than the same individual to evaluate the dependent variable, e.g. performance (Campbell and Pritchard, 1976).
2. Research studies measuring independent variables using summarised ratings such as Likert scales response formats have not been tested

to see if the subjects are using the variables correctly. For example, there is no check or feedback procedure to see if the subjects have a clear understanding of the variables.

3. Many motivational research studies were designed to test and predict between individuals and not within them. This is not in line with the Expectancy theory (Mitchell, 1974; Tubbs, Boehne and Dahl, 1993). Miskel (1982) and Kennedy, Fossum and White (1983) indicated that a within-subject approach compares a given subject's attitudes with his other attitudes, while a between-subject approach compares one subject's attitudes with that of others. Between-subjects research study have a generalised situation (lack alternatives) and a single set of VIE questions were given to respondents. In contrast, a within-subject design specifies a number of alternatives and asks a separate set of VIE questions for each alternative. The individual selects the level of effort at which he desires to work from a set of alternative levels. Valence is assumed to be constant because outcomes will be valued the same regardless of how they are attained. The within-subject model should be a more powerful predictor of effort than the between-subject model because it taps different level of motivational forces (Miskel, 1982).
4. VIE variables change in nature for different people and are likely to be different at different levels of their hierarchy of needs and life cycles (Miskel, 1982).

5. Controversy exists on how extrinsic and intrinsic rewards should be utilised in motivation studies, such as whether both rewards should be combined in an additive fashion (Miskel, 1982).
6. Expectancy theory explains occupational or organisational choices better than work performance. Wanous, Keon and Latack (1983) proposed that within-subject studies might be appropriate for explaining occupational or organisational choices. This is because occupational or organisational choice is probably more a matter of individual control. Job performance is less likely to be a matter of individual control, since it may be constrained by environmental factors. This may explain the small variance for performance in VIE studies.
7. Although VIE are significantly related to various criteria, very little is known about how the relationship occurs (Mitchell, 1974). It is unlikely that most individuals would rationally calculate the probability before making a decision.
8. Expectancy theory lacks the power to explain a large percentage of variance, such as effort and performance.
9. Vroom proposed that performance is the dependent variable of effort multiplied by ability. This study has decided on predicting performance from the motivational component of expectancy theory without the use of an ability measure as suggested by Graen (1969); Hackman & Porter (1968); Lawler (1968) and Porter & Lawler (1968). This is despite findings on this issue that appear to show that an additive

relationship between ability and expectancy is a better predictor of performance (Graen, 1969; Hackman & Porter, 1968).

10. Galbraith and Cummings (1967), Mitchell (1974) and Miskel (1982), acknowledged that two closely related terms, intrinsic and extrinsic, have been used extensively to describe and classify outcomes, rewards, motives and needs that are related to internally and externally initiated behaviour.

11. Finally, Expectancy study was limited theoretically in that it could not address the complexity of motivational forces that influence individual behaviour. For example, the motive to avoid success, as an additional parameter to motivation theory, falls within the framework of an expectancy-value theory. It is identified as an internal psychological aspect of the dominant societal stereotype (Horner, 1972).

The shortcomings of the expectancy theory do not stop its potential usefulness in explaining the motivation factors of distributors. We can learn much from the difficulties and find ways of overcoming the difficulties.

## **5.8 Overcoming Difficulties with the VIE Theory & Research**

To overcome the limitations and difficulties of Expectancy theory, more diverse subject groups should be used. Within-subject research should be encouraged with the use of interviews in addition to the questionnaires. This would provide suggestions for identifications and analysis of similarities

and differences beyond that obtained from the self-report scale (Wanous, Keon and Latack, 1983).

Brooks & Betz (1990) and Miskel (1982) have argued for inclusion of lifestyle outcome valences as well as job-related valence in studies utilising the expectancy theory.

Vroom believes that contemporary VIE application should not become fixated on the amount but on the direction of effort for effective performance.

He suggested avoiding focusing on the level of task-related or behavioural measures of effort that is inappropriate to knowledge-related work. For example, effort is usually important among manual workers loading coal onto rail cars but it is less appropriate for those in innovative or creative roles, such as computer programmers, marketing managers, or University Presidents, whose focus is not to work harder but smarter (Vroom, 1995, p. xxii).

## **5.9 Applying Vroom's Theory of Motivation to Distributors**

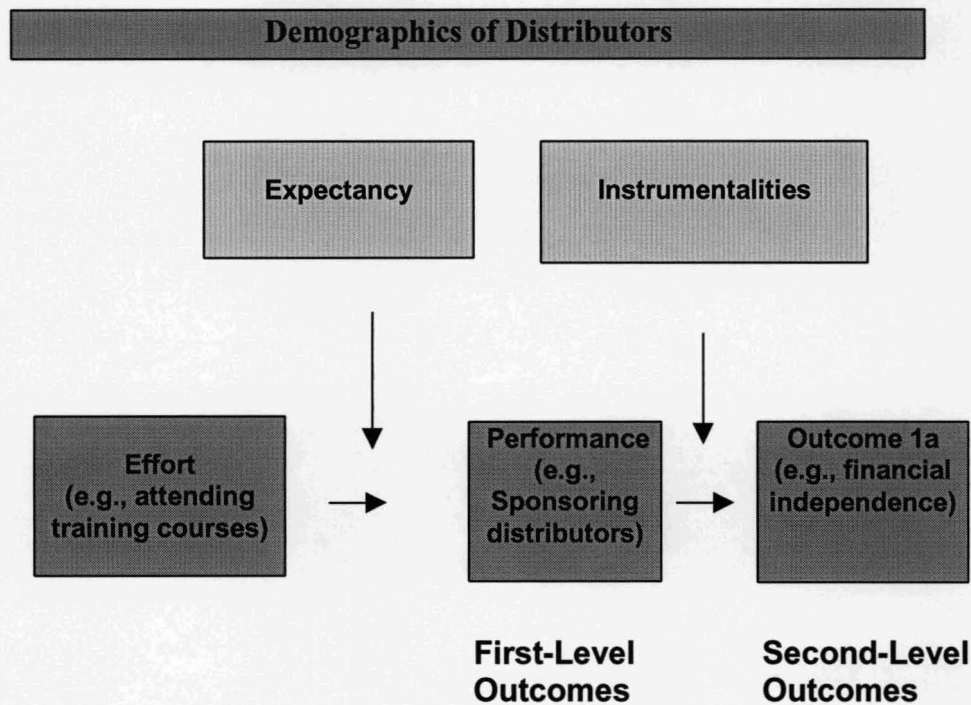
FIGURE 5.2 below indicates that a high "effort → performance" expectancy is essential to high level of work motivation for a network marketing independent distributor. When distributors do not believe they can actually perform effectively by putting in their efforts, e.g., in sponsoring new prospects, they will stop. When they are performing effectively but the

outcomes associated with effective performance do not have positive anticipated desirability, they will also stop.

This research will use Vroom's model of the theory of motivation. Initially, it is vital to have a working list of all relevant desirable outcomes and a working list of all relevant activities that may need to be performed effectively by distributors.

It is the researcher's belief that it is best to use the multiplicative combination of VIE for this study. It seems that the small variance of about 10% explained in previous motivation research may be because Vroom's theory applies best in a voluntary work situation (Vroom, 1964; Porter & Lawler, 1968). This meant that the theory works well when people view their investment in work from a "voluntary" perspective, where they are not forced to do their work. When this is applied to the distributors in this study, assuming that they are doing their work voluntarily, we are likely to see a higher percentage of variance explained.

Since Vroom (1964) has defined valence as the anticipated attraction from a reward or an affective orientation toward a particular outcome, the attraction or desirable dimensions are used to measure it to reflect the anticipated satisfaction.



**FIGURE 5.2: EXPECTANCY THEORY OF MOTIVATION BY VROOM (1964)**

The diagram in FIGURE 5.2 is adapted from FIGURE 5.1

More diverse subject groups are used so as to overcome the limitations and difficulties of Expectancy theory. Within-subject research is used with interviews and questionnaires so as to identify and analyse similarities and differences.

Since VIE variables change in people and are likely to be different at different levels of their hierarchy of needs and life cycles, the status of distributors, their training profiles, number of promotions received, ability and effort in training and sponsoring others and length of time at each stage of the promotion, etc, are used as other independent variables relating to

motivation and performance to try to predict effort, motivation and performance.

Even if VIE are related to various criteria, very little is known about how the relationship occurs. It is unlikely that most individuals would rationally calculate the probability before making a decision. However, we can get distributors to assess the desirability of valence, instrumentality and expectation in a scale of 0-10 to represent the percentage of desirability, likelihood and expectation of outcome. Factor analysis can then be used to analyse what lies behind these assessments.



## **CHAPTER 6- RESEARCH METHODOLOGY**

The main aim of this research is to understand the motivational factors of distributors. Following Vroom's expectancy theory, investigation will be carried out on the relationship between their perceptions of their work and the overall motivation, based on their expectation and goals. It tests the validity and reliability of Vroom's motivation work theory (1964) as it applies to entrepreneurs working (part-time or full time) as distributors in the network marketing industry based mainly in England.

In order to achieve the above aim, we need to establish first desirable outcomes of motivation as they apply to distributors and use these outcomes in a self-rating questionnaire to uncover expectancy, valence and instrumentality. For a successful measure of motivation, investigation must ensure the selection of all the relevant outcomes for valence and instrumentality perceptions.

### **6.1 A Working List of Outcomes & Expectancies**

Any specific group will have a set of personal relevant outcomes and expectancies that are likely to be different to other groups. A working list of all relevant positive desirable outcomes and expectancies must be produced.

Four sources of input were used to derive a working list of outcomes and expectancies to be used in a questionnaire. The first source came from literature reviews in the network marketing and direct selling arenas. The

second source came from two personal interviews of eight experienced and committed distributors. The third came from literature reviews in the organisational and industrial psychology and educational psychology research. The fourth source came from a large scale working population research.

To achieve the above aims the following steps would be used:

- a) The four sources of input were used to discover a list of outcomes and expectancies that motivate distributors to work. The theory recognises that no individual has the same combination of cognitive factors of motivation. The outcomes and expectancies vary with industry and this research aims to find out what they are.
- b) A questionnaire (Questionnaire A) was designed to include the list of outcomes and expectancies.
- c) The same eight committed and experienced distributors were asked to complete Questionnaire A. It was then checked for errors and refined to create Questionnaire B.
- d) A small group of 40 distributors was asked to complete Questionnaire A.
- e) Questionnaire B was refined and data collected from Questionnaire A was discarded.
- f) A small group of 51 distributors was asked to complete Questionnaire B.

- g) Questionnaire B was refined to produce Questionnaire C.
- h) A larger group of 130 distributors was asked to complete Questionnaire C.

### **6.3 Instrumentation Development Process**

After the literature review, step one begins with the development of a self-reported survey questionnaire for the measurement of work motivation. As proposed by Churchill, eight steps are required to ensure a valid and reliable measurement. It begins with specifying the domain, generating the sample of items, collecting data, refining the instrument, collecting more data, determining reliability, assessing validity and lastly developing norms (Churchill, 1979, p.66).

To develop a valid and reliable measuring instrument to measure a variable or a concept, the first four steps are recommended as the minimum requirement by Churchill (1979, p. 73). This research will address all eight steps.

When the instrument has validity and reliability, the information obtained can be said to be stable and accurate and truly measure what was intended, providing measurement of the underlying concept (or construct). When there is an accurate measure of the concept, the results obtained are likely to be believable (Hair, Anderson, Tatham & Black, 1995).

The information is considered to have “content validity” when there is a general agreement (from the literature) that the model has items that cover all aspects of the variable being measured.

#### **6.4 Specifying the Domain & Data Collection**

Motivation occurs because of what an individual expects as a result of his choice of action. His choice of behaviour is the result of his total evaluation of subjective probability levels and desirable outcomes. Since this is difficult to observe, it would be more appropriate to use a self-rating report.

Evidence for the reliability of self-report rating instruments are provided in the works of Mitchell (1974), Schwab, Olian-Gottlieb, & Heneman (1979), Smith (1994), Wen (1992), Brook & Betz (1990) and Singer (1989).

Vroom’s theory of work motivation does not describe what is the content of VIE cognitive variables of motivation, recognizing that no individual has the same combination. Therefore, this research needs to find out the desirable outcomes of motivation as they apply to entrepreneurs who are distributors in England.

As previously mentioned, there is no reported research in applying expectancy theory of motivation to the network marketing industry. In addition, the researcher was unable to locate any existing expectancy analysis instruments, which would be appropriately used (in terms of instrument length, vocabulary usage and format complexity) for distributors. Therefore, it is necessary to develop a self-rating questionnaire.

Brooks & Betz (1990) and Miskel (1982) argued for inclusion of lifestyle-related valences as well as job-related valences in studies using the expectancy theory. Therefore, this research carries out that recommendation and includes lifestyle-related valences.

This research does not require distributors to make a distinction between intrinsic and extrinsic terms since they are closely related and used to describe and classify outcomes, rewards, motives and needs that are related to internally and externally initiated behaviour (Galbraith and Cummings, 1967; Mitchell, 1974; and Miskel, 1982). Nevertheless, it is likely that the outcomes of the research may show the difference in the classification of intrinsic and extrinsic valence.

Vroom proposed that performance is the dependent variable of effort multiplied by ability. However, research findings on this issue are inconsistent and it appears that an additive relationship between ability and expectancy is a better predictor of performance.

Most research on this topic would avoid this methodological problem (Graen, 1969; Hackman & Porter, 1968; Lawler, 1968; Porter & Lawler, 1968). However, this research will examine the relationship between ability, performance and motivation through multivariate analysis.

## **6.5 The Population & the Research Sample**

Distributors working in England are chosen as the sample for this research. Since most of them work from home interviewing them is not easy or possible at all.

The researcher should not conduct a multivariate analysis with a sample of fewer than 50 observations. A larger sample of 130 should be completed once the instrument has been refined and found reliable and valid. See Section 6.17 for further discussion on sample.

To ensure that the sample of distributors is a reasonable representation, a sample of 51 respondents was chosen after the completion of an initial pre-test from a varied number of network marketing companies operating in England. The types of products and services distributed are as follow:

1. Haircare, healthcare, personal and body care, beauty treatment products, skincare, cosmetics and dental care.
2. Security alarms, car care, household products, automotive engine and gear maintenance care and telecommunication services.

The researcher visited Internet sites that promote sharing and understanding of network marketing and direct selling. He invited distributors to answer the questionnaire on line. It was stationed on a worldwide-website of the then London Guildhall University. It is possible that distributors from different countries are able to answer the questionnaire. Distributors from countries outside England are included in the research to test for any

significant relationship between motivation and their countries of permanent residence.

## **6.6 Generating a Sample of Items & Collecting Data**

To generate a sample of items, we must begin with generating a working list of outcomes. Previous sections have started to collect information regarding outcomes that may be desirable to distributors.

Large motivation research of Jamieson and O'Mara (1991) has discovered nine significant outcomes that motivate the majority of working people, irrespective of gender, leaders, or otherwise. These outcomes are reported in Section 3.1 above.

Network marketing and business entrepreneurial literature research, especially those of Popcorn (1992), Kalench (1993), Rubython (1993) and Failla and Failla (1993) have provided a list of eight major goals that motivate distributors (See Section 3.3).

During the development process, instruments were reviewed from studies from industrial organisational psychology, personnel management, applied psychology, education psychology, organisational behaviour & work motivation literatures, especially deep research in Expectancy analysis studies in organisational and industrial psychology (Galbraith & Cummings, 1967; Mitchell, 1974; Schwab, Olian-Gottlieb, & Heneman, 1979; Reinharth & Wahba, 1975) and educational psychology (Yates & Edwards, 1979;

Miskel, DeFrain and Wilcox, 1980; Wen, 1992; Smith, 1994; Johnson, 1995).

The reason being that these two have extensive research into Expectancy theories.

Singer (1989) uncovered thirteen outcomes while conducting an exploratory study looking at individual differences in leadership aspirations using valence, self-efficacy and attribution perspectives. They are as follows:

1. Having higher salary.
2. Being in position of power and authority.
3. Able to reward or punish subordinates.
4. Able to influence decision-making.
5. Chance to assume administrative responsibility.
6. Chance to realize own ambition.
7. Chance to learn new things.
8. Chance to exercise own leadership style.
9. Contacts with high status people.
10. Not having to report to superior.
11. Having public exposure and recognition.
12. Having personal challenge and stimulation.
13. Having more contacts with subordinate.

While utilising expectancy theory (as a PhD research) in an investigation of the characteristics and career aspirations of women administrators in Georgia Public School, Smith (1994) discovered the following outcomes that motivate women administrators to go for higher career paths:

1. Having variety in job duties and activities.
2. Not having to report to a superior.
3. Having higher salaries.



4. Having higher prestige and social status.
5. Chance to be intellectually stimulated & challenged.
6. Able to reward and punish subordinates.
7. Able to influence decision-making.
8. Chance to show ability to manage work and home simultaneously.
9. Fit of job to self-concept.
10. Chance to realize own ambitions.

The above outcomes of Smith (1994) were developed from studies of Singer (1989) and Brooks & Betz (1990). The content validity, the reliability of measures for the expectancy, instrumentality, and valence of the above ten outcome variables have been validated by Singer (1989), Brooks & Betz (1990) and Smith (1994).

## **6.7 Conducting Personal Interviewing Procedure**

Given the above-generated lists of outcomes, personal interviews were conducted to further generate outcomes directly from distributors. Two sessions of personal interview were conducted with eight experienced distributors who were members of many different network marketing organisations.

Since the research was exploratory in nature, seeking to uncover the goals, instrumentality and expectancy of distributors without imposing the researcher's preconceptions, it seems that an appropriate method would be in-depth interviews (de Chernatony and Segal-Horn, 2001, p.651). In this

way, it provides a check or feedback procedure to see if the subjects have the consistent desirable outcomes.

As suggested by Wanous, Keon and Latack (1983), to ensure reliability and validity of results, subject groups with diverse backgrounds were used with the initial interviews and pre-testing of the questionnaires. This has helped to provide suggestions for identifications and analysis of recurring themes, similarities and differences. It ensures reliability and validity of the research outcome and allows any unexpected answers to be observed and recorded.

Between the eight distributors, they have a total of over 40 years of experience in network marketing. They were chosen from a varied number of network marketing companies. It is inclusive of different types of distributors in the instrument development phase. The types of products and services that they marketed were security alarms, healthcare, beauty treatment products, personal body and skincare, dental care, hair care, cosmetics, car care, household products, automotive engine and gear maintenance care and telecommunication services.

The eight volunteers were asked individually if they could assist in research to study the goals that motivate distributors. They were asked two particular questions:

- 1) What are the ten most important goals that motivate you personally to work hard as a network marketing independent distributor?
- 2) To be successful, what are you expected to accomplish?

The first question is used to generate a working list of the desirable outcomes that are significant to distributors. We use this working list to generate the valence and instrumentality of motivation.

The second question is to generate a working list of the critical success performances or activities that distributors know they need to make an effort into performing in order to achieve the desirable outcomes. We use this second working list to generate expectancy of distributors.

The answers to the first question were as follows:

1. A job where I can combine looking after my family;
2. Having financial stability, security and freedom;
3. Independence and not reporting to my boss;
4. Flexibility, being able to combine with other role;
5. Help to provide for my children;
6. Able to retire early;
7. Long-term financial freedom;
8. Help people by introducing products that benefit them and providing health and wellness;
9. Help others build up business;
10. Building up a network of friends;
11. Build up self-esteem and confidence;
12. Ability to buy good things for my family or partner.”

The answers to the second question were as follows:

1. To be successful I need to advertise the business;
2. Being caring and supportive to my downlines;
3. Learn about the business;
4. Updating on the latest information about the company and the industry;

5. Tell as many people as possible about the products and business;
6. Sponsor and build many active distributors;
7. Get as many distributors to retail products;
8. Building team and widening my social contact;
9. Continue to update myself in training and training others to sponsor and training others.”

## **6.8 Finalising the Working List of Outcomes**

Preliminary investigation involves sorting them into a number of outcomes that are important to distributors as recommended by Heneman & Schwab (1972).

The goals of distributors found in organisational and industrial psychology, educational psychology research (in Section 3.1, Section 3.3 and Section 6.6) were compared with those derived from the personal interviews (in Section 6.7).

Twelve outcomes were identified from analysing the above lists of outcomes. One further outcome (that is, being part of a team) was generated from the pre-testing of the Questionnaire A.

During this stage of the personal interview, questions with ordinal and interval scales were used. This would allow results to be compared. However, distributors had difficulties ranking the order of outcomes, since most of the valences were important to them.

The ranking order becomes difficult for all distributors to complete on four or more items. There were no difficulties identifying the desirability of

each outcome provided. This is not important since most research does not measure both at the same time. However, it is still possible to determine the order of importance by looking at the total score of the desirability for each outcome. The ordinal-scaled (ranking) questions were not used in the questionnaire to avoid ambiguity of answer (Questionnaire A).

A summary of the outcomes generated is provided here for clarity of the selection process. It seems that outcomes for higher aspirations or work motivation are similar in nature and content, irrespective of what arenas they are located in.

All the above outcomes or elements of success were evaluated and this resulted in a working list of twelve significant outcomes chosen to determine valence and instrumentality of distributors. They were tested on the respondents to review for “content” validity and ease of administration. The list of outcomes chosen for Questionnaire A was as follows:

1. *Managing work and home simultaneously.*
2. *Making friends and social contacts.*
3. *Not having to report to a superior.*
4. *Bringing the best of my team.*
5. *Promoting products that benefit others.*
6. *Having more time with my family.*
7. *Having public exposure and recognition.*
8. *Having a better quality lifestyle.*
9. *Being in control of my life (Independent).*
10. *Intellectually stimulated and challenged.*
11. *Exercising own leadership style.*
12. *Having financial security.*

From the above lists, a working list of expectancy was derived as follows:

1. *Your degree of competency in recruiting potential distributors.*
2. *Your expectation of building a successful network of distributors.*
3. *Your chances of reaching highest distributor status.*

The rationale of these questions is that successful distributors should be properly equipped to recruit potential distributors. They are expected to build up a successful network of distributors. Through sponsoring and regular sales, distributors may be promoted to a higher status. This helped them to generate residual incomes from their large distribution network. The three expectancies were structured similarly to those validated by Brooks & Betz (1990) and Smith (1994).

The panel of eight successful distributors reviewed these outcomes and expectancies further. They all thought the twelve significant outcomes and three expectancies were appropriate. The process of training and helping others and the issue of focus were well covered by these twelve outcomes.

## **6.9 Refining the Instrument & Collecting More Data**

The same panel of eight experienced distributors was then asked these twelve outcomes in a structured questionnaire. They were asked to provide the score of desirability and attractiveness for each outcome (See

Questionnaire A in Appendix 2). This process attempts to find if there is any ambiguity in the way the questions were set. From this, it provides a check or feedback procedure to see if the subjects understand the question correctly (Churchill, 1979; Wanous, Keon and Latack, 1983).

There is a section on the questionnaire termed "other goal," for example, in Appendix 2 at the bottom of the list of valences. Respondents can generate other outcomes in addition to those listed. This helps to ensure better prediction of the outcomes significant to themselves (Ivancevich, 1976).

It is important to note that valence use in this research refers not to the real value distributors actually derive from the outcome. Valence is the affective or emotional level of satisfaction they "expect" to receive from the outcomes (Vroom, 1964; Pinder, 1984). The statement at the beginning of the section for valence and instrumentality reflects this. It begins with the following statement:

"Below are 13 goals that **Motivate** distributors to work hard. Estimate **your own chance** of achieving these goals as distributor. For example, 0 = 0%, 4 = 40%, 10 = 100%, chance of achieving these goals. Choose a number from 0 to 10." (See Appendix 3, Questionnaire B).

Some researchers argued that a distinction should be made to model the outcome into two distinct categories, calling them intrinsic and extrinsic outcomes (Wahba and House, 1974; Mitchell, 1974; Mitchell & Albright, 1972; and Oliver, 1974). This does not seem to be significant and would affect the continuity of the way the questionnaire is to be answered. It is

better to design the questionnaire without making the distinction of extrinsic and intrinsic outcomes since this was not made by Vroom (1964). Smith (1994) and Brooks & Betz (1990) also made no distinction between intrinsic and extrinsic outcomes, but consider modelling the research to include all outcomes.

It was their belief that such a distinction was unnecessary and seemed arbitrary. It has also been demonstrated that one individual's extrinsic outcomes can be another's intrinsic outcomes and vice versa (Dyer & Parker, 1975; and Schwab, Olian-Gottlieb, & Heneman, 1979).

The survey instrument developed was called Questionnaire A (Appendix 2). This is refined to become Questionnaire B (Appendix 3) and further refined to become Questionnaire C (Appendix 4). Further details regarding the refinements may be found in Section 6.12 to Section 6.14.

## **6.10 Design of the Instrumentality Questions**

Vroom defined valence of an outcome as a "monotonically increasing function of the algebraic sum of the products of the valences of all other outcomes and his conceptions of its instrumentality for the attainment of these other outcomes" (Vroom, 1964, p.19).

Instrumentality is defined as the degree to which a person sees the outcome in question as leading to the attainment of other outcomes. To ensure validity, instrumentality questions are formatted to reflect the original



conceptual format of the VIE model (Mitchell, 1974). The "Scores of Likelihood" section is used for discovering respondents' beliefs in the likelihood of their achieving these above twelve outcomes.

Instrumentality is the perception of an individual regarding his chance of receiving a given reward upon successful performance of a given task (Vroom, 1964). It is the degree to which a person sees the outcome in question (performance) as leading to the attainment of other outcome(s) (e.g., financial security).

This variable received support from the classic study of Georgopoulos, Mahoney and Jones (1957). The respondents were asked how likely they are to achieve their outcomes. The word "goals" was used in the questionnaire instead of "outcomes."

Singer (1989) and Brooks & Betz (1990) and Smith (1994, p. 63) suggested how to present the reliable measure of the instrumentality questions that they have validated individually as follows:

"For instrumentality, subjects rated the 10 outcomes according to their perception ... in helping an individual obtain each of the outcomes. Responses on a Likert scale ranging from "1" ("very unlikely") to "10" (very likely) were rated for instrumentality." (Smith, 1994, p. 63).

Instrumentality was measured on a scale of 0 to 10, where 0 = Most Unlikely or 0% and 10 = Very Likely or 100%. This seems to represent the instrumentality very well. The 11-point scale is chosen as it represents

Vroom's original model to allow respondents to provide an accurate probability score of their likelihood to achieve each outcome.

### **6.11 Design of the Valence Questions**

From the definition provided by Vroom (1964), valence is the anticipated satisfaction that should be measured by the attraction dimension.

Singer (1989) and Brooks & Betz (1990) and Smith (1994, p. 63) suggested how to present the reliable measure of the valence questions that they have validated individually as follows:

"To determine valence, respondents rated the same ten outcomes according to their perception of the ...desirability of the outcomes to individuals ... Ratings for "valence" were done on a Likert scales ranging from "1" ("very unimportant") to "10" ("very important")." (Smith, 1994, p. 63).

Questionnaire A used a scale of 1 to 5 (Appendix 2). As suggested by Smith (1994), this was changed to a Likert scale of 0 to 10, where 0 = very unattractive or 0% and 10 = very attractive or 100% (Appendix 3). Respondents found evaluating attractiveness in this manner acceptable and meaningful. Whilst we cannot be sure that all respondents will measure desirability of outcomes in a probability scale, it is reasonable to treat these scores as interval measures, as it is often done in the Likert and other scales.

## 6.12 Design of the Expectancy Questions

Expectancy is a momentary subjective belief of an individual to accomplish a given task successfully when investing an appropriate effort. It is a probability estimate. Conceptually, this variable is to be measured as a probability of 0.00 to 1.00. Investigation of past 30 years research shows acceptable reliability and validity with the measurement of expectancy (Mitchell, 1974; Reinharth & Wahba, 1975; Smith, 1994).

Arvey (1972), Holmstrom & Beach (1973), Mitchell & Pollard (1973), Pritchard & Sanders (1973) and Turney (1974) measured expectancy as a probability of 0.00 to 1.00.

Smith (1994) and Brooks & Betz (1990) suggested that expectancy be measured in three stages of expectation, assuming respondents have the appropriate training:

1. Expectation of being able to succeed in the targeted position (e.g. what are your expectations concerning your ability to succeed in a superintendency?);
2. Expectation of being able to do the job successfully (for example, what are your expectations of being able to do the job successfully?); and
3. Expectation of actually attaining the targeted position (for example, what are your expectations of attaining a superintendency?).

“Expectation is measured on a ten point rating scale ranging from “very unlikely” (1) to “very likely” (10). Expectancy scores representing the three items were summed and divided by three to yield an average result in the same units as the original 1-10 response scale.” (Smith, 1994, p. 62).

Therefore, for the study of expectancy, the three items used for measuring the total score of expectancy were measured on 11-point rating scale ranging from 0 = Very Unlikely or 0%, to 10 = Very likely or 100%. These three items are to be aggregated and divided by three to yield an average result in the same units as the original 0 -10 response scale. Brooks & Betz (1990) and Smith (1994) recommended this process as being closest to Vroom’s theory.

These expectancy questions (see Section 6.8) have been derived from the working list from personal interviews and the validated list of Brooks & Betz (1990) and Smith (1994). They were stated as follows (see Questionnaire B):

1. *What are your expectation concerning your ability to recruit prospective distributors into the business?*
2. *What are your expectations of building a successful network of distributors?*
3. *What are your chances of reaching highest distributor status with this company?*

The three expectancy questions are further changed in Questionnaire C to read as follows:

1. *State your expectation concerning your ability to recruit prospective distributors into the business.*
2. *State your expectations of building a successful network of distributors.*
3. *State your chances of reaching highest distributor status with this company.*

The overall structure of the questions remains the same in Questionnaire C. The rationale of these three questions is that successful distributors should be properly equipped to recruit potential distributors. They are expected to build up a successful network of distributors. Through sponsoring and regular sales, distributors may be promoted to a higher status. This helps them to generate extra income from their large distribution network.

However, many distributors do not seem to expect support from their uplines to become successful. They have the understanding that this business is their own responsibility and not their uplines. It is their persistent effort that will be rewarded. However, they do welcome help when they are needed from their sponsors and others.

### **6.13 Summary of Questionnaire Design Process**

To overcome the difficulties of interviewing distributors, who usually work from home, the structured self-reporting questionnaires were handed out before, during and after the business briefing and training sessions. Some of these meetings were conducted on a weekly basis, while others on six-monthly basis.

Self-reporting questionnaires were distributed and collected by the researcher at public functions specifically designed by the network marketing organisations and their senior distributors. He also allocated questionnaires to senior distributors who volunteered to distribute them to their downlines. Generally, questionnaires were distributed on an informal basis, as the Chairpersons of those meetings did not have time to encourage their audience to participate in the independent survey.

Four questionnaires were used in the course of the research. Questionnaire A was the first questionnaire formulated (see Appendix 2). Based on the collection of completed questionnaires from distributors at five meetings within a six-month period, 40 questionnaires were collected for the first data analysis, using Questionnaire A. There was about a 10% success rate.

Questionnaire A was refined immediately at this stage after it was discovered that one of the outcomes was missing in the list of twelve, which was believed to be important to respondents. The missing outcome is “being part of a team.” The revised questionnaire used in the next survey is called

Questionnaire B. The data collected from the forty respondents using Questionnaire A were used in the final comparison of this report. It was used to test for the appropriateness of using multivariate analysis such as factor and regression analysis and the validity and reliability of Vroom's theory of motivation. The study was published in the *Managerial Auditing Journal*, MCB, Volume 15, Number 7 (Tan, 2000, pp. 338-347).

Six meetings were visited in a space of six months as in the above methods with Questionnaire B. A total of 51 completed questionnaires were collected for the second data analysis. The success rate is about the same.

No further outcomes were added after that stage of the research, as it seemed that thirteen outcomes were acceptable without any missing outcomes.

After 51 questionnaires were collected, the instrument Questionnaire B was further refined and replaced by Questionnaire C. It changes the way the personal profile section appears on the questionnaire. A few more questions are added that would be used as independent measures of performance and motivation (Appendix 4). This is further discussed in the section "Summary of the structure of Questionnaires" in Section 6.14.

For the large final sample of 130, the researcher decided to get responses not only at small meetings, but at major annual conferences (consisting of over 400 people) and from the Internet chat sites used for training and informing distributors.

Ten meetings were visited for conducting the final survey questionnaires. Two large annual conferences were visited, i.e. at Changes International and Neways International. It was less restricted in the distribution of questionnaire during the Changes Conference, as the researcher has gained the trust of the organisers. This was not possible at Neways Conference.

Another method of distribution was via the mail order system. Changes International has a private group of 200 distributors, who subscribe to the monthly news bulletin. This is organised by their top distributor, Linzi Day.

A total of 200 questionnaires were sent out with one of their news bulletins enclosing a stamped address envelope for return to the researcher at London Guildhall University. Within two months, only 15 questionnaires were returned. The success rate of this method is only 7.5 percent. None was returned after that time.

The respondents, who have taken a questionnaire during the meeting (or were given a questionnaire by their friends or uplines), usually completed them outside the public training meeting and returned them directly to the researcher using self-addressed envelopes.

No interview was conducted during the structured questionnaire survey. During these business meetings, the conversation made with the respondents before being given the questionnaire went along this line: "Hello. Are you a distributor?" If the answer is "No," the researcher



responded with a "Thank you." It is likely that they were guests to observe the business. To a positive reply, the researcher would respond with "Would you like to be part of a survey in understanding distributors better and to help them to be successful in their business?"

When the distributor agreed to take part; the questionnaire would be given out. The completed questionnaires were collected either before or after the meetings. The response after the meetings was usually poor.

To obtain responses from distributors who surf the net, Questionnaire C was posted on Guildhall University's website. The researcher would surf the websites used by active distributors as a way of encouraging their friends, downlines and potential clients. It was found that he had to go to these websites on a regular basis to invite distributors to answer the questionnaire. Initially, it was done two to three times a week and then to once a week basis in order to get responses. Many new messages would be added daily. Unless the researcher posted a fresh request on the site, it would move to an inactive page and not be read by distributors. These sites are always active with lots of postings of information for anyone interested. The questionnaire was also posted on Linzi Day's website. However, less than twenty questionnaires were returned in total in this way within eight months. It is difficult not to offend distributors and the system managers by asking and reminding distributors regularly to go to the university's website to complete the questionnaire.

#### **6.14 Summary of the Structure of Questionnaires**

With the help of structured self-completion questionnaires, this research aims to analyse distributors mainly in England regarding their profile, achievements, training, investments, desirable goals, expectations and motivation, systematically. See Appendix 2 for Questionnaire A, Appendix 3 for Questionnaire B, Appendix 4 for questionnaire C1 and Appendix 5 for Questionnaires C2.

Questionnaire A is the first questionnaire used in the survey. It has been refined after collecting 40 questionnaires.

Both questionnaires A and B are in the same format in every detail except Questionnaire B includes an additional outcome "Being part of a team." A total of 51 questionnaires have been collected using Questionnaire B.

The design of the questionnaire starts with a brief statement of its purpose and emphasis made that it is only for distributors. The respondents are invited to participate in the survey where all information is treated with strict confidence. Confidentiality of information is being emphasized at the beginning to ensure that frank and honest answers are given.

They read the following statement at the beginning of the questionnaire:

"This is a survey concerning the aspirations, goals, expectation and profiles of network marketing (Multi-level Marketing) distributors. The information is gathered and analyzed to help distributors to understand themselves better in order to achieve their goals. You are invited to participate in this survey. **All information will be treated with strict confidence.** Please **tick or circle** your answer to each question accordingly." (See Appendices A & B)

The 3-page self-completion questionnaire requests distributors at the end of the questionnaire to again check that all questions are attempted (See Appendices A and B). A contact number is provided if they wish to contact the researcher for clarification in future. There is also a blank section for respondents to make additional comments. If required, a blank page at the back of the questionnaire is to be used to make further comments.

The structure of all the questionnaires is designed to ensure that the time spent by respondents on answering the questionnaire is kept to an average of 15 minutes so as to maintain their interest. This is within the reasonable time scale as confirmed by the panel of eight judges.

The format of Questionnaires A and B are as follow:

- Personal Profile
- Distributor's Profile
- Training Profile
- Expectations & Support
- Attractiveness & Likelihood of Achieving Your Goals

For Questionnaire C, modifications have been made as to how profile section should appear. It is structured into five sections. They are headed in the questionnaire as follows:

- Distributor's Profile
- Training Profile
- Expectations & Support
- Attractiveness & Likelihood of Achieving Your Goals
- Personal Profile

A few questions have been deleted and others added to Questionnaire B after consultations with some questionnaire advisers. Three website managers (all women) kindly examined Questionnaire B before it is placed on their websites. Some modifications have been made with their help and positive feedback. One of the website managers is the advertising, sales and promotion manager of a very large network marketing organisation. All three managers have psychology training and experience in their profession.

These website managers and the researcher unanimously believed that income questions, as performance indicators, should be taken out since distributors would not give an honest answer for fear of the information getting into the 'wrong hands'. Instead, the question "State amount of funds invested in present MLM company" is included.

The "Personal profile" section has been rearranged in Questionnaire C. The profile section, including age, gender, education attainment, number of dependent children and marital status, is moved to the last part of Questionnaire C. It was originally in the beginning of Questionnaire B. This is

done to avoid embarrassing distributors at the beginning of the survey. Quite a few women refused to give their exact age and so age band is used to avoid such embarrassment.

There are other independent variables that can evaluate the performance of distributors, for example, the length of time it takes to reach different stages of promotion (Speed of promotion), the status of the distributors, having personally organised training, number of countries with sponsored distributors and the number of promotions achieved.

The question "How much international & multi-cultural experience do you have?" has been taken out from Questionnaire B since it does not seem to correlate in the first test with the factors of motivation. However, the question "Number of countries you have sponsored distributor to date" is added to discover whether there is a correlation between international sponsorship and factors of motivation.

The variable "Current job status" is deleted and replaced with "present distributor status level with above company." Given that "Current job status" has not correlated to motivational and performance factors, it is believed that the present status level of the distributor was an important question. It is likely that those who are higher in the status level will have a high correlation with motivational and performance factors. It is also useful for checking and validating other questions of status.

Questionnaire C is structured in the same way as Questionnaire B. The small difference lies in the definition for the distributor status level in Question 2 (See example below for details). Questionnaire C has a longer

definition than Questionnaire B for intermediate, advanced and highest levels. This allows distributors to better identify their status levels with a longer and more comprehensive list of status.

**Q2. Present Distributor Status Level with above company (from Questionnaire C2)**

a. Beginner

b. Foundation (e.g. Silver, Consultant, Executive, Manager, National, 1-2 Star)

c. Intermediate (e.g. Supervisor, Gold, Marketing Manager, Presidential or Bronze Presidential, 3 Star)

d. Advanced (e.g. Director, Platinum, Marketing Director, Gold or Silver Presidential, 4 Star)

e. Highest (e.g. Senior Marketing Director, Diamond, Platinum Presidential, 5 Star)

The question “ How many hours of MLM training have you received already?” is replaced by “State the total number of training hours you have ever received so far.” This seems to better reflect all the training a distributor has taken or has been given. The previous question may give the idea that the question is interested only with the training that distributors received from the present organisation.

The question “Average number of sessions you attend MLM training in a month” has been taken out of the final questionnaire. This question is difficult to answer clearly because most distributors do not go to training session on a regular basis.

Much of what we need to know about training experience to reflect motivation may be taken from the questions ” State the total number of training hours you have ever received so far,” “Are you updating yourself?” “Have you attended training in the last 6 month?” “Are you updating yourself with ongoing training?” “Have you personally organised a MLM training session?”

The question "State the amount of effort you put into your MLM business (%)" has replaced the question "How much effort are you putting into your MLM business each week (in %)?"

It seems that "how much effort each distributor puts into their business each week" was a difficult question to answer since effort varied from week to week. Effort may be reflected by the effort distributors take in their training.

The question "Estimate your annual income" from both paid employment and MLM business section has been deleted as this is thought to be offensive. The question "Commission and bonus received from present MLM company" was deleted on the same grounds.

The question "Did you find this survey useful and interesting?" was deleted since it appeared that the survey did not need such a question since distributors are able to provide feedback in the "any further comments" section, which they have done.

A few more questions were added to the Questionnaire C. They were "Country of permanent residence", "Name the State, Town, or City of residence", "Ethnic Origin", "Are you updating yourself on ongoing training?" "Name of present company," "updating your knowledge?" "Quality of support from your uplines," "full or part time," "number of years as distributors," and "State amount of funds invested in present MLM company."

If an independent distributor has invested heavily in the company and has organised a MLM training sessions before, he may be likely to be more motivated and likely to put more effort into the business. It would be interesting to see if these variables affect motivation and performance.

Questions about training were therefore included to see if there is correlation between factors of motivation and putting effort into training and being full time as distributors.

Questionnaires A and B have at the beginning of the attractiveness and likelihood of achieving the outcomes section the following statement:

"Below are 13 main goals that **Motivate** distributors to work hard. Estimate **your own chance** of achieving these goals as distributor. For example, 0 = 0%, 4 = 40%, 10 = 100%, chance of achieving these goals. Choose a number between 0 to 10."

Questionnaire C begins the attractiveness and likelihood of achieving the outcomes section with this statement:

"Below are 13 goals that **Motivate** distributors. Estimate your chance of achieving each goal."

Distributors are then shown the list of main goals that motivate distributors to work hard. They are to estimate their own chance of achieving these goals and the attractiveness of goals as distributors, using 0 = Very Unlikely or 0% and 10 = Very Likely or 100%.

### **6.15 Sample Size Decision**

The theoretical framework usually requires a minimum of 30 respondents (observations) to allow generalisation to a given population. For this research, 51 respondents were chosen for the second testing of the questionnaire and a minimum of 100 for the final analysis.



What is a good sample size? The researcher would not conduct multivariate analysis of a sample of fewer than 50 observations. Researcher should always try to obtain the highest cases-per-variable ratio to minimise the chances of “overfitting” the data (Hair, Anderson, Tatham & Black, 1995).

An acceptable case-per-variable ration is 5:1 to a maximum of 10:1 as recommended by Hair, Anderson, Tatham & Black (1995). There are mainly three variables involved here which are valence, instrumentality and expectancy.

According to Hair, Anderson, Tatham & Black (1995, p. 373) it is possible to accept a minimum of 20 cases for each variable. However, for multivariate analysis with three variables, there should be at least 30 cases of observations.

Given we have 16 outcomes representing three variables, an acceptable cases-per-variable ration of 5:1 would require a minimum of 80 respondents or observations. Therefore, 100 observations would usually be sufficient. Statistical tests would still be conducted to ensure that these assumptions are correct for the data collected.

The researcher also used the sample table of Sekaran (1992, p.253) to ensure a good decision in sample size. The table for determining sample size from a given population is found in Appendix D. It suggests that any given population should not be more than 384. This is because when a sample is too large, the study faces Type II errors, which means that it is accepting findings from research when it should be rejecting them. That is, accepting weak relationships between variables that reached significance

levels, which are not substantially important for the given population, that is, statistical significance for low correlation (Krejcie and Morgan, 1970; Cohen, 1969).

Roscoe (1975) proposed the following rules of thumb for determining sample population size:

- 1. Sample between 30 and 500 are appropriate for most research.*
- 2. Where samples are to be taken into sub-samples (e.g. males/females), a minimum sample of 30 for each category is necessary.*
- 3. In multivariate research (including factor analyses and multiple regression analyses which we are using in this study), the sample should be preferably 10 times the number of variables in the study.*

Since this study uses two multivariate analyses to ensure it meets the above rules of thumb for determining sample, allowing for errors of estimation, 51 distributors were chosen. This meets the minimum requirement. It is generally accepted that sample over 30 will tend to move toward normal distribution.

However, after reviewing all the above recommendations, 130 distributors are chosen to complete the final phase of the research. Appropriateness of the use of multivariate analysis would be further tested to ensure that the sample population size is appropriate at each stage of the

analysis as recommended by Hair, Anderson, Tatham & Black (1995, pp. 374-375).

## **CHAPTER 7 - STATISTICAL ANALYSIS AND EVALUATION**

### **7.1 Procedure for Calculation of Total Motivation (FM)**

The procedure for calculating total motivation needs to be in line with the definition provided by Vroom. As stated before, he defined valence of an outcome to a person as a “monotonically increasing function of the algebraic sum of the products of the valences of all other outcomes and his conceptions of its instrumentality for the attainment of these other outcomes.” (Vroom, 1964, p.17). He defined instrumentality as the degree to which a person sees the outcome in question as leading to the attainment of other outcomes.

The valence of outcome score from the above calculation is then multiplied with the expectancy score, which is the average score of all three expectancy questions. This is the multiplicative combination of VIE, the total motivation score of Vroom’s motivational VIE model.

Expectancy is defined as the subjective probability that a given act will be followed by a given outcome. It can vary between 0 (certain non-occurrence) and 1 (certain occurrence).

To obtain the total valence of the outcome, the score of each valence is multiplied by its instrumentality score. This ensures that the calculation of total motivation is according to Vroom’s proposal for each outcome. These scores are then aggregated.

The 5-step procedure for obtaining a work-motivation score recommended by Nedler, Cammann, Jenkin, & Lawler (1975) and apparently accepted by Vroom is as follows: -

1. For each of the possible personal outcomes listed, the "attractiveness" score of outcome 1 should be multiplied by the "likelihood" score of outcome 1, the "attractiveness" score of outcome 2 by the "likelihood" score of outcome 2, and so on.
2. All of the "valence" times "instrumentality" products for the 13 outcomes are added together to get a total outcome score.
3. The total are to be divided by the number of pairs (in this case, thirteen pairs). This would provide an average score of "instrumentality-times-valence." We may call this the "total score of valence and instrumentality (VIT)."
4. The scores from the three "expectancy" questions ( $E \rightarrow P$  expectancies) should be added together and then divided by three to get an average effort-to-performance expectancy score. We may call this the "total score of expectancy (ET)."
5. Multiply the score obtained in Step 3 (the average "instrumentality" times "valence") by the score obtained in Step 4 (the average  $E \rightarrow P$  expectancy score) to obtain a total work-motivation score (FM).

In this case, the attractiveness of a personal goal is matched with the likelihood of achieving that particular goal and the expectation factors.

The within-subject motivational score is derived after taking into account all the VIE for the 13 personal goals. A number of studies provide support for this within-subject analysis (Connolly & Vines, 1977; Kopelman,

1977; Machinsky, 1977; Matsui, Nagamatsu, & Ohtsuka, 1977; Oldham, 1976; Parker & Dyer, 1976).

Between-subjects expectancy theory research studies were considered and rejected for theoretical and measurement reasons. This is because between-subjects results explained maximum variance in between-subjects were contrary to the VIE theory and cannot incorporate with appropriate expectancy measures (Schwab, Olian-Gottlieb, & Heneman, 1979).

## 7.2 Hypotheses & Research Questions

The network marketing literature emphasises the importance of motivation for distributors and the industry. To test the validity, reliability and consistency of Vroom's Expectancy Theory on work motivation of distributors, the research will focus on the following questions:

1. What are the significant factors in motivating distributors to work hard?

The first question could be stated with the following hypothesis:

*NH1: Each underlying factor of motivation is not individually significantly related to FM. That is,  $\beta_1=0$ ;  $\beta_2=0$ ;  $\beta_3=0$ ;  $\beta_4=0$ ;  $\beta_5=0$ ;  $\beta_6=0$ ;  $\beta_7=0$ ;  $\beta_n=0$ .*

*AH1: Each underlying factor of motivation is individually significantly related to FM. That is,  $\beta_1 \neq 0$ ;  $\beta_2 \neq 0$ ;  $\beta_3 \neq 0$ ;  $\beta_4 \neq 0$ ;  $\beta_5 \neq 0$ ;  $\beta_6 \neq 0$ ;  $\beta_7 \neq 0$ ;  $\beta_n \neq 0$ .*

2. What is the relationship of each of these underlying factors to the total force of motivation score (FM) calculated as per Vroom's theory of work motivation?
3. Given the significance of some / all factors, can FM be expressed as a result of a linear relationship to these factors?

Question 2 and 3 may be answered by the second hypothesis:

*NH2: There is no linear relationship between the underlying factors of motivation and FM. That is,  $\beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = \beta_7 = \beta_n = 0$ , or that the population  $R^2 = 0$ .*

*AH2: There is a linear relationship between the underlying factors of motivation and FM. That is,  $\beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5 \neq \beta_6 \neq \beta_7 \neq \beta_n \neq 0$ , or that the population  $R^2 \neq 0$ .*

4. What is the relationship of each of these underlying factors to the total score of expectancy (ET) calculated as per Vroom's theory of work motivation?

5. Given the significance of some / all factors, can ET be expressed as a result of a linear relationship to these underlying factors?

Question 4 and 5 may be answered by the third hypothesis:

*NH3: There is no linear relationship between the underlying factors of motivation and ET. That is,  $\beta_1=\beta_2=\beta_3=\beta_4=\beta_5=\beta_6=\beta_7=\beta_n=0$ , or that the population  $R^2=0$ .*

*AH3: There is a linear relationship between the underlying factors of motivation and ET. That is,  $\beta_1\neq\beta_2\neq\beta_3\neq\beta_4\neq\beta_5\neq\beta_6\neq\beta_7\neq\beta_n\neq 0$ , or that the population  $R^2\neq 0$ .*

6. What is the relationship of each of these underlying factors to the overall force of valence and instrumentality (VIT) score calculated as per Vroom's theory of work motivation?

7. Given the significance of some / all factors, can VIT be expressed as a result of a linear relationship to these underlying factors?

Question 6 and 7 may be answered by the fourth hypothesis:

*NH4: There is no linear relationship between the underlying factors of motivation and VIT. That is,  $\beta_1=\beta_2=\beta_3=\beta_4=\beta_5=\beta_6=\beta_7=\beta_n=0$ , or that the population  $R^2=0$ .*

*AH4: There is a linear relationship between the underlying factors of motivation and VIT. That is,  $\beta_1\neq\beta_2\neq\beta_3\neq\beta_4\neq\beta_5\neq\beta_6\neq\beta_7\neq\beta_n\neq 0$ , or that the population  $R^2\neq 0$ .*



8. Can other independent variables and indicators of motivation and performance be expressed as a result of a linear relationship to these underlying factors?

Question 8 may be answered by the fifth hypothesis:

*NH5: There is no linear relationship between the underlying factors of motivation and other independent variables and indicators of motivation and performance. That is,  $\beta_1=\beta_2=\beta_3=\beta_4=\beta_5=\beta_6=\beta_7=\beta_n=0$ , or that the population  $R^2=0$ .*

*AH5: There is a linear relationship between the underlying factors of motivation and other independent variables and indicators of motivation and performance.  $\beta_1\neq\beta_2\neq\beta_3\neq\beta_4\neq\beta_5\neq\beta_6\neq\beta_7\neq\beta_n\neq 0$ , or that the population  $R^2\neq 0$ .*

9. Can any independent variables and indicators of motivation and performance variables be expressed as a result of a linear relationship to FM?

Question 9 may be answered by the sixth hypothesis:

*NH6: There is no linear relationship between FM and other independent variables and indicators of motivation and performance. That is,  $\beta_1=\beta_2=\beta_3=\beta_4=\beta_5=\beta_6=\beta_7=\beta_n=0$ , or that the population  $R^2=0$ .*

*AH6: There is a linear relationship between FM and other independent variables and indicators of motivation and*

*performance. That is,  $\beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5 \neq \beta_6 \neq \beta_7 \neq \beta_n \neq 0$ , or that the population  $R^2 \neq 0$ .*

10. Can any independent variables and indicators of motivation and performance motivation variables be expressed as a result of a linear relationship to ET?

Question 10 may be answered by the seventh hypothesis:

*NH7: There is no linear relationship between ET and other independent variables and indicators of motivation and performance. That is,  $\beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = \beta_7 = \beta_n = 0$ , or that the population  $R^2 = 0$ .*

*AH7: There is a linear relationship between ET and other independent variables and indicators of motivation and performance. That is,  $\beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5 \neq \beta_6 \neq \beta_7 \neq \beta_n \neq 0$ , or that the population  $R^2 \neq 0$ .*

11. Can any independent variables and indicators of motivation and performance motivation variables be expressed as a result of a linear relationship to VIT?

Question 11 may be answered by the eighth hypothesis:

*NH8: There is no linear relationship between VIT and other independent variables and indicators of motivation and performance. That is,  $\beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = \beta_7 = \beta_n = 0$ , or that the population  $R^2 = 0$ .*

*AH8: There is a linear relationship between VIT and other independent variables and indicators of motivation and performance. That is,  $\beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5 \neq \beta_6 \neq \beta_7 \neq \beta_n \neq 0$ , or that the population  $R^2 \neq 0$ .*

### 7.3 Characteristics of Data Collected for the Small Sample

Let us begin with examining the mean and standard deviation for each variable. See Table 7.1 below for details of the data collected.

Descriptive Statistics	No	Mean	Std. Deviation
Being Part of A Team	51	9.73	.70
Being In Control Of My Life	51	9.49	1.59
Having A Better Quality Lifestyle	51	9.29	1.69
Having Financial Security	51	9.18	1.56
Likelihood of Being Part of A Team	51	9.10	2.27
Bringing The Best out Of My Team	51	9.02	1.52
Likelihood of Being In Control Of My Life	51	8.73	1.69
Likelihood of Having Financial Security	51	8.63	1.80
Exercising Own Leadership Style	51	8.63	1.77
Likelihood of Having A Better Quality Lifestyle	51	8.51	1.79
Being Intellectually Stimulated & Challenged	51	8.51	2.19
Promoting Products that Benefit Others	51	8.47	2.61
Likelihood of Exercising Own Leadership Style	51	8.37	1.88
Expectation to Build a Large Network	51	8.29	1.83
Not Having To Report To A Superior	51	8.24	2.52
Likelihood of Being Intellectually Stimulated & Challenged	51	8.14	2.05
Making Friends & Social Contacts	51	8.08	2.33
Having More Time With My Family	51	8.00	2.83
Likelihood of Making Friends & Social Contacts	51	8.00	1.81

Likelihood of Not Having To Report To A Superior	51	7.98	2.57
Likelihood of Bringing The Best Out Of My Team	51	7.86	1.93
Chances of Reaching Highest Level	51	7.82	2.43
Likelihood of Promoting Products that Benefit Others	51	7.80	2.45
Likelihood of Having More Time With My Family	51	7.78	2.63
Likelihood of Managing Work & Home Simultaneously	51	7.71	1.83
Managing Work & Home Simultaneously	51	7.57	2.72
Likelihood of Having Public Exposure & Recognition	51	7.08	2.40
Having Public Exposure & Recognition	51	7.02	2.57
Belief in One's Ability To Recruit Prospective	51	6.41	2.50
Valid Number	51		

**TABLE 7.1: MEAN AND STANDARD DEVIATION OF THE 29 VARIABLES IN ORDER OF HIGHEST MEAN SCORES (51 SAMPLE)**

The first four items with the highest means are goals, i.e. "Being part of a team", "Being in control of my life", "Having a better quality lifestyle" and "Having financial security." The likelihood of these four goals comes in the same order. "Being part of a team" and "Being in control of my life" came first and second in valence and instrumentality.

The older and retired members with no dependent children exhibit high standard deviation in some of the valence and likelihood variables. Since they do not have any dependent children, it is expected they would have less desirability for outcomes involving the family.

Those with higher standard deviations are as follow:

- a. "Having more time with my family" (2.83); "Managing home and work simultaneously" (2.72); "Having public exposure &

recognition (2.57); “Not having to report to a supervisor” (2.52) and “Making friends and social contacts” (2.33).

- b. Likelihoods that have high standard deviation are “Likelihood of having more time with my family” (2.63); “Likelihood of not having to report to a superior” (2.57); “Likelihood of having public exposure & recognition (2.40).
- c. Expectation variables with high deviation are “Belief in one’s ability to recruit prospective” (2.50) and “Chances of reaching highest level” (2.43).

These results above do not show standard deviations that we need to worry about. Checking these items reviewed that there were no obvious outliers or large standard deviation that affect the validity of the data collected so as to prevent further statistical analysis.

#### **7.4 Survey Test Phase for Reliability and Validity**

It is important to test the validity and reliability of the information in this research. As discussed in Chapter 6, the process of selecting the outcomes was carefully chosen to ensure the outcomes generated are stable, accurate and measuring what they are supposed to do. We can now investigate this further, assessing for validity and reliability of the data used.

#### 7.4.1 Validity

Validity may be defined as the extent to which a measure or set of measures correctly represents the concept of study i.e. the degree to which it is free from any systematic or non-random error. It is concerned with the accuracy of the concept as defined by the measure(s) (Hair, Anderson, Tatham, & Black, 1995, p.5).

Three validities commonly known as “content”, “construct” and “criterion” validity are considered in this research to provide assurance that the findings reflect an accurate measure of the underlying constructs for VIE (Hair, Anderson, Tatham & Black, 1995). It is the extent to which the indicators accurately measure what they are supposed to measure. For example, several measures of valence may be quite reliable, but the researchers may mistakenly assume they measure valence when they are indicators of instrumentality.

##### 7.4.1.1 Content Validity

“Content” validity is considered in the literature review and personal interviews. Analysis revealed that network marketing and entrepreneurial literature and the results from the personal interviews show a general consensus to the outcome of how distributors are motivated. This suggests “content” validity for the outcomes chosen.

The process of generating a working list of outcomes and expectancies in chapter 6 is to ensure “content” validity for outcomes that are desirable and acceptable to distributors.

The questionnaire format allows respondents to indicate any other desirable outcome that is important to them but not stated. This is to be the “additional” outcome. There was only one response for this “additional” outcome by the 40 respondents in the first test. “Being part of a team” was the “additional” outcome which was included as the thirteenth outcome. There was no further addition to the “additional” outcome by the 51 respondents.

The process of selecting the 13 outcomes and 3 expectancies seems to ensure “content” validity for outcomes that are desirable and acceptable to distributors. All aspects of the outcomes for motivation are considered and measured appropriately. Content validity is tested in this research using factor analysis to identify the VIE variables are independent variables of motivation (Chapter 8).

#### 7.4.1.2 Criterion Validity

“Criterion” validity includes “predictive” validity (or external validity). It refers to the relationship of the independent factors; in this case, VIE to the dependent factor, total motivation. “Criterion” validity is tested using multiple linear regression analysis and is shown later in the Section 8.7 and Section 10.7.

#### 7.4.1.3 Construct Validity

A measure has “construct” validity if it measures the theoretical construct that it was designed to measure. Multivariate analysis method helps to determine the “construct” validity of Vroom’s theory of work motivation. This is further explained in the section for multivariate analysis.

#### 7.4.2 Reliability

Reliability analysis allows us to study the properties of measurement scales and the items that make them up. The Reliability Analysis procedure calculates a number of commonly used measures of scale reliability and also provides information about the relationships between individual items in the scale.

For example, does the questionnaire measure motivation usefully? Using reliability analysis, we can determine the extent to which the items in the questionnaire are related to each other, we can get an overall index of the repeatability or internal consistency of the scale as a whole, and we can identify problem items that should be excluded from the scale.

After collecting data from the 51 respondents, statistical tests are conducted to investigate whether there is a degree of consistency in what it is measuring.



The hypothesis may be written as:

*NH9: The questions of the questionnaire are not reliable.*

*AH9: The questions of the questionnaire are reliable.*

Reliability is frequently defined as the degree of internal consistency in the measurement of the individual construct indicators. It differs from validity in that it does not relate to what should be measured, but instead how it is measured (Hair, Anderson, Tatham, & Black, 1995, p.4). It looks at the extent to which a variable or set of variables is consistent in and what it is intended to measure. Multiple measurements are being used in the research for reliability of measures (Hair, Anderson, Tatham, & Black, 1995, p.5 & p. 641).

The internal consistency of a set of variables that one is measuring refers to the degree which variables in the set are homogeneous. There are five models of internal consistency. Reliability analysis is a correlation-based procedure that measures the number of different reliability coefficients, e.g., inter-item correlation. The Cronbach Alpha is a model of internal consistency, based on the average inter-item correlation within a test. The Split-half model splits the scale into two parts and examines the correlation between the parts. Guttman model computes Guttman's lower bounds for true reliability. The Parallel model assumes that all items have equal variances and equal error variances across replications. The Strict parallel model makes the assumptions of the parallel model and assumes equal means across items.

A Cronbach Alpha coefficient was computed to test for reliability of the instrument chosen for this research as recommended by Peter (1979) in his

review of Psychometric basics and recent marketing practices and Nunnally (1978) in his review on Psychometric theory.

It is the most common method of estimating for internal consistency (based on the observed correlations or co-variances) on the items with each other (Peter, 1979, pp. 8-9; Nunnally, 1978). Based on correlations of items on a single scale, it can range in value from 0 to 1. A score of 1 means that there is perfect correlation between this test (or scale) and all other possible tests (or scales) containing the same number of items, which can be constructed from a hypothetical universe of items that measure the characteristic of interest.

Cronbach's Alpha coefficient of reliability was calculated and tested on 51 questionnaires to compare results. It depends on both the length of the test and the correlation of the items on the test. The number of items would be increased for the final research, but the overall score of reliability is not expected to change.

A reliability coefficient estimate score of 0.80 or more is expected from a reliable questionnaire instrument. A commonly used minimum acceptable reliability is 0.70, but values less than 0.70 have been accepted in exploratory research such as those by Hair, Anderson, Tatham & Black, (1995, p. 641).

The standardized item Alpha is the Alpha value that would be obtained if all of the items were standardized to have a variance of 1. When the items have comparable variances, there is very small difference between Alpha and the standardized Alpha scores. The Split-Half reliability test is

used because it does not assume that the two parts are equally reliable or have the same variance.

Another measure of reliability is the “variance extracted measure”. It is the overall amount of variance in the indicators accounted for by the latent construct. It is recommended that a construct should have more than 0.50 of the value of the “variance extracted measure” (Hair, Anderson, Tatham & Black, 1995, p. 642). This “variance extracted measure” is analysed later using factor analysis and “scree” test analyses (Chapter 8).

#### 7.4.2.1 Small sample reliability test for 3 items of expectancy

For the sample of 51 distributors, the three items of expectancy led to a Cronbach’s Alpha score of 0.5623; its standardized item Alpha was 0.5937. The F score was 13.5402 with 0.00 probability score for all reliability tests for the three items of expectancy. This is an acceptable score in this research.

It is difficult to do the Split-Half analysis here for the three items, but it received 0.6567 for Guttman Split-half analysis, 0.6955 for Unequal-length Spearman-Brown test and 0.6762 for its Equal-length Spearman-Brown test. The Parallel reliability analysis has an estimated reliability of the scale of 0.5623 and an unbiased estimate of reliability of 0.5798.

The Strict-Parallel analysis has an estimated reliability of scale at 0.4461. Its unbiased-estimate of reliability is 0.4787. This is an acceptable score in this research given that there are only three items for expectancy and it was difficult to do split-half and parallel reliability analyses.

#### 7.4.2.2 Small sample reliability test for the 13 items of valence

The 13 items of valence received reliability coefficients of Cronbach Alpha = 0.7935, standardized item Alpha = 0.8151 and  $F=8.9312$  with 0.00 probability score. Split-half analysis scores 0.6667 for Part 1 and 0.7815 for Part 2. Parallel analysis has an estimate of reliability of scale at 0.7935 and unbiased estimate of reliability at 0.8018. The Strict-Parallel analysis has an estimate of reliability of scale at 0.7574 and unbiased estimate of reliability at 0.7716. This acceptable reliability score reflects the internal consistency of the items.

#### 7.4.2.3 Small sample reliability test for the 13 items of instrumentality

The 13 items of instrumentality received Cronbach Alpha = 0.9203 and standardized item Alpha = 0.9274. The split-half analysis has Alpha for Part 1 = 0.8061 and for Part 2 = 0.9246. The estimated reliability of scale = 0.9203 and its unbiased estimate of reliability = 0.9235. The strict-parallel analysis has an estimated reliability of scale = 0.9108 and unbiased estimate of reliability = 0.9160. This is a very good reliability score to reflect the internal consistency of the items.

#### 7.4.2.4 Small sample reliability test for the 29 items of motivation

The reliability coefficients of the 51 respondents with 29 items for measuring the combined factor of expectancy, valence and instrumentality produced a Cronbach Alpha score of 0.9066, with its standardized item Alpha at 0.9173.

The Split-Half analysis has Alpha for Part 1 = 0.9053 and Alpha for Part 2 = 0.7832. The Parallel reliability analysis provided an estimated reliability scale of 0.9066 and an unbiased estimate reliability of 0.9103. The Strict-Parallel analysis has an estimated reliability scale of 0.8913 and an unbiased estimate reliability of 0.8977.

The Analysis of Variance for the reliability test for the 29 items of measuring the combined factor of expectancy, valence and instrumentality (Table 7.2 below) shows an F score of 8.3609 that is significant at 0.000. This shows that it has an acceptable score of reliability measurement.

The above Cronbach Alpha, Guttman Split-Half, Parallel and Strict-Parallel analyses of results and interpretations for the three items of Expectancy; 13 items for valence; 13 items for instrumentality; and overall for the 29 items measuring the combined factor of expectancy, valence and instrumentality, all show that we can reject the null hypothesis for hypothesis NH9 and that these scales in the questionnaire are reliable.

Therefore, we rejected hypothesis NH9 and accept AH9. It seems that this questionnaire (Questionnaire B) is a reliable and valid instrument for measuring valence, instrumentality and expectancy.

Source of Variation	Sum of Sq.	DF	Mean Square	F	Prob.
Between People	1831.0521	50	36.6210		
Within People	5588.8276	1428	3.9137		
Between Measures	800.6640	28	28.5951	8.3609	0.0000
Residual	4788.1636	1400	3.4201		
Total	7419.8796	1478	5.0202		
Grand Mean	8.2563				
Reliability Coefficients					
N of Cases	= 51.0000	No of Items		= 29	
Correlation between forms = 0.6046		Equal length Spearman-Brown		= 0.7536	
Guttman Split-half		= 0.7328	Unequal-length Spearman-Brown = 0.7537		

**TABLE 7.2: ANALYSIS OF VARIANCE FOR THE RELIABILITY TEST FOR 29 ITEMS OF MOTIVATION**

## CHAPTER 8 - MULTIVARIATE ANALYSIS & SMALL SAMPLE SURVEY

In this chapter, multivariate analyses are used to test hypotheses 1 and 2. It begins with outlining the hypotheses and providing systematic testing of these two hypotheses and their results evaluated.

*NH1: Each underlying factor of motivation is not individually significant to FM.*

*That is,  $\beta_1=0; \beta_2=0; \beta_3=0; \beta_4=0; \beta_5=0; \beta_6=0; \beta_7=0$  and  $\beta_n=0$ .*

*AH1: Each underlying factor of motivation is individually significant to FM.*

*That is,  $\beta_1\neq 0; \beta_2\neq 0; \beta_3\neq 0; \beta_4\neq 0; \beta_5\neq 0; \beta_6\neq 0; \beta_7\neq 0$  and  $\beta_n\neq 0$ .*

*NH2: There is no linear relationship between the underlying factors of motivation and FM.*

*That is,  $\beta_1=\beta_2=\beta_3=\beta_4=\beta_5=\beta_6=\beta_7=\beta_n=0$ , or that the population  $R^2=0$ .*

*AH2: There is a linear relationship between the underlying factors of motivation and FM.*

*That is,  $\beta_1\neq\beta_2\neq\beta_3\neq\beta_4\neq\beta_5\neq\beta_6\neq\beta_7\neq\beta_n\neq 0$ , or that the population  $R^2\neq 0$ .*

### 8.1 Multivariate Analysis: Factor Analysis

Factor Analysis is a form of multivariate analysis that is designed to identify the “structure” underlying a set of variables. Multivariate analysis may be defined as “all statistical methods that simultaneously analyse multiple measurements on each individual or object under investigation” (Hair, Anderson, Tatham, & Black, 1995, p. 5).

Any simultaneous analysis of more than two variables can be loosely considered as multivariate analysis. All the variables must be random and interrelated in ways that their different effects cannot be interpreted separately in a meaningful manner.

The objective of using factor analysis in the analysing of data is to identify the underlying factors behind the correlation between the 29 variables. It also identifies the structure of these variables and provides a process for data reduction. With the help of factor analysis, this research is looking for a smaller number of hypothetical, underlying (unknown dimensions) factors. Multivariate analysis method helps to determine the “construct” validity of Vroom’s theory of work motivation. A measure has “construct” validity if it measures the theoretical construct it was designed to measure. Factor analysis is used here to help identify “constructs” or “representative variables” (commonly known as factors) that are not directly observable. A good set of representative variables or factors are those that can be interpreted so that new insights are possible. Factor analysis helps to answer the first three research questions. They are as follows:

1. What are the significant factors in motivating distributors to work hard?
2. What are the relationships between these underlying factors to FM?
3. Given the significance of some / all underlying factors, can FM be expressed as a result of a linear relationship to these factors?



## 8.2 Testing the Appropriate Use of Factor Analysis on the Small Sample

In order to identify the underlying factors behind the correlation between the 29 variables above, factor analysis is used to summarise a large number of variables with a smaller number of factors. We need to test that it is appropriate to use factor analysis for this research. Checks have to be carried out so there is no violation of assumptions.

The following hypothesis are tested:

*NH10: Factor Analysis is not appropriate for identifying the underlying factors of motivation.*

*AH10: Factor Analysis is appropriate for identifying the underlying factors of motivation.*

According to Norusis (1994), factor analysis usually requires the following four procedures to ensure its appropriate use:

1. Examine the correlation matrix for all variables so that the appropriateness of the factor model can be evaluated.
2. Factor extraction. Decide on the number of factors necessary to represent the data and the method for calculating them. These procedures should help to decide how well the chosen model fits the data.
3. Rotation phase. Decide on the rotation to transform the factors so that they are interpretable.
4. Compute factor score. Compute the scores for each factor so that they can be used in a variety of other analysis.

### 8.2.1 Testing for the Appropriate Use of Factor Analysis for the Small Sample: Examining the Correlation Matrix

Since factor analysis helps to understand the structure of the 29 variables, R-type factor analysis and a correlation matrix between variables must be tested.

All the 29 variables need to be interval-scale measured and constitute a homogeneous set of perceptions. These conditions create appropriateness for the use of factor analysis. The correlation matrix shows a substantial number of correlations greater than 0.30 to warrant the use of factor analysis.

Bartlett's test of Sphericity tests the hypothesis that the correlation matrix is an identity matrix (see below Table 8.1).

The hypothesis may be written as follows:

*NH11: The population correlation matrix is an identity.*

*AH11: The population correlation matrix is not an identity.*

When the population correlation matrix is not an identity, the data is likely to be a sample from a multivariate normal population. If it is an identity, it may not be appropriate for use in the factor analysis.

<b>Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy.</b>		.706
<b>Bartlett's Test of Sphericity</b>	Approx. Chi-Square	1120.121
	Df	406
	Sig.	.000

**TABLE 8.1: KMO AND BARTLETT'S TEST FOR THE SMALL SAMPLE**

The Bartlett's test of Sphericity has a value of 1120.121 with its chi-square transformation of the determinant of correlation matrix at 0.00 significance (Table 8.1 above). This result is larger than the Bartlett's test of Sphericity value of 838.4 at 0.00 significant level obtained from the forty samples using Questionnaire A (Tan, 2000, p.341).

It seems unlikely that the population correlation matrix is an identity matrix, which means the data is a sample from a multivariate normal population. This is because the observed significance level is very small and the value of the test of Sphericity is high. We reject the NH11 that the population correlation matrix is an identity.

Therefore, factor analysis model is an acceptable test for the 29 variables. A large sample for future research may further improve sampling adequacy.

### 8.2.2 Testing for the Appropriate Use of Factor Analysis for the Small Sample: Kaiser-Meyer-Olkin (KMO) Test

Another test that may be used to test the appropriateness of using factor analysis is the Kaiser-Meyer-Olkin test (KMO). The KMO test of sampling adequacy score was conducted to test the strength of the relationship among variables in the partial correlation coefficient. They are estimates of the correlations between the unique factors. They are not supposed to be correlated to each other.

Since variables share common factors, the correlations between pairs of variables must be small or near to zero when the linear effects of the other independent variables are eliminated. KMO is an index for comparing the magnitude of the observed correlation coefficients to the magnitude of the partial correlation coefficients.

If the sum of the squared partial correlation coefficients between all pairs of variables is small when compared to the sum of the square correlation coefficients, the KMO measure is close to one.

When partial correlations are high, then there are no underlying appropriate factors and factor analysis is inappropriate. Small values for the KMO measure indicate that a factor analysis of the variables may not be a good idea.

KMO in the 0.90's are classified as marvellous, in the 0.80's as meritorious, in the 0.70's as middling, in the 0.60's as mediocre, in the 0.50's as miserable and below 0.50's as unacceptable (Norusis, 1993).

The KMO test (in Table 8.1 above) had a score of 0.706. This result is similar to the KMO value obtained from the forty samples using the Questionnaire A, which has a KMO score of 0.64445 (Tan, 2000, p.341). This meant the sample population data is adequate for multivariate analysis.

### **8.3 Selecting Number of Factors for the Small Sample: Factor Extraction**

The factor extraction determines the number of factors that are necessary to represent the data. The “Principal Components Analysis” has been chosen for the factor extraction since linear combinations of the observed variables are assumed. Each principal component accounts for an amount of variance (Eigenvalue) and is not correlated with the other, with each successive component explaining smaller percentages of the total sample variance (See Table 8.2).

The latent root criterion for selecting the number of factors to be extracted is used here. This is the most reliable method when the number of variables is between 20 and 50 (Hair, Anderson, Tatham & Black, 1995, p.377). In applying the latent root criterion to the Table 8.2 below, all factors with an Eigenvalue of less than one are considered insignificant and disregarded. This meant each factor should account for the variance of at least a single variable if it is to be retained for interpretation. To interpret the role each variable plays in defining each factor is by analysing factor loadings. It is used here to identify correlation relationships among the 29

variables in order to identify a smaller number of representative variables, commonly known as “factors”. These variables represent relationships among sets of many inter-related variables. The higher the correlations, the better defined the resulting factor dimensions.

“Factor loadings are the correlation of each variable and the factor. Loadings indicate the degree of correspondence between the variable and the factor, with higher loadings making the variable representative of the factor.” (Hair, et al, 1995, p. 380).

Component	Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.742	33.593	33.593	6.267	21.611	21.611
2	2.807	9.679	43.273	2.862	9.869	31.479
3	2.166	7.468	50.741	2.736	9.436	40.916
4	2.042	7.040	57.781	2.631	9.071	49.987
5	1.753	6.046	63.827	2.420	8.345	58.332
6	1.487	5.129	68.956	2.150	7.412	65.745
7	1.296	4.467	73.423	2.055	7.087	72.832
8	1.072	3.695	77.118	1.243	4.286	77.118

Extraction Method: Principal Component Analysis.

**TABLE 8.2: RESULTS OF THE EXTRACTION METHOD: PRINCIPAL COMPONENT ANALYSIS.**

#### 8.4 Selecting Number of Factors for the Small Sample: Varimax Rotation Methodology

To simplify the factor structure to achieve a meaningful factor solution, varimax rotation has been selected. This rotation method maximises the sum of variances of required loadings of the factor matrix. It seems to provide a clearer separation of the factors than other methods (Kaiser, 1974). Table 8.3 below shows the factor transformation matrix.

Component	1	2	3	4	5	6	7	8
1	.733	.206	.318	.359	.274	.227	.245	.054
2	-.335	.870	-.034	.138	.241	-.225	.045	.026
3	-.253	-.156	-.412	.061	.627	.571	.082	.105
4	-.511	-.215	.732	.342	.054	.112	.064	.141
5	-.155	.091	-.090	.011	-.392	.287	.750	-.402
6	.028	.178	.419	-.826	.184	.264	-.001	-.080
7	.005	-.287	.005	-.167	.445	-.631	.540	.050
8	.008	.087	-.089	-.147	-.291	.096	.271	.892

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization.

**TABLE 8.3: FACTOR ANALYSIS COMPONENT TRANSFORMATION MATRIX FOR THE SMALL SAMPLE**

In its process, varimax rotation converged after eight iterations with eight factors extracted. These eight factors explained 77.118% of the total variance (see Table 8.2 above).

From Table 8.2, the extraction sum of squared loadings provided the following results (results of the rotation sums of squared loadings are in brackets):

Factor 1 has 9.742 (6.267) Eigenvalues and explains 33.593% (21.611%) of the variance.

Factor 2 has 2.807 (2.862) Eigenvalues and explains 9.679% (9.869%) of the variance. The cumulative percentage of these two factors is 43.273% (31.479%).

Factor 3 has 2.166 (2.736) Eigenvalues explaining 7.468% (9.436) of the variance.

Factor 4 has Eigenvalues of 2.042 (2.631) explaining 7.040% (9.071%) of the variance.

Factor 5 has 1.753 (2.420) Eigenvalues explaining 6.046% (8.345%) of the variance.

Factor 6 has 1.487 (2.150) Eigenvalues explaining 5.129% (7.412%) of the variance.

Factor 7 has 1.296 (2.055) Eigenvalues with 4.467% (7.087%) of the variance explained.

Factor 8 has 1.072 (1.243) Eigenvalues with 3.695% (4.286%) of the variance explained.

The eight factors have a cumulative percentage of 77.118% of the total variance explained. Note that each factor does not explain less than 4% of the variance.

This result is similar to the eight factors obtained from the forty samples using the Questionnaire A, which has a cumulative percentage of 80.1% of the total variance explained (Tan, 2000, p.341).



The above reasons suggested that eight factors are adequate. One more test is used to test that the eight factors are adequate for this research purpose; and it is the “Scree Test”.

### **8.5 Selecting Number of Factors for the Small Sample: Scree Test**

All factors contain a certain proportion of “unique” and “common” variance. The “Scree” test is used to identify the optimum number of factors that can be extracted before the amount of “unique” variance begins to dominate the “common” variance in structure.

The “Scree” test plots the latent roots against the number of factors in their order of extraction and its resulting curve is plotted to evaluate the cut-off points. In the present research, the Scree test (Table 8.4) suggests that between 8-12 factors would qualify.

As a rule, the Scree test provides between two and three more factors being considered significant than the latent root criterion (Hair, Anderson, Tatham, & Black, 1995, pp. 378-379). Starting with the first factor, the plot slopes steeply downward initially and it then gradually becomes an approximately horizontal line at factors 2, 3 and 8 (Table 8.4).

Hair, Anderson, Tatham, & Black (1995, p. 378) suggested that the point at which the curve begins to straighten out may be considered to indicate the maximum number of factors to extract.

However, Churchill & Iacobucci (2002) suggested that:

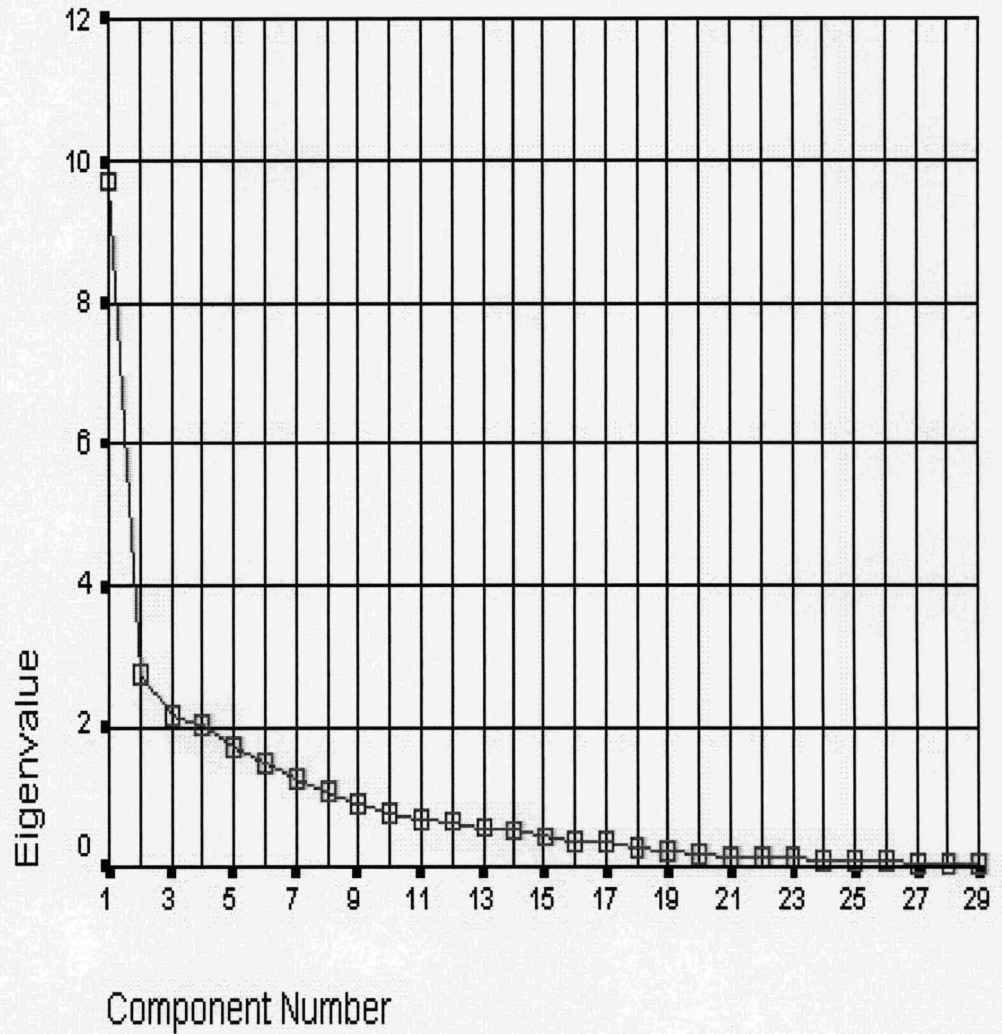
“The last “real” factor is considered to be that point before the scree begins.” (Churchill & Iacobucci, 2002, p.806).

In this example, the scree or straight line begins at factor 3, thus the scree plot criterion suggests that a two-factor solution will be sufficient to capture the data. According to Churchill and Iacobucci, we may even use one-factor for extraction and that would be sufficient. If we followed the suggestion from Hair, Anderson, Tatham, & Black (1995), we may use two factors for extraction. However, at two factors, we would only be provided with 31.479% of the variance explained. This does not seem to be sufficient for our purpose.

As explained in Section 7.4.2, the overall amount of variance in the indicators account for by the latent construct is another measure of reliability. It is recommended that a construct should have more than 0.50 of the value (Hair, Anderson, Tatham & Black, 1995, p. 642).

Eight factors seemed adequate for this research explaining 77.118% of the total variance. The reason is that each of the eight factors should account for the variance of at least a single variable if it is to be retained for interpretation, and they need to explain a large proportion of the variance before the amount of “unique” variance begins to dominate the “common” variance.

## Scree Plot



**TABLE 8.4: SCREE TEST PLOT FOR THE SMALL SAMPLE**

### 8.6 Computation of the Factor Loading for the Small Sample

To compute the factor loading, we shall examine the composition of each factor. Table 8.5 below provides us with the rotated factor loading

matrix. The eight factors derived from the table below give us the underlying factors that are significant in motivating distributors to work hard.

“The factor score shows that an individual possesses a particular characteristic represented by the factor to a high degree.” (Hair, Anderson, Tatham & Black, 1995, p. 390).

Rotated Component Matrix	Component							
	1	2	3	4	5	6	7	8
Likelihood of Having Financial Security	.853							
Likelihood of Exercising Own Leadership Style	.782							
Likelihood of Being part of a team	.774							
Likelihood of Having A Better Quality Lifestyle	.756							
Likelihood of Being In Control Of My Life	.747							
Likelihood of Having Public exposure & recognition	.735							
Likelihood of Intellectually Stimulated & Challenged	.720							
Likelihood of Bringing The Best Out Of My Team	.705							
Making Friends & Social Contacts		.885						
Promoting Products that Benefit Others		.846						
Managing Work & Home Simultaneously		.818						
Likelihood of Promoting Products that Benefit Others		.648						
Having Public Exposure & Recognition			.802					
Having A Better Quality Lifestyle			.710					
Being In Control Of My Life			.685					
Intellectually Stimulated & Challenged			.584					
Having More Time With My Family				.840				
Likelihood of Having More Time With My Family				.769				

Likelihood of Not Having To Report To A Superior				.551				
Bringing The Best Out Of My Team					.769			
Being part of a team					.730			
Having Financial Security					.698			
Exercising Own Leadership Style					.541			
Expectation to Build a large network						.851		
Chances Of Reaching Highest Level						.817		
Not Having To Report To A Superior							.663	
Likelihood of Making Friends & Social Contacts							.661	
Likelihood of Managing Work & Home Simultaneously							.638	
Belief in one's ability to recruit prospective								.819

**TABLE 8.5: ROTATED FACTOR MATRIX FOR THE SMALL SAMPLE: EXTRACTION METHOD: PRINCIPAL COMPONENT ANALYSIS. ROTATION METHOD: VARIMAX WITH KAISER NORMALIZATION. ROTATION CONVERGED IN EIGHT ITERATIONS**

### 8.6.1 Factor 1

The first factor is termed factor 1. The composition of the first factor may be called “the likelihood of achieving financial security, better quality lifestyle together with the likelihood of bringing the best out of one’s team through team working and leadership”.

It has to do with eight likelihoods of receiving rewards such as likelihood of having financial security and likelihood of having better quality lifestyle. It is related to intrinsic reward such as the likelihood of being intellectually stimulated and challenged. It is linked to the likelihood of being

in control of one's life, likelihood of being able to exercise own leadership style, likelihood of being a team builder and likelihood of being part of a team.

Factor 1 has eight likelihood variables. They are as follows:

- a) *The likelihood of having financial security.*
- b) *The likelihood of exercising own leadership style.*
- c) *The likelihood of being part of a team.*
- d) *The likelihood of having a better quality lifestyle.*
- e) *The likelihood of being in control of my life.*
- f) *The likelihood of having public exposure and recognition.*
- g) *The likelihood of being intellectually stimulated and challenged.*
- h) *The likelihood of bringing the best out of my team.*

#### 8.6.2 Factor 2

Factor 2 may be called "the goal and likelihood of promoting products that benefit others through management of work, home and social contacts." It consists of the goals of making social contacts; managing work and home, promoting products that benefit others with the likelihood of promoting products that benefit others.

It is an inter-relational and home-orientated goal with the likelihood and goal of promoting such beneficial products. While promoting products that benefits others, it tries to balance work, home and social goals. It is

unlikely that this factor can operate if the likelihood and goal of promoting products that benefits others are missing.

### 8.6.3 Factor 3

The third factor is associated with four highly desirable goals. It may be named as the "goal for quality leadership & quality lifestyle" factor.

The four goals are as follows:

- (a) The goal of having public exposure and recognition.*
- (b) The goal of having better quality lifestyle.*
- (c) The goal of being in control of one's life.*
- (d) The goal of being intellectually challenged and stimulated.*

All the likelihoods for these goals are found in factor 1 above. This factor is a quality leadership & lifestyle goal factor with the desire for quality lifestyle, public exposure and recognition, being individually challenged and being in control of one's life.

### 8.6.4 Factor 4

The fourth factor is associated with the likelihood and desirable goal of having more time with the family. It is "the goal and likelihood of having more time with the family" factor and is linked to the likelihood of not having to report to a superior.

#### 8.6.5 Factor 5

Factor 5 may be called the "goal of bringing the best out of my team through leadership to achieve financial security" factor. It is associated with four goals, which are bringing the best out of my team, being part of a team, having financial security and exercising own leadership style.

#### 8.6.6 Factor 6

Factor 6 is the "Expectation to build a big network and reach highest level" factor. This is an expectation factor with the expectation to build a large network and the belief in one's chance of reaching the highest level.

#### 8.6.7 Factor 7

Factor 7 is the "goal of being self employed through the likelihood of making social contacts and likelihood of managing work and home" factor. It consists of the goal of not having to report to a superior, the likelihood of making friends and social contacts, the likelihood of managing work and home simultaneously. This factor is similar to the second factor, which has the goal of making friends, managing social and work, and the goal and likelihood of promoting products that benefit others.



#### 8.6.8 Factor 8

Factor 8 may be named as "Expectation to build large network based on the belief in one's ability" factor. It is an expectation in one's ability in building up a large network of distributors. It is a measure for distributor's expectation in sponsoring prospective distributors based on the distributor's ability.

#### 8.6.9 Summary of the Eight Factors of Motivation for the Small Sample

The eight factors may be summarized as follows:

**Factor 1** - *The "likelihood of achieving financial security and better quality lifestyle together with the likelihood of bringing the best out of one's team through team working and leadership." This is clearly a likelihood factor.*

**Factor 2** - *The "goal and likelihood of promoting products that benefit others through management of work, home and social contacts."*

**Factor 3** - *The "goal for quality leadership & quality lifestyle."*

**Factor 4** - *It is the "goal and likelihood of having time with the family." It is heavily loaded on spending time with the family and has a link to the likelihood of not having to report to a superior.*

**Factor 5** - *It is the "goal of bringing the best out of my team through quality leadership to achieve financial security."*

**Factor 6** - *It is the "expectation to build big and reach highest the level." It is completely an "expectation" factor.*

**Factor 7** - *It is the "goal of being self employed through the likelihood of making social contacts and likelihood of managing work and home."*

**Factor 8** - *It is the "expectation to build large network based on the belief in one's ability."*

All the three variables of Vroom's work theory of motivation are found in the eight factors. Factors 6 and 8 are clearly expectation or expectancy factors. Factor 1 is a likelihood factor. Factors 3 and 5 are all mainly valence factors.

There are factors that have a mixture of valences and instrumentalities. Factor 2 is mainly valence factors. Factor 4 is emphasizing having more time with the family. Factor 7 is emphasizing the goal of working without reporting to a superior and the likelihood of making social contacts, linked to the likelihood of managing work and home simultaneously. This is reasonable since valence and instrumentality, according to Vroom's theory, is meant to multiply together to form the total score of valence and instrumentality (VIT). For example, factor 7 shows that the goal of not reporting to a superior is correlated to the likelihood of managing work and home simultaneously and making friends and social contacts.

The findings from the forty samples (using Questionnaire A) produced eight factors also. The first factor was again an instrumentality factor with 8 instrumentalities. Its second factor was a goal factor. Those with

instrumentalities and goals were factors 3, 4, and 5. Factors 6 and 7 were expectation factors (Tan, 2000, pp.341-342).

These eight underlying factors are in line with Vroom's theory of work motivation. This test provides some construct validity for Vroom's theory of work motivation.

Now that we have computed the factor loadings matrix (Table 8.5), we can use the eight independent factors to do the multiple linear regression analysis.

### **8.7 Multivariate Analysis: Multiple Linear Regression Test for Hypothesis 1 & Hypothesis 2 for the Small Sample**

*NH1: Each underlying factor of motivation is not individually significant to FM.*

*That is,  $\beta_1=0$ ;  $\beta_2=0$ ;  $\beta_3=0$ ;  $\beta_4=0$ ;  $\beta_5=0$ ;  $\beta_6=0$ ;  $\beta_7=0$  and  $\beta_8=0$ .*

*AH1: Each underlying factor of motivation is individually significant to FM.*

*That is,  $\beta_1 \neq 0$ ;  $\beta_2 \neq 0$ ;  $\beta_3 \neq 0$ ;  $\beta_4 \neq 0$ ;  $\beta_5 \neq 0$ ;  $\beta_6 \neq 0$ ;  $\beta_7 \neq 0$  and  $\beta_8 \neq 0$ .*

*NH2: There is no linear relationship between the underlying factors of motivation and FM.*

*That is,  $\beta_1=\beta_2=\beta_3=\beta_4=\beta_5=\beta_6=\beta_7=\beta_8=0$ , or that the population  $R^2=0$ .*

*AH2: There is a linear relationship between the underlying factors of motivation and FM.*

*That is,  $\beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5 \neq \beta_6 \neq \beta_7 \neq \beta_8 \neq 0$ , or that the population  $R^2 \neq 0$ .*

Each of the hypotheses above is tested using the semi-partial correlations of an "Enter" multiple linear regression analysis. This method

analyses the overall contribution of all independent variables to the total explained variance in the dependent variable.

The squares of the semi-partial correlation coefficients should provide information about the amount of variance contributed by the separate independent variables of the regression equation. The multiple linear regression tests the sample by entering the predictor variables all at the same time to test hypothesis 2.

All variables were entered as a group to the equation. We satisfy one of the conditions for the use of linear regression, where all the VIE variables were measured on an interval scale. The analysis of variance (ANOVA) test was used here to test the hypothesis that there is no relationship between FM and the eight independent factors. It was tested at 95% significance level. ANOVA and F tests produced the following results (Table 8.6):

The ANOVA test subdivided the total observed variability of the dependent variable into two components. One component was the observed variability from regression that was not attributed to regression, labelled as residual. The F test sees how well the regression model fits the data. It is the result of the mean square regression divided by the mean square residual. Since the probability associated with the F statistics of 84.068 has a level of significance smaller than 0.00005, the hypothesis  $H_2$  that population  $R^2=0$  is rejected.

Model		Sum of Squares	DF	Mean Square	F	Sig.
1	Regression	1989904.955	8	248738.119	84.068	.000
	Residual	124268.251	42	2958.768		
	Total	2114173.205	50			

**TABLE 8.6: ANOVA & F TESTS FOR THE SMALL SAMPLE**

$R^2$  may be defined as the proportion of the variation in the dependent variable "explained" by the model (See Table 8.7 below). It is a measure of goodness of fit of this model and a zero  $R^2$  does not necessarily mean that there is no association between the variables. It just means that there is no linear relationship between the variables. (DF is the degree of freedom.)

In this multiple linear regression test (See Table 8.7 below),  $R^2$  has a value of 0.941. This meant that the model fits the population well with a strong linear relationship. When there is a result of 1.0000, it is the perfect fit.

	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Std. Error of the Estimate	Change Statistics					Durbin-Watson
M					R <sup>2</sup> Change	F Change	DF1	DF2	Sig. F Change	
1	.97	.94	.930	54.3946	.941	84.068	8	42	.000	2.133

M= Model

**TABLE 8.7: MULTIPLE LINEAR REGRESSION MODEL FOR THE SMALL SAMPLE**

Adjusted  $R^2 = 0.93$  is the attempt to correct  $R^2$  to reflect the goodness of fit of the model in the multiple linear regression. It is still a very high score. This takes into account the number of independent variable, since  $R^2$  always increases with the number of independent variables. Therefore, the regression model can explain 93% of the variation of the dependent variable. This is a good regression model and is a better result than the one found for the forty samples (using Questionnaire A) which has 90.41% overall goodness of fit (Tan, 2000, p.342).

The model summary in Table 8.7 shows that the standard error = 54.3946. This is a small standard error. The greater the distance between the observed values of the dependent variable from the value predicted by

the regression equation, the larger the standard error. This small standard error meant that the model fits the data quite well.

As F-statistic is very large (84.068) and is significant at 0.000 level, we can reject NH2 (Table 8.7). We can reject the null hypothesis NH2 that there is no linear relationship between the underlying factors of motivation and FM. The rejected null hypothesis (NH2) is  $\beta_1=\beta_2=\beta_3=\beta_4=\beta_5=\beta_6=\beta_7=\beta_8=0$ , its population is  $R^2=0$ . Therefore, there is linear relationship between the underlying factors of motivation and FM.

Values found in the "Sig." section are p-values (Table 8.8), which show whether the T-ratios in the above table are significant. (Sig.) means significance level. We do not need to consult the T-table to find out whether the independent variables are significant in explaining the dependent variable. As T-ratios are very large, the coefficients on the independent variables are statistically significant from zero. Table 8.8 shows that the t values of the eight factors and its constant are all significant at 0.01 levels individually. The slope of the sample (B) divided by its standard error is the t value.

At the above given significance levels, we may reject the NH1 hypothesis that there is no linear relationship between dependent and independent factor. We can reject the null hypothesis NH1 where  $\beta_1=0$ ;  $\beta_2=0$ ;  $\beta_3=0$ ;  $\beta_4=0$ ;  $\beta_5=0$ ;  $\beta_6=0$ ;  $\beta_7=0$  and  $\beta_8=0$ .

It means that all these independent variables do affect the dependent variable. This supports the alternative hypothesis AH2 that there is a linear

association. Therefore, we can reject the null hypothesis (NH2) where the population  $R^2 = 0$ . Another check has to be carried out so that there is no violation of assumptions in using Multi-Linear Regression Analysis.

M		Unstandardize	Std. Coeff	t	Sig.	Correlations			Collinearity Statistics		
		d Coefficients				Std. Error	Beta	Zero-Order	Partial	Part	Tolerance
1	Con	549.573	7.617		72.153	.0000					
	FS 1	108.203	7.693	.526	14.066	.0000	.526	.908	.526	1.000	1.0
	FS 2	36.925	7.693	.180	4.800	.0000	.180	.595	.180	1.000	1.0
	FS 3	26.936	7.693	.131	3.502	.0010	.131	.475	.131	1.000	1.0
	FS 4	46.894	7.693	.228	6.096	.0000	.228	.685	.228	1.000	1.0
	FS 5	67.363	7.693	.328	8.757	.0000	.328	.804	.328	1.000	1.0
	FS 6	106.943	7.693	.520	13.902	.0000	.520	.906	.520	1.000	1.0
	FS 7	52.917	7.693	.257	6.879	.0000	.257	.728	.257	1.000	1.0
	FS 8	70.905	7.693	.345	9.217	.0000	.345	.818	.345	1.000	1.0

FS = Factor Scores; Con = Constant; Std. Coeff. = Standardized Coefficient; Sig. = Significance level. M= Model.

**TABLE 8.8: STATUS OF THE VARIABLES AFTER MULTIPLE LINEAR REGRESSIONS FOR THE SMALL SAMPLE**

In Table 8.8 above, the t-test in regression (and multiple linear regression) analysis tested the hypothesis that there is no linear relationship between dependent and independent factor (factors). It represents the correlation between the independent variable and the dependent variable



with the influence of other independent variables being removed from the independent variables that are being correlated.

### **8.8 Test for the Appropriate Use of Multiple Linear Regression Analysis for the Small Sample**

The following hypotheses are tested:

*NH12: Multiple linear regression analysis is not appropriate for the test of relationship between the underlying factors of motivation and FM for small sample.*

*AH12: Multiple linear regression analysis is appropriate for the test of relationship between the underlying factors of motivation and FM for the small sample.*

There are a number of assumptions underlying the use of multiple linear regression analysis (sometimes called multi-linear regression analysis). Violations of the assumptions must be identified and corrected where possible to ensure results obtained were a true representation of the sample.

## 8.9 Collinearity Diagnostics for Small Sample

The collinearity diagnostics test in Table 8.9 below shows a useful test for examining the collinearity of a data matrix as a check for violation of assumptions to ensure that multiple linear regressions is appropriate. They are the eigenvalues of the scaled, uncentred cross-products matrix and the decomposition of regression variance corresponding to the eigenvalues. The collinearity diagnostic test did not show any significant collinearity between the eight factors as the eigenvalues and condition index both have score of 1.0000 (Table 8.9).

Table 8.8 shows that the tolerance level is at its highest of 1.0000 and the Variance Inflation Factor (VIF) is at a very small value of 1.0000. The tolerance level is defined as  $1-R_i^2$ , where  $R_i$  is the multiple correlation coefficient when the  $i$ th independent variable is predicted from the other independent variables.

VIF in Table 8.8 is the reciprocal of the tolerance analysis. Since these results meant that there was no collinearity relationship between these eight factors, we can reject the null hypothesis NH12 that multiple linear regression analysis is not appropriate.

Therefore, we can state that multiple linear regression analysis is appropriate for the test of relationship between the underlying factors of motivation and FM for the small sample.

		Eigen value	Condi tion Index	Variance Proportions								
Model	Dimension			(Constant)	FS1	FS2	FS3	FS4	FS5	FS6	FS7	FS8
1	1	1.000	1.000	.00	.03	.17	.80	.00	.00	.01	.00	.00
	2	1.000	1.000	.50	.01	.00	.01	.00	.42	.06	.00	.00
	3	1.000	1.000	.00	.15	.02	.02	.00	.00	.00	.81	.00
	4	1.000	1.000	.00	.00	.00	.00	.00	.00	.00	.00	1.00
	5	1.000	1.000	.00	.52	.01	.03	.28	.02	.00	.14	.00
	6	1.000	1.000	.00	.00	.00	.01	.00	.12	.87	.00	.00
	7	1.000	1.000	.00	.07	.79	.12	.00	.00	.01	.01	.00
	8	1.000	1.000	.50	.01	.00	.01	.00	.42	.06	.00	.00
	9	1.000	1.000	.00	.22	.00	.01	.72	.01	.00	.04	.00

**TABLE 8.9: COLLINEARITY DIAGNOSTICS TEST FOR THE SMALL SAMPLE**

### **8.10 Relationship of the “Eight Factors of motivation” with Vroom’s Factors of Motivation for Small Sample**

Given that we have tested the eight underlying factors with the total force of motivation (FM), we can analyse their relationship with ET and VIT.

We can begin by comparing the results obtained with FM, ET and VIT with these eight underlying factors. Table 8.10 shows their relationship to the

set of “eight factors of motivation”. Those that are significant at 0.10 levels are given \*, those at 0.05 levels are given \*\*. Those with 0.01 significance levels are given \*\*\*.

Variables	R	R <sup>2</sup>	AR <sup>2</sup>	Significance
FM	.970	.941	.930	.0000***
ET	.963	.927	.913	.0000***
VIT	.987	.974	.969	.0000***

**TABLE 8.10: REGRESSION ANALYSIS BETWEEN THE EIGHT FACTORS OF MOTIVATION AND FM, ET AND VIT FOR THE SMALL SAMPLE.**

Table 8.10 shows the relationship of the “eight factors of motivation” is strongest with VIT, FM and ET, in that order. All three were significant at 0.00 significance levels. This meant that NH3 and NH4 are rejected.

Therefore, we may state that there is a linear relationship between the underlying Factors of motivation and ET. There is also a linear relationship between the underlying factors of motivation and VIT.

### **8.11 Relationship of the “Eight Factors of Motivation” with Other Independent Variables & Indicators of Motivation & Performance for the Small Sample**

It is important to understand the relationship of the “eight factors of motivation” and other independent variables and indicators of performance and motivation in the study.

These independent variables and indicators of performance and motivation are important in helping us understand what motivate distributors to work. Literature research shows the indicators or activities that motivated distributors would do in order to perform effectively. This research uses these independent variables and indicators of effective activities as “goal posts” or alternative measure of motivation and performance.

All of the following independent variables and indicators of motivation and performance were tested for their relationship with the “eight factors of motivation.” They are as follows:

1. Number of Months with present MLM company.
2. Distributor Status.
3. Number of Non-MLM Organisations Employed.
4. Length of Time as Beginner.
5. Length of Time as foundation level.
6. Length of Time as intermediate level.
7. Length of Time as advance level.
8. Length of Time as highest level.
9. Average Number of Training Sessions per Month.

10. Number of MLM Books Read.
11. Number of Audios Heard.
12. Number of MLM Videos Seen.
13. Number of hours of training taken.
14. Have you ever organised training session.
15. Quality of Support from Sponsor.
16. Effort placed each week (%).
17. Number of Countries with Distributors.
18. Number of MLM membership.
19. Gender.
20. Education achieved.
21. Marital Status.
22. Age Groups.
23. Number of dependent Children.
24. Investment with current MLM company.
25. International & Multi-culture Experience.
26. Total Yearly Incomes from paid employment; Incomes from all MLM.
27. Commission & Bonus received.
28. Current Job Status.”

Regression analysis results (Table 8.11 below) show the relationships that are significant. Those that are significant at 0.10 levels are given \*, those at 0.05 levels are given \*\*. Those in bold with 0.01 significance levels are given \*\*\*.

Table 8.11 shows that commission and bonus, number of hours of training taken and the average number of training sessions per month attended have a significant relationship with the “eight factors of motivation”. Commission and bonus are the only items that are significant at 0.01 level with  $R = .778$ . This seems to indicate that money is an important motivator.

The set of “eight factors of motivation” seems to be a good indicator of motivation and performance based on its results from  $R$ ,  $R^2$  and adjusted  $R^2$ . The study showed that distributors are motivated by “commission and bonus” from present MLM organisation ( $R = 0.778$ ), the “number of hours of training taken” ( $R = 0.595$ ) and the “average number of training sessions per month” ( $R = 0.567$ ).

Variable	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Significance
<b>Commission &amp; Bonus</b>	.778	.605	.447	.007***
Number of hours of training taken	.595	.354	.228	.014**
Average number of training sessions per month	.567	.322	.192	.026**
Number of audios heard	.520	.270	.131	.079*

**TABLE 8.11: REGRESSION ANALYSIS RESULTS SHOWING ONLY SIGNIFICANT RELATIONSHIP BETWEEN THE EIGHT FACTORS OF MOTIVATION AND OTHER INDEPENDENT VARIABLES AND INDICATORS OF MOTIVATION AND PERFORMANCE FOR THE SMALL SAMPLE**

All three have higher correlation than .30 that was usually found by researchers in this area (referred to previous discussion in Section 5.5.1).

All the other independent variables and indicators of motivation and performance that do not have any significant relationship with the “eight factors of motivation” are provided below:

1. Number of Months with present MLM company.
2. Distributor Status.
3. Number of Non-MLM Organisations Employed.
4. Length of Time as Beginner.
5. Length of Time as Foundation level.
6. Length of Time As intermediate level.
7. Length of Time as advance level.
8. Length of Time as highest level.
9. Number of MLM Books Read.
10. Number of MLM Videos Seen.
11. Have you ever organised training session.
12. Quality of Support from Sponsor.
13. Effort placed each week (%).
14. Number of Countries with Distributors.
15. Number of MLM memberships.
16. Gender.
17. Education achieved.
18. Marital Status.
19. Age Groups.
20. Number of dependent Children.
21. Investment with current MLM company.
22. International & Multi-culture Experience.



23. Total Yearly Incomes from paid employment.

24. Incomes from all MLM.

25. Current Job Status.

Therefore, it seems that average number of training sessions per month attended, the number of hours of training taken and the commission & bonus from present MLM organisation are the three variables that have a linear relationship with the underlying factors of motivation for small sample. We reject the NH5 that there is no linear relationship between the underlying factors of motivation and other independent variables and indicators of motivation and performance.

#### **8.12 Relationship of FM with Other Independent Variables & Indicators of Motivation & Performance for the Small Sample**

It is important to understand the relationship of the “total force of motivation (FM)” and all other independent variables in the study. Table 8.12 shows significant regression analysis results. Those that are significant at 0.10 levels are given \*, those at 0.05 levels are given \*\*. None of them is significant at the 0.01 significance levels (\*\*\*) like those in Table 8.10.

Table 8.12 shows that gender; number of audios heard; number of hours of training taken; number of books read; and average number of training sessions per month taken are the five variables that are significant at 0.05 levels with FM. Distributor status and number of non-MLM organisations employed are the other two variables that are significant at 0.10 levels.

The correlation is much lower for FM than it is for the “eight factors of motivation” in their relationship to the other indicators of performance and motivation. However, the correlation is still higher than  $R = 0.30$  for “number of audios heard” and “number of hours of training taken.”

Therefore, it seems that average number of training sessions per month taken, the number of hours of training taken and the number of audios are significant for the force of motivation (Table 8.12 below) and the eight factors of motivation (Table 8.11).

We may reject the  $H_0$  that there is no linear relationship between FM and other independent variables and indicators of motivation and performance. That is,  $\beta_1=\beta_2=\beta_3=\beta_4=\beta_5=\beta_6=\beta_7=\beta_n=0$ , or that the population  $R^2=0$ .

We can state that there is linear relationship between FM and other independent variables and indicators of motivation and performance. That is,  $\beta_1\neq\beta_2\neq\beta_3\neq\beta_4\neq\beta_5\neq\beta_6\neq\beta_7\neq\beta_n\neq 0$ , or that the population  $R^2\neq 0$ .

Variables	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Significance
<b>Gender</b>	.325	.105	.87	.020**
<b>Number of audios heard</b>	.323	.104	.86	.021**
<b>Number of hours of training taken</b>	.418	.175	.158	.039**
<b>Number of books read</b>	.290	.084	.066	.039**
<b>Average Number of training sessions per month</b>	.284	.081	.062	.043**
Number of non-MLM organisations employed	.265	.070	.051	.060*
Distributors status	.252	.063	.044	.074*

**TABLE 8.12: REGRESSION ANALYSIS RESULTS SHOWING ONLY SIGNIFICANT RELATIONSHIP BETWEEN FM AND OTHER INDEPENDENT VARIABLES AND INDICATORS OF MOTIVATION AND PERFORMANCE FOR THE SMALL SAMPLE**

### **8.13 Relationship of VIT with Other Independent Variables & Indicators of Motivation & Performance for the Small Sample**

The relationship of VIT with the other independent variables showed that only two variables are significant with VIT (See Table 8.13 below). Those that are significant at 0.10 levels are given \*, those at 0.05 levels are given \*\*. Those with 0.01 significance levels are given \*\*\*.

We can state that gender is the only variable that is significant to VIT. Therefore, we cannot reject NH8 that there is no linear relationship between VIT and gender. That is,  $\beta_1 = \beta_n = 0$ , or that the population  $R^2 = 0$ . All other

independent variables and indicators of motivation and performance do not have a significant relationship with VIT.

Variables	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Significance
<b>Gender</b>	0.297	0.088	0.070	0.034**
Number of MLM Membership	0.315	0.099	0.066	0.096*

**TABLE 8.13: REGRESSION ANALYSIS RESULTS SHOWING ONLY SIGNIFICANT RELATIONSHIP BETWEEN VIT AND OTHER INDEPENDENT VARIABLES AND INDICATORS OF MOTIVATION AND PERFORMANCE FOR THE SMALL SAMPLE**

#### **8.14 Relationship of ET with Other Independent Variables & Indicators of Motivation & Performance for the Small Sample**

The relationship between the total score of expectancy (ET) and other independent variables of motivation showed eight variables are significant with ET. See Table 8.14 below. Those that are significant at 0.10 levels are given \*, those at 0.05 levels are given \*\*. Those with 0.01 significance levels are given \*\*\*.

In this test, three variables (see Table 8.14 in bold) have higher significance levels of relationship than those achieved from FM and VIT with other independent variables and indicators of motivation and performance.

The “number of hours of training taken” variable has a very high correlation ( $R = 0.515$ ) at 0.00 significance level. Average number of training sessions per month ( $R = 0.398$ ) is significance at 0.01 levels. Both of these variables are significant at 0.05 levels for FM.

Although Distributor status ( $R = 0.430$ ) is significant at 0.05 level, it is significant at 0.10 level with  $R = .252$  for its relationship with FM. Commission and bonus though significant with FM is not significant with ET.

Variables	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Significance
<b>Number of hours of training taken</b>	<b>0.515</b>	<b>0.266</b>	<b>0.250</b>	<b>0.000***</b>
<b>Distributor status</b>	<b>0.430</b>	<b>0.185</b>	<b>0.168</b>	<b>0.002***</b>
<b>Average number of training sessions per month</b>	<b>0.398</b>	<b>0.158</b>	<b>0.141</b>	<b>0.004***</b>
Incomes from all MLM	0.370	0.137	0.112	0.024**
International & Multi-culture experience	0.276	0.076	0.058	0.050**
Number of non-MLM organisations employed	0.246	0.061	0.041	0.082*
Number of audio heard	0.240	0.058	0.038	0.09*
Gender	0.239	0.057	0.038	0.091*

**TABLE 8.14: REGRESSION ANALYSIS RESULTS SHOWING ONLY SIGNIFICANT RELATIONSHIP BETWEEN ET AND OTHER INDEPENDENT VARIABLES AND INDICATORS OF MOTIVATION AND PERFORMANCE FOR THE SMALL SAMPLE.**

Those significant at 0.05 levels are the incomes from all MLM (R = 0.370) and International and multi-culture experience (R = 0.276). From these above results, it seems to indicate the ET has a higher correlation than VIT and FM in its relationship to other indicators of performance and motivation.

Therefore, we reject NH7 that there is no linear relationship between ET and other independent variables and indicators of motivation and performance. That is,  $\beta_1 = \beta_n = 0$ , or that the population  $R^2 = 0$ .

### **8.15 Summaries of the Findings for the Small Sample**

These eight factors of motivation are significantly correlated to the commission and bonus (at 0.01 significant level), number of hours of training taken and the average number of training sessions per month taken (at 0.05 significant level).

FM shows strong significant correlation to number of hours of training taken, gender, number of audios heard, average number of training sessions per month and the number of books read (at 0.05 significant level). VIT shows significant correlation to gender as shown earlier in Section 8.13 (at 0.05 significant level).

ET shows a strong significant correlation with the number of hours of training taken (at 0.00 significant level), distributor status, average number of training sessions per month (at 0.01 significant level), incomes from all MLM,

the international and multi-culture experience of the distributors (at 0.05 significant level).

The variables that seem to have a significant correlation with FM, the eight factors of motivation and ET are the number of hours of training taken and the average number of training sessions per month taken.

It is not known the reason why bonus should be highly significant (at 0.01 significant level) with the factors ( $R = .778$ ) and not with FM, ET and VIT. Incomes from all MLM was significant (at 0.05 significant level) with ET but not with anything else.

## **CHAPTER 9 - STATISTICAL ANALYSIS AND SAMPLE EVALUATION FOR LARGE SAMPLE**

The data collected from the second survey with a large sample size of 130 are examined to see if there is any difference between the large sample and the previous small sample. The tests carried out for the small sample are repeated to look for consistency, reliability and validity of results. They are compared with the first small sample result and summarised. It is important to test the validity and reliability of the information in this research to ensure that the outcomes are stable, accurate and measuring what they are supposed to do. The large sample data are then extensively tested for reliability and validity for the use of multiple regression analysis.

It begins with examining the characteristics of the data, conducting reliability analysis in this chapter and moving on to the multivariate data analyses and conclusions in subsequent chapters.

Let us start with examining the characteristics of the data by looking at the mean and standard deviation of the large sample for each of the variables.

### **9.1 Characteristics of Data Collected for the Large Sample & its Comparison with Smaller Sample**

From Table 9.1 below, the data collected for the 29 variables of motivation appeared to have higher standard deviations than the previous small sample. The data does not suggest there is any outlier.



The mature and retired members with no dependent children show high standard deviations in some of the valence and likelihood variables.

They are as follows:

“Having more time with my family,” 2.9304 and 2.8256 (2.83, 2.63); “Not having to report to a supervisor,” 2.7997 and 2.8716 (2.52, 2.57); “Bringing the best out of my team,” 2.7525 and 2.8488; and “Managing home and work simultaneously,” 2.7399 and 2.7639. The first number after the items is the valence’s standard deviation and the second number for the instrumentality’s standard deviation. Those in brackets are standard deviation from the smaller sample. There were only two items from the smaller sample since these were the only large standard deviations found.

The three expectation variables have high standard deviations too. They are as follows: “Chances of reaching highest level” 3.0242 (2.437), “Expectation to build a large network” 2.7102 (1.83) and “Belief in one’s ability to recruit prospective distributors” 2.7921 (2.50). There is a very small increase in standard deviation for all three items given that we have more distributors who are lower in status.

The first four variables with the highest means (for this sample of 130 distributors) are goals. They are goals of “Having a better quality lifestyle” (came 1<sup>st</sup> here and 3<sup>rd</sup> for the small sample); “Being in control of my life” (came 2<sup>nd</sup> twice); “Promoting products that benefit others” (came 3<sup>rd</sup> here and 12<sup>th</sup> in smaller sample) and “Having financial security” (came 4<sup>th</sup> twice).

The likelihoods of these goals with the highest means also come in the top four, but not in the same order as they appear for valences. However,

“Being part of a team” which was first in the small sample has now moved to 8<sup>th</sup> place. “Promoting products that benefit others” replaces it.

## **9.2 Survey Test Phase for Reliability and Validity for Large Sample**

As discussed in Chapter 6, the process of selecting the outcomes was carefully chosen to ensure the outcomes generated are stable, accurate and are measuring what they are supposed to do. We can now use statistical tests to investigate this further, testing for validity and reliability of the data used.

## **9.3 Validity of Large Sample**

We are interested in the extent of the accuracy of the independent relationship of VIE to motivation, that is, the degree to which it is free from any systematic or non-random error.

Three validities commonly known as “content”, “construct” and “criterion” validity are considered in this research to provide assurance that the findings reflect an accurate measure of the underlying constructs for VIE (Hair, Anderson, Tatham & Black, 1995).

The hypothesis may be written as:

*NH13: The questions of the questionnaire from the large sample are not reliable.*

*AH13: The questions of the questionnaire from the large sample are reliable.*

	N	Mean	Std. Deviation
Having a better quality lifestyle	130	9.2618	2.0659
Being in control of my life	130	9.2233	2.0038
Promoting products that benefit others	130	9.1923	1.7213
Having financial security	130	9.1851	2.3731
Likelihood of promoting products that benefit others	130	8.6769	2.0544
Not having to report to a superior	130	8.5006	2.7997
Likelihood of being in control of my life	130	8.4465	2.5173
Likelihood of having a better quality Lifestyle	130	8.3618	2.5571
Managing work & home simultaneously	130	8.3466	2.7399
Having more time with my family	130	8.3312	2.9304
Being part of a team	130	8.3156	2.3618
Making friends & social contacts	130	8.3078	2.4201
Bringing the best out of my team	130	8.2852	2.7525
Being intellectually stimulated & challenged	130	8.2772	2.5297
Exercising own leadership style	130	8.2463	2.4775
Likelihood of having financial security	130	8.1697	2.8898
Likelihood of not having to report to a superior	130	8.1544	2.8716
Likelihood of being part of a team	130	7.9156	2.6408
Likelihood of making friends & social contacts	130	7.8309	2.5909
Likelihood of being intellectually stimulated & challenged	130	7.7695	2.6743
Likelihood of exercising own leadership style	130	7.6541	2.7407
Expectation to build a large network	130	7.6387	2.7102
Likelihood of having more time with my family	130	7.6244	2.8256
Likelihood of managing work & home simultaneously	130	7.4852	2.7639
Chances of reaching highest level	130	7.1081	3.0242
Likelihood of bringing the best out of my team	130	7.0313	2.8488
Likelihood of having public recognition & exposure	130	5.8628	3.5323
Having public exposure & recognition	130	5.7782	3.5685
Belief in one's ability to recruit prospective	130	4.3318	2.7921

**TABLE 9.1: MEAN AND STANDARD DEVIATION OF THE 29 VARIABLES IN ORDER OF HIGHEST MEAN SCORES.**

### 9.3.1 Content Validity for Large Sample

Section 7.3.1.1 provided explanation to the methodology and definition of all three validities.

As with the previous questionnaire, the final questionnaire (See Appendix 4) allowed respondents to indicate any other desirable outcome that is important to them but not stated. This is to be the “additional” outcome. There was only one response for this “additional” outcome by the 40 respondents in the first test. “Being part of a team” was the “additional” outcome which was included as the thirteenth outcome. There was no further addition to the “additional” outcome by the 51 respondents.

However, there were 15 different “additional” outcomes from the 130 respondents. They are listed below:

- a) Improving of relationship with partner by reading positive material;
- b) Coaching others to success;
- c) Free;
- d) Time to smell the roses;
- e) Complete freedom;
- f) Earn £200,000 a year and give 50% to charity;
- g) Becoming a full-time distributor;
- h) Getting focused trying;
- i) Feeling fitter and looking good;
- j) Being myself;
- k) Quality of life;
- l) Making people aware of MLM;
- m) Helping others;
- n) Helping others achieve potential;
- o) Empowering others.

On close examination of the above, “additional” outcome **a** has to do with making friends and social contact. Therefore, it may be considered to be included in that category.

Outcomes **c, d, e, g, h, i, j, k** above are concerned with improving quality of life and being in control of one’s life. Outcomes **b, l, m, n, o** might be concerned with bringing the best out of the team and outcome **f** has to do with having financial security.

It seems that the above list of “additional” outcomes are already covered by the thirteen goals set out in the questionnaire. Therefore, there was no need to conduct another survey to include additional outcome in the research. The process of selecting the 13 outcomes seems to ensure “content” validity for outcomes that are desirable and acceptable to distributors. All aspects of the outcomes for motivation are considered and measured appropriately. Criterion and construct validities are examined later using multiple linear regression analysis.

### 9.3.2 Reliability of Measure for Large Sample & its Comparison with Smaller Sample

The internal consistency of a set variable that one is measuring refers to the degree which variables in the set are homogeneous. As explained in Chapter 6, there are five models of internal consistency, which are tested here.

### 9.3.2.1 Large sample reliability test results & comparison with smaller sample

Cronbach's Alpha coefficient of reliability was calculated and tested to compare results with the previous small sample. The three items of expectancy received a Cronbach Alpha score of 0.7963 (0.5623); its standardized item Alpha was 0.7963 (0.5937). The F score for all the three items reliability tests was 116.6585 (13.5402) with 0.00 (0.00) probability score. Results in brackets are those from the small sample.

Split-Half analysis for the three items received 0.5325 (0.6567) for Guttman Split-half analysis, 0.6400 (0.6955) for Unequal-length Spearman-Brown test and 0.6200 (0.6762) for its Equal-length Spearman-Brown test. Correlation between forms was 0.4492; its Alpha for part 1 received 0.9075, but no score for part 2.

Guttman reliability analysis has the following reliability coefficients for the three items of expectancy:

*Lambda 1 = .5309   Lambda 2 = .8122   Lambda 3 = .7963*  
*Lambda 4 = .5325   Lambda 5 = .8292   Lambda 6 = .7859*

The Parallel reliability analysis for the three items of expectancy has an estimated reliability of the scale of 0.7963 (0.5623). It has an unbiased estimate of reliability of 0.7995 and the following results:

*Chi-square = 67.2417;*

*Degrees of Freedom = 4;*

*Probability = 0.0000;*

*Log of determinant of unconstrained matrix = 4.834858;*

*Log of determinant of constrained matrix = 5.362244;*

*Parameter Estimates*

*Estimated common variance = 8.0956;*

*Error variance = 3.5149;*

*True variance = 4.5806;*

*Estimated common inter-item correlation = 0.5658.*

Strict-Parallel analysis has an estimated reliability of scale at 0.6135 (0.4461). Its unbiased-estimate of reliability is 0.6225 (0.4787). This is an acceptable score in this research given that there is only three items for expectancy.

Strictly Parallel reliability test for goodness of fit of the data provided the following results:

*Chi-square = 231.4658;*

*Degrees of Freedom = 6;*

*Log of determinant of unconstrained matrix = 4.834858;*

*Log of determinant of constrained matrix = 6.643185;*

*Probability = 0.0000;*

*Estimated common mean = 6.3595*

*Estimated common variance = 10.1984;*

*Error variance = 6.6421*

*True variance = 3.5563;*

*Estimated common inter-item correlation = 0.3461.*

There is a high increase in all the scores for the reliability tests of expectancy items compared to the small sample, except for the result for the

Split-half analysis. For example, the Cronbach Alpha score of 0.7963 has increased from 0.5623.

#### 9.3.2.2 Large sample reliability test results for 13 valence items & its comparison with smaller sample

The 13 items of valence received reliability coefficients of Cronbach Alpha = 0.8977 (0.9458), standardized item Alpha = 0.9053 (0.9477). It has an F score of 26.6741(14.5827) with 0.00 (0.00) probability for all the reliability test results of 13 items of valence.

The Guttman Split-half analysis for the 13 items of valence has 0.7731 (0.8874) for seven items in part 1 alpha and 0.8856 (0.9257) for six items in part 2 alpha. The Correlation between forms = 0.7823; Guttman Split-half = 0.8740; Unequal-length Spearman-Brown = 0.8784; Parallel analysis for the 13 items of valence has an estimated reliability of scale at 0.8977 (0.7935) and unbiased estimate of reliability at 0.8922 (0.8018). It has other following results:

*Chi-square = 441.6845; Degrees of Freedom = 89; Probability = 0.0000;*

*Log of determinant of unconstrained matrix = 16.450796;*

*Log of determinant of constrained matrix = 20.000536;*

*Estimated common variance = 6.5456; Error variance = 3.9085;*

*True variance = 2.6370; Estimated common inter-item correlation = 0.4029.*

Guttman reliability test for 13 items of valence has the following results:

*Lambda 1 = .8286   Lambda 2 = .9018   Lambda 3 = .8977  
Lambda 4 = .8740   Lambda 5 = .8743   Lambda 6 = .9145*



The Strict-Parallel analysis for the 13 items of valence has an estimated reliability of scale at 0.8767 (0.7574) and unbiased estimate of reliability at 0.8795 (0.7716).

It has the following results:

*Chi-square = 723.4970;*

*Degrees of Freedom = 101;*

*Log of determinant of unconstrained matrix = 16.450796;*

*Log of determinant of constrained matrix = 22.240135;*

*Probability = 0.0000;*

*Estimated common mean = 8.4039;*

*Estimated common variance = 7.2859;*

*Error variance = 4.6804;*

*True variance = 2.6054;*

*Unbiased estimate of reliability = 0.8795;*

*Estimated common inter-item correlation = 0.3535;*

*Estimated reliability of scale = 0.8767.*

Compared to the smaller sample, there is a very small decrease of reliability coefficients for the 13 valence items for Cronbach Alpha, Guttman Split Half and Parallel analyses.

However, there is a high increase of reliability scores for strict-parallel analysis and its unbiased estimate of reliability. We found 0.000 probabilities for the valence reliability score of both samples. This shows acceptable and improved scores of reliability for the valence items.

### 9.3.2.3 Large sample reliability test results for 13 instrumentality items & its comparison with smaller sample

The 13 items of instrumentality has a Cronbach Alpha = 0.9273 (0.9203) and standardized item Alpha = 0.9301 (0.9274).  $F = 17.7755$  with probability at 0.000 for all reliability test results of 13 instrumentality. Compared with the previous sample, both the Cronbach Alpha and standardized item Alpha have increased their scores.

The Guttman reliability analysis for the 13 items of instrumentality has the following results:

$\Lambda_1 = .8559$     $\Lambda_2 = .9293$     $\Lambda_3 = .9273$   
 $\Lambda_4 = .8926$     $\Lambda_5 = .9018$     $\Lambda_6 = .9372$

The split-half analysis for the 13 items of instrumentality has Alpha for seven items in part 1 = 0.8412 (0.8061) and for six items of part 2 = 0.9127 (0.9246). It has the following results:

*Correlation between forms = 0.8072;*

*Equal-length Spearman-Brown = 0.8933;*

*Guttman Split-half = 0.8926;*

*Unequal-length Spearman-Brown = 0.8938*

The parallel analysis for the 13 items of instrumentality has the following results:

*Chi-square = 328.8337;*

*Degrees of Freedom = 89;*

*Probability = 0.0000;*

*Log of determinant of unconstrained matrix = 17.387824;*

*Log of determinant of constrained matrix = 20.030602;*

*Estimated common variance = 7.5584;*

*Error variance = 3.8160;*

*True variance = 3.7424;*

*Estimated common inter-item correlation = 0.4951;*

*Estimated reliability of scale = 0.9273;*

*Unbiased estimate of reliability = 0.9284.*

The strict-parallel analysis has an estimated reliability of scale = 0.9173 (0.9108) and unbiased estimate of reliability = 0.9192 (0.9160). The strict-parallel analysis has the following results:

*Chi-square = 522.4639;*

*Degrees of Freedom = 101;*

*Probability = 0.0000;*

*Log of determinant of unconstrained matrix = 17.387824;*

*Log of determinant of constrained matrix = 21.568520;*

*Parameter Estimates*

*Estimated common mean = 7.7679;*

*Estimated common variance = 8.0400;*

*Error variance = 4.3084;*

*True variance = 3.7316;*

*Estimated common inter-item correlation = 0.4605.*

Compared with the previous sample, there is an increase in all the scores: strict-parallel analysis and its estimated reliability of scale, split-half analysis, Cronbach Alpha analysis and its standardized item Alpha. All

results received 0.000 probabilities. This shows an acceptable and increased reliability of the 13 items of instrumentality.

#### 9.3.2.4 Large sample reliability test results for all 29 items & its comparison with smaller sample

The reliability coefficients results of the 130 respondents with 29 items for measuring the combined influence of expectancy, valence and instrumentality are detailed below. Results in brackets are those derived from the small sample:

Its Cronbach Alpha score is 0.9458 (0.9066) and its standardized item Alpha is 0.9477 (0.9173). It has  $F = 34.1092$  at 0.000 probability for all the reliability tests of 29 items.

Its Split-Half analysis has Alpha for 15 items in part 1 = 0.8874 (0.9053) and Alpha for 14 items part 2 = 0.9257 (0.7832). Other results from the split half were as follows:

*Correlation between forms = 0.7835;*

*Equal-length Spearman-Brown = 0.8786;*

*Guttman Split-half = 0.8761;*

*Unequal-length Spearman-Brown = 0.8787.*

The Parallel reliability analysis for 29 items of motivation provided an estimated reliability of scale = 0.9458 (0.9066) and an unbiased estimate of reliability = 0.9466 (0.9103). Its has the following results:

*Chi-square = 1926.2221;*

*Degrees of Freedom = 433;*

*Probability = 0.0000;*

*Log of determinant of unconstrained matrix = 30.170740;*

*Log of determinant of constrained matrix = 46.339382;*

*Estimated common variance = 7.1599;*

*Error variance = 4.4700;*

*True variance = 2.6899;*

*Estimated common inter-item correlation = 0.3757;*

*Estimated reliability of scale = 0.9458;*

*Unbiased estimate of reliability = 0.9466.*

The Strict-Parallel analysis for 29 items of motivation has an estimated reliability of scale of 0.9316 (0.8913) and an unbiased estimate of reliability of 0.9332 (0.8977). These demonstrate an acceptable score of reliability for the 29 items of motivation. It has the following results:

*Chi-square = 2717.0378;*

*Degrees of Freedom = 461;*

*Probability = 0.0000;*

*Log of determinant of unconstrained matrix = 30.170740;*

*Error variance = 5.6084;*

*Log of determinant of constrained matrix = 52.863309;*

*True variance = 2.6839;*

*Estimated common mean = 7.9073;*

*Estimated common variance = 8.2923;*

*Unbiased estimate of reliability = 0.9332;*

*Estimated common inter-item correlation = 0.3195;*

*Estimated reliability of scale = 0.9316.*

Compared with the previous sample, there is an increase in the scores for the strict-parallel analysis and its unbiased estimate of reliability, parallel analysis and its unbiased estimate of reliability, split-half analysis and the Cronbach Alpha and its standardized item Alpha analysis. There is a very small decrease in the split-half analysis.

The analysis of variance for the reliability test of the 29 items measuring the combined factor of VIE (Table 9.2) shows an F score of 34.1092 that is significant at 0.000. This shows that VIE has an acceptable and improved score of reliability of measurement for its 29 items.

Source of Variation	Sum of Sq.	DF	Mean Square	F	Prob.
Between People	10639.6874	129	82.4782		
Within People	20414.7234	3640	5.6084		
Between Measures	4269.0992	28	152.4678	34.1092	.0000
Residual	16145.6242	3612	4.4700		
Nonadditivity	26.3511	1	26.3511	5.9031	.0152
Balance	16119.2731	3611	4.4639		
Total	31054.4108	3769	8.2394		
Grand Mean	7.9073				

Tukey estimate of power to which observations must be raised to achieve additivity = 1.3698;

Hotelling's T-Squared = 516.4008; F = 14.5827; Prob. = 0.0000;

Degrees of Freedom: Numerator = 28; Denominator = 102

**TABLE 9.2: ANALYSIS OF VARIANCE FOR THE RELIABILITY TEST OF 29 ITEMS OF MOTIVATION FOR LARGE SAMPLE**

As in the smaller sample, the above Cronbach Alpha, Guttman Split-Half, Parallel and Strict-Parallel analyses of results, analysis of variance and interpretations for the three items of Expectancy, 13 items for valence and 13 items for instrumentality and for the 29 items for measuring the combined factor of VIE show that we cannot reject the hypothesis that the scales of the questionnaire are reliable. All received 0.00 probability scores with improved score of reliability measurement results.

Therefore, we rejected hypothesis NH13 and accept AH13. It seems that this refined questionnaire is a reliable and valid instrument for measuring VIE.

## CHAPTER 10 - THE MULTIVARIATE ANALYSIS FOR THE FINAL LARGE SAMPLE

### 10.1 Factor Analysis

As stated in Chapter 8, the objective of factor analysis is to identify the underlying factors behind the correlation (which can be used to explain and measure motivation) and helps to answer the first three research questions and their hypotheses:

*NH1: Each underlying factors of motivation is not individually significantly related to FM. That is,  $\beta_1=0$ ;  $\beta_2=0$ ;  $\beta_3=0$ ;  $\beta_4=0$ ;  $\beta_5=0$ ;  $\beta_6=0$ ;  $\beta_7=0$  and  $\beta_n=0$ .*

*AH1: Each underlying factors of motivation is individually significantly related to FM. That is,  $\beta_1\neq 0$ ;  $\beta_2\neq 0$ ;  $\beta_3\neq 0$ ;  $\beta_4\neq 0$ ;  $\beta_5\neq 0$ ;  $\beta_6\neq 0$ ;  $\beta_7\neq 0$  and  $\beta_n\neq 0$ .*

*NH2: There is no linear relationship between the underlying factors of motivation and FM. That is,  $\beta_1=\beta_2=\beta_3=\beta_4=\beta_5=\beta_6=\beta_7=\beta_n=0$ , or that the population  $R^2=0$ .*

*AH2: There is a linear relationship between the underlying factors of motivation and FM. That is,  $\beta_1\neq\beta_2\neq\beta_3\neq\beta_4\neq\beta_5\neq\beta_6\neq\beta_7\neq\beta_n\neq 0$ , or that the population  $R^2\neq 0$ .*



## **10.2 Procedure for Testing the Appropriate Use of Factor Analysis for the Large Sample & its Comparison with Smaller Sample**

We need to test again that it was appropriate to use factor analysis for this research. Checks have to be carried out again so that there is no violation of assumptions and to ensure that the factor analysis is appropriate. Explanation of these tests was provided in Chapter 8.

The following hypothesis are tested:

*NH14: Factor Analysis is not appropriate for identifying the underlying factors of motivation for the large sample.*

*AH14: Factor Analysis is appropriate for identifying the underlying factors of motivation for the large sample.*

### **10.2.1 Testing for the Appropriate Use of factor analysis for the Large Sample: Examining the Correlation Matrix & its Comparison with Smaller Sample**

Visual inspection of Tables 10.1.1A to 10.1.1D below shows that there are a substantial number of correlations greater than 0.30 to warrant the use of factor analysis. (Explanation of this test is found in Section 8.2.2.)

Bartlett's test of Sphericity tests the hypothesis that the correlation matrix is an identity matrix (see below Table 10.1). Results in brackets are those from the smaller sample. The hypothesis may be written as follows:

*NH15: The population correlation matrix for the large sample is an identity.*

*AH15: The population correlation matrix for the large sample is not an identity.*

KMO and Bartlett's Test for the Large (& Smaller) Sample		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.862 (.706)
Bartlett's Test of Sphericity	Approx. Chi-Square	3039.768(1120.12)
	Df	406 (406)
	Sig.	.000 (.000)

**TABLE 10.1: KMO AND BARTLETT'S TEST FOR THE LARGE SAMPLE**

The Bartlett's test of Sphericity for this sample received a higher value of 3039.768 with its chi-square transformation of the determinant of correlation matrix at 0.000 significance levels (Table 10.1).

It seemed unlikely that the population correlation matrix was an identity matrix for the large sample, which means the data was a sample from a multivariate normal population. We reject the NH15 that the population correlation matrix was an identity. This is because the observed significance level is small and the value of the test of Sphericity is high.

This satisfies one of the conditions for the use of factor analysis. Therefore, the above tests show that factor analysis seems to be an appropriate method for this study. We reject NH14 that factor analysis is not appropriate for identifying the underlying factors of motivation for the large sample.

<b>Correlation Matrix. Determinant=7.23E-12</b>	<b>a</b>	<b>b</b>	<b>c</b>	<b>d</b>	<b>e</b>	<b>f</b>	<b>g</b>
Belief in one's ability to recruit prospective =a		0.00	0.00	0.01	0.00	0.00	0.07
Expectation to build a large network=b	0.00		0.00	0.00	0.00	0.00	0.00
Chances of reaching highest level=c	0.00	0.00		0.00	0.00	0.00	0.00
Likelihood of managing work & home simultaneously=d	0.01	0.00	0.00		0.00	0.00	0.00
Likelihood of not having to report to a superior=e	0.00	0.00	0.00	0.00		0.00	0.00
Likelihood of bringing the best out of my team=f	0.00	0.00	0.00	0.00	0.00		0.00
Likelihood of promoting products that benefit others=g	0.07	0.00	0.00	0.00	0.00	0.00	
Likelihood of making friends & social contacts =h	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of having more time with my family =l	0.11	0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of having public recognition & exposure =j	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of having a better quality Lifestyle =k	0.02	0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of being in control of my life=l	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of being intellectually stimulated & challenged =m	0.16	0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of exercising own leadership style=n	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of being part of a team=o	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of having financial security=p	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Managing work & home simultaneously=q	0.01	0.01	0.03	0.00	0.00	0.00	0.46
Not having to report to a superior=r	0.16	0.00	0.00	0.00	0.00	0.00	0.01
Bringing the best out of my team=s	0.02	0.00	0.00	0.04	0.00	0.00	0.21
Promoting products that benefit others=t	0.31	0.00	0.02	0.22	0.12	0.00	0.00
Making friends & social contacts=u	0.40	0.00	0.00	0.02	0.00	0.00	0.00
Having more time with my family=v	0.17	0.00	0.00	0.00	0.00	0.00	0.00
Having public exposure & recognition=w	0.03	0.00	0.00	0.01	0.00	0.00	0.03
Having a better quality lifestyle=x	0.25	0.00	0.01	0.01	0.00	0.00	0.00
Being in control of my life=y	0.39	0.01	0.02	0.00	0.00	0.00	0.00
Being intellectually stimulated & challenged=z	0.05	0.00	0.01	0.00	0.00	0.00	0.00
Being able to exercise own leadership style= aa	0.05	0.00	0.00	0.00	0.00	0.00	0.00
Being part of a team=bb	0.30	0.00	0.00	0.01	0.00	0.00	0.00
Having financial security=cc	0.14	0.02	0.04	0.11	0.00	0.00	0.01

**TABLE 10.1.1A: CORRELATION COEFFICIENT FOR THE 29 VARIABLES OF MOTIVATION.**

<b>Correlation Matrix. Determinant=7.23E-12</b>	<b>h</b>	<b>l</b>	<b>j</b>	<b>k</b>	<b>l</b>	<b>m</b>	<b>n</b>	<b>o</b>
Belief in one's ability to recruit prospective =a	0.01	0.11	0.00	0.02	0.05	0.16	0.00	0.00
Expectation to build a large network=b	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chances of reaching highest level=c	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of managing work & home simultaneously=d	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of not having to report to a superior=e	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of bringing the best out of my team=f	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of promoting products that benefit others=g	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of making friends & social contacts =h		0.00	0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of having more time with my family =l	0.00		0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of having public recognition & exposure =j	0.00	0.00		0.00	0.00	0.00	0.00	0.00
Likelihood of having a better quality Lifestyle =k	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Likelihood of being in control of my life=l	0.00	0.00	0.00	0.00		0.00	0.00	0.00
Likelihood of being intellectually stimulated & challenged=m	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Likelihood of exercising own leadership style=n	0.00	0.00	0.00	0.00	0.00	0.00		0.00
Likelihood of being part of a team=o	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Likelihood of having financial security=p	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Managing work & home simultaneously=q	0.01	0.00	0.01	0.03	0.01	0.06	0.01	0.25
Not having to report to a superior=r	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Bringing the best out of my team=s	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
Promoting products that benefit others=t	0.00	0.02	0.05	0.00	0.01	0.01	0.04	0.00
Making friends & social contacts=u	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Having more time with my family=v	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Having public exposure & recognition=w	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Having a better quality lifestyle=x	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Being in control of my life=y	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Being intellectually stimulated & challenged=z	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Being able to exercise own leadership style= aa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Being part of a team=bb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Having financial security=cc	0.00	0.00	0.02	0.00	0.00	0.00	0.00	0.00

**TABLE 10.1.1B: CORRELATION COEFFICIENT FOR THE 29 VARIABLES OF MOTIVATION.**

<b>Correlation Matrix. Determinant=7.23E-12</b>	<b>p</b>	<b>q</b>	<b>r</b>	<b>s</b>	<b>t</b>	<b>u</b>	<b>v</b>	<b>w</b>
Belief in one's ability to recruit prospective=a	0.01	0.01	0.16	0.02	0.31	0.40	0.17	0.03
Expectation to build a large network=b	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Chances of reaching highest level=c	0.00	0.03	0.00	0.00	0.02	0.00	0.00	0.00
Likelihood of managing work & home simultaneously =d	0.00	0.00	0.00	0.04	0.22	0.02	0.00	0.01
Likelihood of not having to report to a superior=e	0.00	0.00	0.00	0.00	0.12	0.00	0.00	0.00
Likelihood of bringing the best out of my team=f	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of promoting products that benefit others=g	0.00	0.46	0.01	0.21	0.00	0.00	0.00	0.03
Likelihood of making friends & social contacts=h	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of having more time with my family=l	0.00	0.00	0.00	0.00	0.02	0.00	0.00	0.00
Likelihood of having public recognition & exposure=j	0.00	0.01	0.00	0.00	0.05	0.00	0.00	0.00
Likelihood of having a better quality Lifestyle=k	0.00	0.03	0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of being in control of my life=l	0.00	0.01	0.00	0.01	0.01	0.00	0.00	0.00
Likelihood of being intellectually stimulated & challenged=m	0.00	0.06	0.00	0.00	0.01	0.00	0.00	0.00
Likelihood of exercising own leadership style=n	0.00	0.01	0.00	0.00	0.04	0.00	0.00	0.00
Likelihood of being part of a team=o	0.00	0.25	0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of having financial security=p		0.19	0.00	0.00	0.01	0.00	0.00	0.00
Managing work & home simultaneously=q	0.19		0.00	0.00	0.15	0.00	0.00	0.00
Not having to report to a superior=r	0.00	0.00		0.00	0.02	0.00	0.00	0.00
Bringing the best out of my team=s	0.00	0.00	0.00		0.00	0.00	0.00	0.00
Promoting products that benefit others=t	0.01	0.15	0.02	0.00		0.00	0.00	0.16
Making friends & social contacts=u	0.00	0.00	0.00	0.00	0.00		0.00	0.00
Having more time with my family=v	0.00	0.00	0.00	0.00	0.00	0.00		0.00
Having public exposure & recognition=w	0.00	0.00	0.00	0.00	0.16	0.00	0.00	
Having a better quality lifestyle=x	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Being in control of my life=y	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Being intellectually stimulated & challenged=z	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Being able to exercise own leadership style=aa	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Being part of a team=bb	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Having financial security=cc	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.01

**TABLE 10.1.1C: CORRELATION COEFFICIENT FOR THE 29 VARIABLES OF MOTIVATION.**

<b>Correlation Matrix. Determinant=7.23E-12</b>	<b>X</b>	<b>y</b>	<b>z</b>	<b>aa</b>	<b>bb</b>	<b>cc</b>
Belief in one's ability to recruit prospective=a	0.25	0.39	0.05	0.05	0.30	0.14
Expectation to build a large network=b	0.00	0.01	0.00	0.00	0.00	0.02
Chances of reaching highest level=c	0.01	0.02	0.01	0.00	0.00	0.04
Likelihood of managing work & home simultaneously =d	0.01	0.00	0.00	0.00	0.01	0.11
Likelihood of not having to report to a superior=e	0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of bringing the best out of my team=f	0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of promoting products that benefit others=g	0.00	0.00	0.00	0.00	0.00	0.01
Likelihood of making friends & social contacts=h	0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of having more time with my family=i	0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of having public recognition & exposure=j	0.00	0.00	0.00	0.00	0.00	0.02
Likelihood of having a better quality Lifestyle=k	0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of being in control of my life=l	0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of being intellectually stimulated & challenged=m	0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of exercising own leadership style=n	0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of being part of a team=o	0.00	0.00	0.00	0.00	0.00	0.00
Likelihood of having financial security=p	0.00	0.00	0.00	0.00	0.00	0.00
Managing work & home simultaneously=q	0.00	0.00	0.00	0.00	0.00	0.04
Not having to report to a superior=r	0.00	0.00	0.00	0.00	0.00	0.00
Bringing the best out of my team=s	0.00	0.00	0.00	0.00	0.00	0.00
Promoting products that benefit others=t	0.00	0.00	0.00	0.00	0.00	0.00
Making friends & social contacts=u	0.00	0.00	0.00	0.00	0.00	0.00
Having more time with my family=v	0.00	0.00	0.00	0.00	0.00	0.00
Having public exposure & recognition=w	0.00	0.00	0.00	0.00	0.00	0.01
Having a better quality lifestyle=x		0.00	0.00	0.00	0.00	0.00
Being in control of my life=y	0.00		0.00	0.00	0.00	0.00
Being intellectually stimulated & challenged=z	0.00	0.00		0.00	0.00	0.00
Being able to exercise own leadership style=aa	0.00	0.00	0.00		0.00	0.00
Being part of a team=bb	0.00	0.00	0.00	0.00		0.00
Having financial security=cc	0.00	0.00	0.00	0.00	0.00	

**TABLE 10.1.1D: CORRELATION COEFFICIENT FOR THE 29 VARIABLES OF MOTIVATION.**

### 10.2.2 Testing for the Appropriate Use of Factor Analysis for the Large Sample: Kaiser-Meyer-Olkin (KMO) Test & its Comparison with Smaller Sample

The second method that was used to test the appropriateness of using factor analysis is the Kaiser-Meyer-Olkin measure of sampling adequacy (KMO). Explanation of this test is found in Section 8.2.2.

The KMO test (in Table 10.1) above shows 0.862 for the large sample compared with a smaller score of 0.706 for the small sample. This meant the sample population data is more adequate for factor analysis than for the smaller sample, moving from the category of middling in the .70's to meritorious in the .80's.

Again, we can reject NH14 that factor analysis is not appropriate for identifying the underlying factors of motivation for the large sample.

### **10.3 Criterion for Selecting Number of Factors for the Large Sample: Factor Extraction & its Comparison with Smaller Sample**

The factor extraction is to extract the number of factors that are necessary to represent the data. The "Principal Components Analysis" has been chosen as explained in Chapter 8. The latent root criterion for selecting the number of factors to be extracted was tested here (See Table 10.2).

The cumulative percentage of the variance for the six components was 71.339% for the large sample. This seemed to be an adequate percentage of extraction.

Component	Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	12.184	42.013	42.013	4.892	16.870	16.870
2	2.409	8.307	50.320	3.976	13.710	30.580
3	1.901	6.555	56.875	3.354	11.566	42.146
4	1.595	5.498	62.373	3.173	10.941	53.087
5	1.366	4.709	67.083	3.169	10.927	64.014
6	1.234	4.256	71.339	2.124	7.324	71.339

Extraction Method: Principal Component Analysis.

**TABLE 10.2: RESULTS OF THE EXTRACTION METHOD FOR THE LARGE SAMPLE: PRINCIPAL COMPONENT ANALYSIS.**

#### **10.4 Criterion for Selecting Number of Factors for the Large Sample: Varimax Rotation Methodology**

As explained in Chapter 8, to simplify the factor structure to achieve a meaningful factor solution, varimax rotation has been selected from a selection of method. Table 10.3 below shows the factor transformation matrix achieved.

In its process, varimax rotation converged this time after eleven iterations with six factors extracted. Previously, there were eight iterations with eight factors extracted.

From Table 10.2, extraction sum of squared loadings provided the following results (results of the rotation sums of squared loadings are in brackets):



Component Transformation Matrix for Large sample						
Component	1	2	3	4	5	6
1	.537	.475	.359	.386	.385	.245
2	.346	-.289	.670	-.464	-.056	-.359
3	-.734	.346	.442	-.159	.348	-.010
4	.065	-.277	-.307	.016	.798	-.433
5	-.199	-.680	.346	.529	.069	.306
6	.103	-.177	-.113	-.575	.294	.727

Extraction Method: Principal Component Analysis.  
Rotation Method: Varimax with Kaiser Normalization.

**TABLE 10.3: FACTOR ANALYSIS COMPONENT TRANSFORMATION MATRIX FOR LARGE SAMPLE**

*Eigenvalue of factor 1 has 12.184 (4.892) Eigenvalues and explains 42.013% (16.870%) of the variance.*

*Factor 2 has 2.409 (3.976) Eigenvalues and explains 8.307% (13.710%) of the variance. The cumulative percentage of these two factors is 50.320% (30.580%).*

*The third factor has 1.901 (3.354) Eigenvalues explaining 6.555% (11.566) of the variance.*

*The fourth factor has Eigenvalues of 1.595 (3.173) explaining 5.498% (10.941%) of the variance.*

*The fifth factor has 1.366 (3.169) Eigenvalues explaining 4.709% (10.927%) of the variance.*

*The sixth factor has 1.234 (2.124) Eigenvalues explaining 4.256% (7.324%) of the variance.*

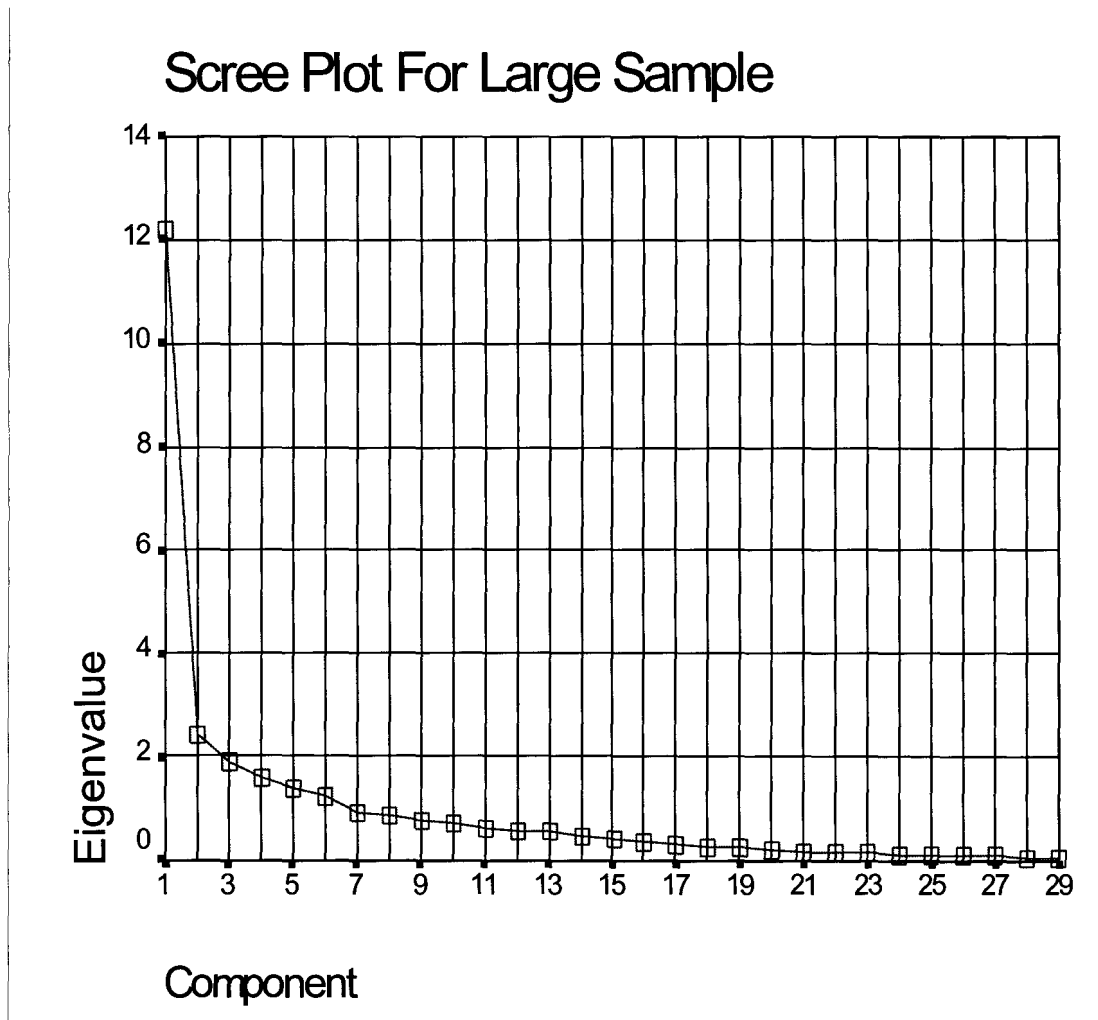
The six factors have a cumulative percentage of 71.339% of the total variance explained. The eight factors from the small sample explained a total of 77.118%. The above reasons suggested that six factors have slightly less total variance explained and are still adequate for research purpose. One more test may be used to test that the six factors are adequate for this research purpose; it is called the "Scree Test".

#### **10.5 Criterion for Selecting Number of Factors for the Large Sample: Scree Test**

The Scree test is another test used for selecting number of factors for the large sample. In the present research, the Scree test (Table 10.4) suggests that between 2-7 factors would qualify. General rules governing scree test were explained in Section 8.5.

Starting with the first factor, the plot slopes steeply downward initially and it then starts becoming an approximately horizontal line at factor 2 and 5. It starts to become an approximately horizontal line from factor 7 onwards (Table 10.4). The scree plot for large sample looks very similar to the scree test plot for small sample, bearing the same interpretations.

From the Scree Test Plot (Table 10.4) it seemed that three, six and seven factors are the three options for the best optimum number of factors.



**TABLE 10.4: SCREE TEST PLOT FOR LARGE SAMPLE**

As explained in Section 8.5, we rejected the possibility of using only 2 factors which does not seem to be sufficient for our purpose, and would only provided 30.58% (31.47%) of the variance explained. Results of the smaller sample are in brackets.

If we followed suggestion of Churchill and Iacobucci, one factor would be sufficient and would provide 42.013% (16.8%) of the variance explained. This would not be sufficient for our research purpose.

Applying the principle of the latent root criterion (explained in Section 8.3) which is the most reliable method when the number of variables is between 20 and 50, six factors seemed adequate for this research explaining 71.339% of the total variance explained. The reason is that each of the six factors should account for the variance of at least a single variable if it is to be retained for interpretation, and that they need to explain a larger proportion of the variance before the amount of “unique” variance begins to dominate the “common” variance.

## **10.6 Computation of the Factor Loading for the Large Sample**

To compute the factor loading, we shall examine the composition of each factor. Table 10.5 below provides us with the rotated factor matrix with six factors of motivation. These results give us the important factors that are significant in motivating distributors to work hard. The first factor is termed factor 1.

### **10.6.1 Factor 1**

For the 130 samples, Factor 1 consists of seven likelihood variables.

They are as follows:

- 1. Likelihood of promoting products that benefit others;*
- 2. Likelihood of exercising own leadership style;*

3. *Likelihood of being in control of my life;*
4. *Likelihood of having a better quality Lifestyle;*
5. *Likelihood of making friends & social contacts;*
6. *Likelihood of being intellectually stimulated & challenged;*
7. *Likelihood of being part of a team.*

Previously, there were eight likelihood variables for the 51 samples.

They are replaced as follows:

1. *The likelihood of having financial security was deleted from Factor 1. In its place is the “Likelihood of promoting products that benefit others”;*
2. *The likelihood of exercising own leadership style remained in its second place;*
3. *The likelihood of being in control of my life moved up from fifth place to third place;*
4. *The likelihood of having a better quality lifestyle remained in its fourth place;*
5. *The likelihood of making friends & social contacts is the new fifth place likelihood;*
6. *The likelihood of being intellectually stimulated and challenged moved from 7<sup>th</sup> place to 6<sup>th</sup> place;*
7. *The third likelihood was moved to seventh place. It is “The likelihood of being part of a team.”*

The likelihood of bringing the best out of my team and the likelihood of having public exposure and recognition were both moved.

Factor 1 consisted mainly of the likelihood of being able to promote products that benefits others. There was no mention of likelihood of financial security, which was the first likelihood variable for factor 1 in the small sample.

Factor 1 suggests that beneficial products are distributed through the likelihood of being able to exercise one's own leadership style and likelihood of being in control of one's life. Once these priorities are set, distributors are motivated by the likelihood of having a better quality lifestyle and social contacts that are likely to intellectually stimulate and challenge them.

We may call this factor 1 **“the Likelihood of promoting products that benefit their friends – leading to the likelihood of being able to control their lives and likelihood of a better quality lifestyle and social contacts.”**

Results from factor analysis for both samples showed that factor 1 is a likelihood factor.

#### 10.6.2 Factor 2

Factor 2 from both samples (i.e. large and small) consisted mainly of goals and one likelihood.

Factor 2 from the small sample consisted of three goals and one likelihood. They were the goals of making social contacts; managing work

and home, promoting products that benefit others with the likelihood of promoting products that benefit others.

Factor 2 consisted of six goals and a likelihood variable. The likelihood variable was the “likelihood of having public recognition and exposure” and was found in 6<sup>th</sup> place.

Four of the likelihoods in factor 1 have their goals in factor 2.

The likelihood and goal for “being able to exercise own leadership style” was found in 2<sup>nd</sup> place for both samples.

The likelihood and goal for “making friends and social contacts” were found in the 5<sup>th</sup> place for both samples.

The likelihood of being intellectually stimulated and challenged was 6<sup>th</sup> place in factor 1, but its goal was found in 3<sup>rd</sup> place in both samples.

The likelihood of being part of a team was 7<sup>th</sup> place in factor 1 and its goal was 4<sup>th</sup> place in factor 2.

The composition for factor 2 is as follows:

- h) Having public exposure & recognition;*
- i) Being able to exercise own leadership style;*
- j) Being intellectually stimulated & challenged;*
- k) Being part of a team;*
- l) Making friends & social contacts;*
- m) Likelihood of having public recognition & exposure;*
- n) Bringing the best out of my team.*

The composition for factor 2 for the large sample was noticeably different from that derived from the small sample. Despite some similarity, the small sample factor 2 included an interrelation and home-orientated goal with the likelihood and goal of promoting such beneficial products. While promoting products that benefits others, it tried to balance work, home and social goals.

Factor 2 for the large sample consisted mainly of intrinsic goals. It consisted of the goal and likelihood of “having public exposure and recognition” as its priority.

Factor 2 consisted of being able to exercise one’s own leadership style and being part of a team. This should help to bring out the best of the distributor’s team while creating friends and social contacts. All these should provide intellectual stimulation, challenge, public exposure and recognition.

Factor 2 was mainly about the goal of having public exposure and recognition. This was carried through leadership challenge to build team and bring the best out of the team through friendship and social contacts. In short, we may call factor 2 **“the Goal and Likelihood of public exposure and recognition - to exercise quality leadership, building team and friendship.”**



### 10.6.3 Factor 3

The third factor for the previous small sample was associated with four highly desirable goals. It was named the "goal for quality leadership & quality lifestyle" factor and is similar to factor 2 for the large sample.

Factor 3 consisted of all the expectancy variables and a likelihood variable. They are the "Expectation to build a large network," "Chances of reaching highest level," "Likelihood of bringing the best out of my team," and "Belief in one's ability to recruit prospective" respectively. Previous results from the small sample found expectancy variables in two factors, factors 6 & 8. This large sample shows more structural validity in that all three expectancy variables are now in factor 3.

It is interesting that the goal of bringing the best out of a team in factor 2 has its likelihood linked to expectation variables. It seemed that distributors believed that this likelihood of "bringing the best out of my team" was important to the belief they could build a large network of distributors by investing in appropriate trainings and team building to bring the best out of their team.

We may call factor 3 **"the Expectation to build a large network and reaching highest level through the likelihood of bringing the best out of the team and belief in one's ability to sponsor."**

#### 10.6.4 Factor 4

For the previous small sample, the fourth factor was associated with the likelihood and desirable goal of having more time with the family. It was "the goal and likelihood of having more time with the family" factor and was linked to the likelihood of not having to report to a superior.

Similar to the second factor of the small sample, which was associated with three goals and a likelihood, the fourth factor of the large sample was associated with three goals and a likelihood. They were as follows:

- a) *Having financial security;*
- b) *Having a better quality lifestyle;*
- c) *Likelihood of having financial security;*
- d) *Being in control of my life.*

It seems obvious to call this factor 4 **"the Goal and Likelihood of having financial security - associated with having a better quality lifestyle and being in control of their lives."**

#### 10.6.5 Factor 5

For the previous small sample, factor 5 was called the "goal of bringing the best out of my team through leadership to achieve financial security" factor. This factor was associated with four goals. The goal of

bringing the best out of my team, the goal of being part of a team, the goal of having financial security and the goal of exercising own leadership style.

For the large sample, factor 5 consisted of six variables that made up of three pair of goals and likelihoods. They were as follows:

- a) *Managing work & home simultaneously;*
- b) *Likelihood of managing work & home simultaneously;*
- c) *Likelihood of having more time with my family;*
- d) *Having more time with my family;*
- e) *Not having to report to a superior;*
- f) *Likelihood of not having to report to a superior.*

This meant that managing work and home, having more time with one's family and not having to report to a superior have all their goals matched to their likelihoods. They must be important motivators.

Respondents seemed to believe that working as distributors can provide them with three possible motivators. It seemed that managing work and home simultaneously is a vital motivator for distributors, followed by having more time with one's family and not having to report to a superior.

We may call factor 5 **“the Goal and Likelihood of managing work and home simultaneously – associated with the goal and likelihood of having more time with family & not having to report to a superior. ”**

10.6.6 Factor 6

There was only one variable in this factor. It was the “goal of promoting products that benefit others.” We may call this “**the Goal of promoting products that benefit others.**” It seemed that these six factors of motivation are the underlying factors for motivation for the distributors.

They also seem to show that the likelihood factors (factors 1), desirable goals (factors 2, 4 & 6) and expectancy factors (factors 3) are independently the three main factors of motivation at work for the distributors. The only factor that contained three pairs of goals and likelihoods is factor 5 (Table 10.5).

Rotated Component Matrix for large sample						
	Component					
	1	2	3	4	5	6
Likelihood of promoting products that benefit others	.738					
Likelihood of exercising own leadership style	.723					
Likelihood of being in control of my life	.707					
Likelihood of having a better quality lifestyle	.702					
Likelihood of making friends & social contacts	.680					

Likelihood of being intellectually stimulated & challenged	.622				
Likelihood of being part of a team	.609				
Having public exposure & recognition		.678			
Being able to exercise own leadership style		.666			
Being intellectually stimulated & challenged		.655			
Being part of a team		.618			
Making friends & social contacts		.583			
Likelihood of having public recognition & exposure		.562			
Bringing the best out of my team		.523			
Expectation to build a large network			.800		
Chances of reaching highest level			.774		
Likelihood of bringing the best out of my team			.671		
Belief in one's ability to recruit prospective			.642		
Having financial security				.864	
Having a better quality lifestyle				.731	

Likelihood of having financial security				.602		
Being in control of my life				.592		
Managing work & home simultaneously					.730	
Likelihood of managing work & home simultaneously					.673	
Likelihood of having more time with my family					.597	
Having more time with my family					.561	
Not having to report to a superior					.547	
Likelihood of not having to report to a superior					.530	
Promoting products that benefit others						.813

Extraction Method: Principal Component Analysis.  
 Rotation Method: Varimax with Kaiser Normalization.  
 Rotation converged in 11 iterations.

**TABLE 10.5: ROTATED FACTOR MATRIX FOR THE LARGE SAMPLE**

### 10.6.7 Summary of the Six Factors of Motivation

The six factors may be summarised as follows:

*Factor 1* – **“The Likelihood of promoting products that benefit their friends – leading to the likelihood of being able to control their lives and likelihood of a better quality lifestyle and social contacts.”**

This is clearly a likelihood factor.

*Factor 2* – **“The Goal and Likelihood of public exposure and recognition - to exercise quality leadership, building team and friendship.”** It consists of six goals and a likelihood. This is a goal factor.

*Factor 3* – **“The Expectation to build a large network and reaching highest level through the likelihood of bringing the best out of the team and belief in one's ability to sponsor.”** This is an expectancy factor.

*Factor 4* – **“The Goal and Likelihood of having financial security - Associated with having a better quality lifestyle and being in control of their lives.”**

*Factor 5* – **“The Goal and Likelihood of managing work and home simultaneously – Associated with the goal and likelihood of having more time with family & not having to report to a superior. ”** This factor consists of three sets of goals and likelihoods.

*Factor 6* – **“The Goal of promoting products that benefit others.”**  
This is a goal factor.

These six underlying factors are in line with Vroom's theory of motivation, which shows that valence, instrumentality and expectancy are independent variables. These test results provided some construct validity for Vroom's theory of work motivation.

Now that we have computed the factor loadings, we can use these six independent factors of motivation to conduct the multiple linear regression analysis to test for hypotheses 1 and 2.

### **10.7 Multiple Linear Regression Test for Hypothesis 1 & 2 for the Large Sample**

The first question could be stated with the following hypothesis:

*NH1: Each underlying factors of motivation is not individually significantly related to FM. That is,  $\beta_1=0$ ;  $\beta_2=0$ ;  $\beta_3=0$ ;  $\beta_4=0$ ;  $\beta_5=0$ ;  $\beta_6=0$ ;  $\beta_7=0$  and  $\beta_n=0$ .*

*AH1: Each underlying factors of motivation is individually significantly related to FM. That is,  $\beta_1\neq 0$ ;  $\beta_2\neq 0$ ;  $\beta_3\neq 0$ ;  $\beta_4\neq 0$ ;  $\beta_5\neq 0$ ;  $\beta_6\neq 0$ ;  $\beta_7\neq 0$  and  $\beta_n\neq 0$ .*

Question 2 and 3 may be answered by the second hypothesis:

*NH2: There is no linear relationship between the underlying factors of motivation and FM. That is,  $\beta_1=\beta_2=\beta_3=\beta_4=\beta_5=\beta_6=\beta_7=\beta_n=0$ , or that the population  $R^2=0$ .*



*AH2: There is a linear relationship between the underlying factors of motivation and FM. That is,  $\beta_1 \neq \beta_2 \neq \beta_3 \neq \beta_4 \neq \beta_5 \neq \beta_6 \neq \beta_7 \neq \beta_{11} \neq 0$ , or that the population  $R^2 \neq 0$ .*

Again, each of the hypotheses above is tested using the semi-partial correlations of an "Enter" multiple linear regression analysis and t-test.

The multiple linear regression test is used for the sample as a whole, where test procedure enters the predictor variables all at the same time to test the hypothesis 1 and 2.

The analysis of variance (ANOVA) test was used here to test the NH2 hypothesis that there is no linear relationship between FM and the six independent factors (Table 10.6). It was tested at 95% significance level. The F test sees how well the regression model fits the data. Since the probability associated with the F statistics of 141.803 has a significance level smaller than 0.00005, the hypothesis that population  $R^2 = 0$  is rejected. This meant that NH2 is rejected.

ANOVA & F Tests for the Large Sample						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6975783.818	6	1162630.636	141.803	.000(a)
	Residual	1008467.151	123	8198.920		
	Total	7984250.969	129			
(a) Predictors: (Constant), REGR factor score (loading) 1 for analysis 1 = FS 1, REGR factor score 2 for analysis 1 = FS 2, REGR factor score 3 for analysis 1 = FS 3, REGR factor score 4 for analysis 1 = FS 4, REGR factor score 5 for analysis 1 = FS 5, REGR factor score 6 for analysis 1 = FS 6. Dependent Variable: FM.						

**TABLE 10.6: ANOVA & F TESTS FOR THE LARGE SAMPLE**

In this multiple linear regression test (See Table 10.7),  $R^2$  has a value of 0.874. This meant that the model fits the population well with a strong linear relationship. When there is a result of 1.0000, it is the perfect fit. Adjusted  $R^2 = 0.868$  was the attempt to correct  $R^2$  to reflect the goodness of fit of the model in the multiple linear regression. It is still a very high score. This takes into account the number of independent variable, since  $R^2$  always increases with the number of independent variables. Durbin- Watson score of 2.119 meant the relationship is a positive one. Therefore, the regression model can explain 86.8% of the variation of the dependent variable. This is a good regression model with small standard error of the estimate.

The model summary in Table 10.7 shows that the standard error of the estimate of 90.5479. For the small sample, the standard error was 54.3946. Both standard errors were small standard errors.

Model Summary for the Large Sample										
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.935(a)	.874	.868	90.5479	.874	141.803	6	123	.000	2.119
(a) Predictors: (Constant), REGR factor score (loading) 1 for analysis 1, REGR factor score 2 for analysis 1, REGR factor score 3 for analysis 1, REGR factor score 4 for analysis 1, REGR factor score 5 for analysis 1, REGR factor score 6 for analysis 1.										
Dependent Variable: FM										

**TABLE 10.7: MULTIPLE LINEAR REGRESSION MODEL FOR THE LARGE SAMPLE**

The greater the distance between the observed values of the dependent variable from the value predicted by the regression equation, the larger the standard error. These small standard errors meant that the models fit the data quite well. As F-statistics was very large (141.803) and was significant at 0.00 level, we can reject NH2 (Table 10.7). We can reject the null hypothesis NH11 that there is no linear relationship between the underlying factor of motivation and FM. The rejected null hypothesis (NH2) is  $\beta_1=\beta_2=\beta_3=\beta_4=\beta_5=\beta_6=0$ , its population is  $R^2=0$ . Therefore, there is a linear relationship between the six underlying factors of motivation and FM.

Values found in the "Sig." section are p-values (Table 10.8), which show whether the T-ratios in the above table are significant. (Sig.) = the significance level.

As T-ratios are very large, the coefficients on the independent variables are statistically significant from zero. Table 10.8 shows that the t values of the six factors and the constant were significant at 0.01 level individually.

At the above given significance levels, we may reject NH1 that each underlying factors of motivation is not individually significantly related to FM. We can reject the null hypothesis NH1 where  $\beta_1=0$ ;  $\beta_2=0$ ;  $\beta_3=0$ ;  $\beta_4=0$ ;  $\beta_5=0$  and  $\beta_6=0$ .

Coefficients (a)											
Model	Unstandardized Coefficients		Std. Coeff.	t	Sig.	Correlations			Collinearity Statistics		
	B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF	
1	Cons	475.005	7.942		59.812	.000					
	FS 6	45.078	7.972	.181	5.654	.000	.181	.454	.181	1.000	1.000
	FS 5	64.735	7.972	.260	8.120	.000	.260	.591	.260	1.000	1.000
	FS 4	27.635	7.972	.111	3.466	.001	.111	.298	.111	1.000	1.000
	FS 3	170.223	7.972	.684	21.352	.000	.684	.887	.684	1.000	1.000
	FS 2	75.437	7.972	.303	9.462	.000	.303	.649	.303	1.000	1.000
	FS 1	111.458	7.972	.448	13.981	.000	.448	.783	.448	1.000	1.000

(a) Dependent Variable: FM (Total force of motivation)

Cons = Constant; FS = Factor Score; Std. Error = Standard Error; Sig. = Significance levels; M = Model; Std. Coeff. = Standardised Coefficients.

**TABLE 10.8: STATUS OF THE VARIABLES AFTER MULTIPLE LINEAR REGRESSIONS FOR THE LARGE SAMPLE**

## **10.8 Test for the Appropriate Use of Multiple Linear Regression Analysis for the Large Sample**

Check has to be carried out so that there is no violation of assumptions to ensure that the multiple linear regression analysis is appropriate. The following hypotheses are tested:

*NH16: Multiple linear regression analysis is not appropriate for the test of relationship between the underlying factors of motivation and FM.*

*AH16: Multiple linear regression analysis is appropriate for the test of relationship between the underlying factors of motivation and FM.*

There are a number of assumptions underlying the use of multiple linear regression analysis. Violations of the assumptions must be identified and corrected where possible to ensure results obtained were a true representation of the sample.

The first useful test conducted is the collinearity diagnostic for the large sample.

## **10.9 Collinearity Diagnostics for the Large Sample**

The collinearity diagnostics test in Table 10.9 above shows a useful test for examining the collinearity of a data matrix. As explained before in

Chapter 8, there must be checks for violation of assumptions to ensure that multiple linear regression analysis is appropriately used (Section 8.9). The above tests did not show any significant collinearity between the six factors as the Eigenvalues and condition index both have score of 1.000 (Table 10.9).

Table 10.8 above shows that the tolerance level is at its highest of 1.000 and the Variance Inflation Factor (VIF) is at a very small value of 1.000. The tolerance level is defined as  $1-R_i^2$ , where  $R_i$  is the multiple correlation coefficient when the  $i$ th independent variable is predicted from the other independent variables.

Collinearity Diagnostics										
		Eigenvalue	Condition Index	Variance Proportions						
Model	D			C	FS 6	FS 5	FS 4	FS 3	FS 2	FS 1
1	1	1.000	1.000	.38	.02	.14	.41	.05	.00	.00
	2	1.000	1.000	.00	.00	.00	.00	.00	1.00	.00
	3	1.000	1.000	.00	.00	.00	.00	.00	.00	1.00
	4	1.000	1.000	.00	.00	.00	.14	.85	.00	.00
	5	1.000	1.000	.00	.05	.76	.15	.04	.00	.00
	6	1.000	1.000	.00	.92	.01	.04	.02	.00	.00
	7	1.000	1.000	.62	.01	.08	.25	.03	.00	.00
(a) Dependent Variable: FM (Total force of motivation)										

FS = Factor Score; C = Constant; D = Dimension.

**TABLE 10.9: COLLINEARITY DIAGNOSTICS TEST FOR THE LARGE SAMPLE**

VIF in Table 10.8 is the reciprocal of the tolerance analysis. Since these results meant that there was no collinearity relationship between these six factors, we can reject the null hypothesis NH16 that multiple linear regression analysis is not appropriate.

#### 10.9.1 Checking violations of Assumptions in Multiple Linear Regression Analysis – Constant Variance of the Residual

The second method for checking violations of assumptions in multiple linear regression analysis is to evaluate the regression variate. This principal measure checks the “residual,” which is the difference between the actual dependent variables value (observed) and its predicted value obtained from the regression model. Obtaining a graphical representation of the two values does the checks.

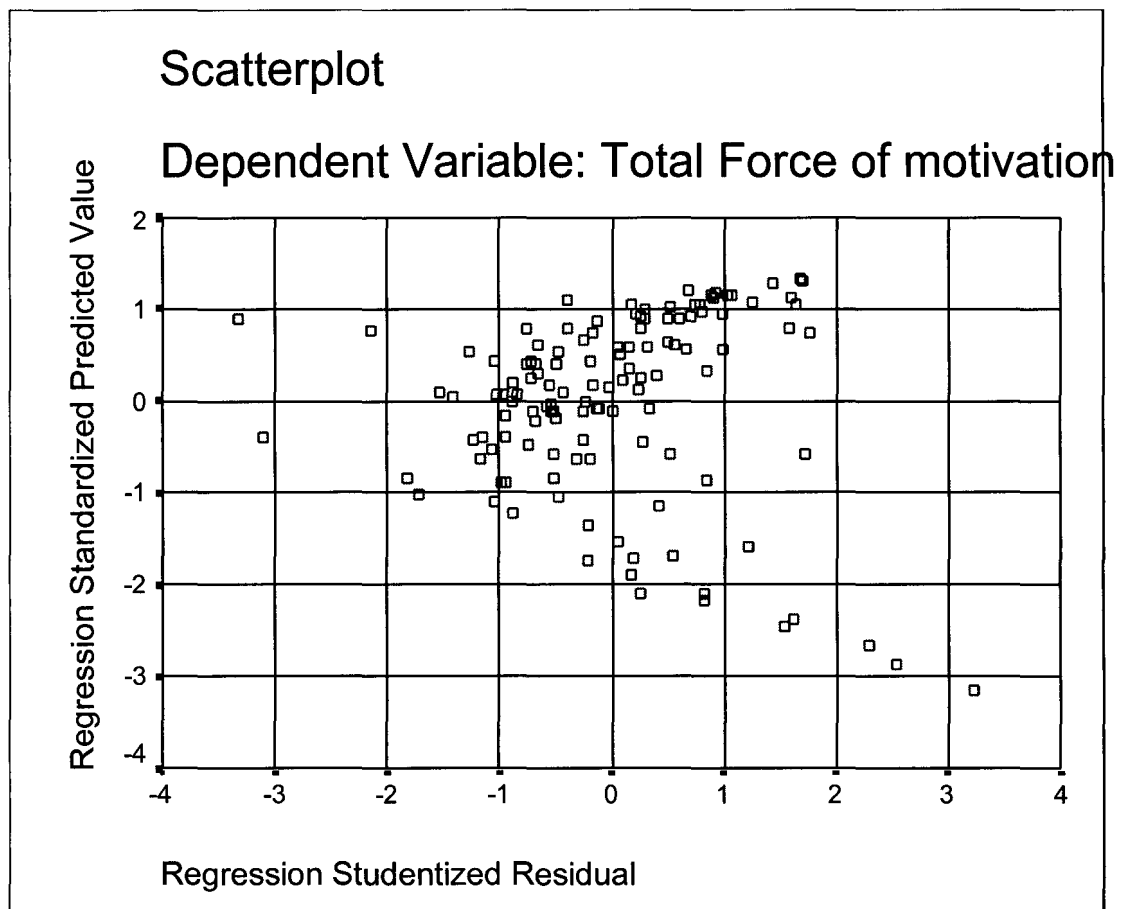
Hair, Anderson, Tatham and Black (1995, p.140) recommended examining the linearity of the phenomenon being measured, constant variance of the residual, independence of the residual and normality of the residual distribution.

When examining the constant variance of the residual, we are dealing with the constancy of the residuals across values of the predictor variables. It is known as a test of heteroscedasticity. The following hypotheses are tested:

NH17: *Heteroscedasticity is present in the studentized residuals.*

AH17: *Heteroscedasticity is not present in the studentized residuals.*

For comparison purposes, “studentized residuals” are plotted against the predicted values. When the residuals fall within a general random pattern, very similar to the null plot in FIGURE 3.4a shown in Hair, Anderson, Tatham and Black (1995, p.141), then all assumptions are met.



**FIGURE 10.1: ANALYSIS OF STUDENTIZED RESIDUALS TO TEST FOR HETEROSCEDASTICITY FOR THE LARGE SAMPLE**

From our FIGURE 10.1, the residuals fall within a generally random pattern with relatively equal dispersion about zero. Therefore, all



assumptions are likely to be met. However, we must take specific tests for each one of the assumptions to double check for violations.

To double check for heteroscedasticity, we use the “Levene Test” for Homogeneity of Variance. This test measures the equality of variances for a pair of variables or for a single variable. Computing the variance and testing it using the Levene test tested the heteroscedasticity in the predictor variables. All six predictor variables had statistically insignificant inequalities of variance ( $p < 0.05$  using Levene’s test for equality of variance). Based on the above test it is reasonable to assume that heteroscedasticity is not present and  $H_0$  is rejected.

#### 10.9.2 Checking violations of assumptions in Multiple Linear Regression Analysis – Linearity of the Phenomenon

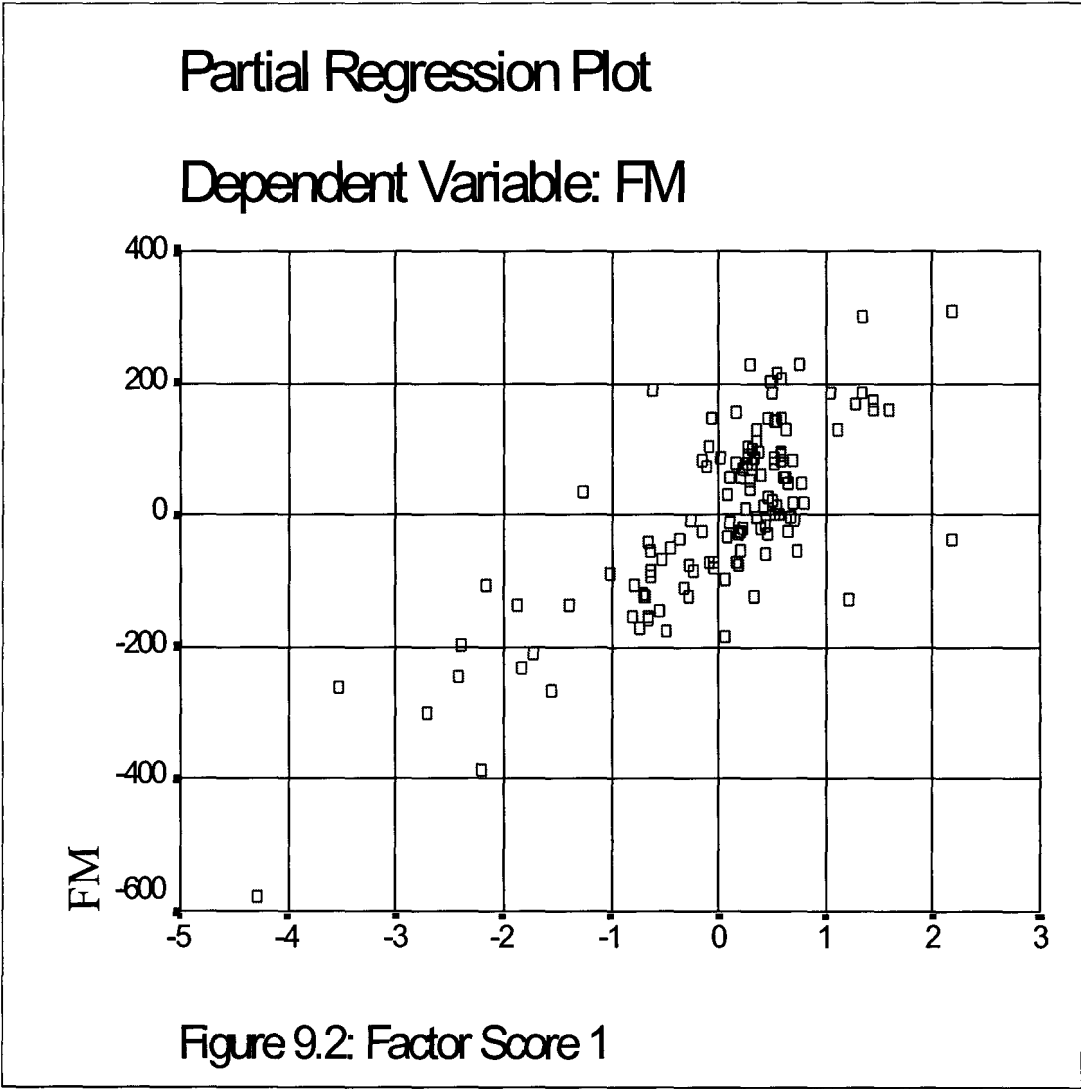
The assumption of linearity in the relationship between the predictor variables and the criterion variable was examined through the analysis of partial regression plots (See FIGURE 10.2; FIGURE 10.3; FIGURE 10.4; FIGURE 10.5; FIGURE 10.6; FIGURE 10.7).

The following hypotheses are tested:

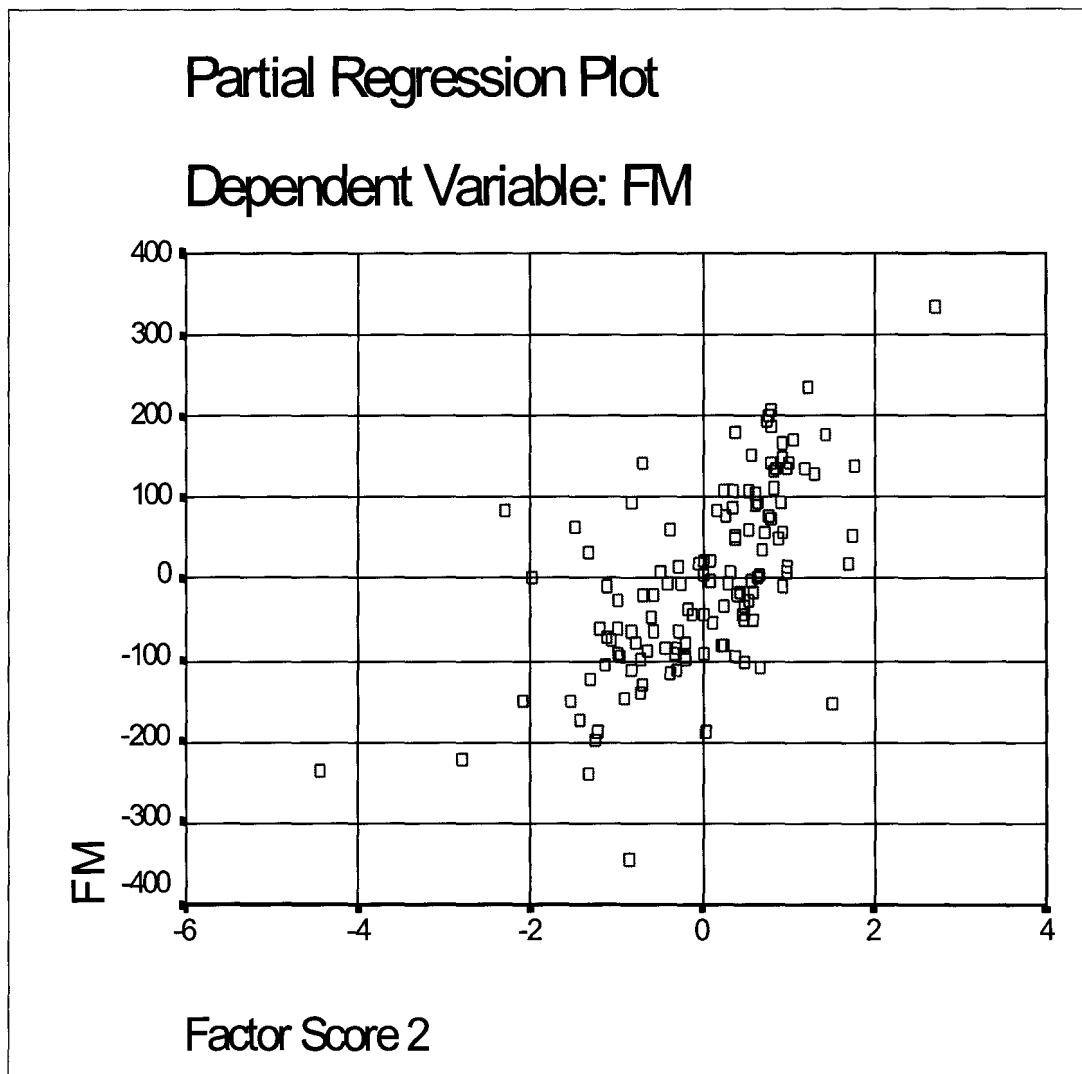
*NH18: The partial plot does not show linearity in the relationship between the predictor variables and the criterion variable.*

*AH18: The partial plot shows linearity in the relationship between the predictor variables and the criterion variable.*

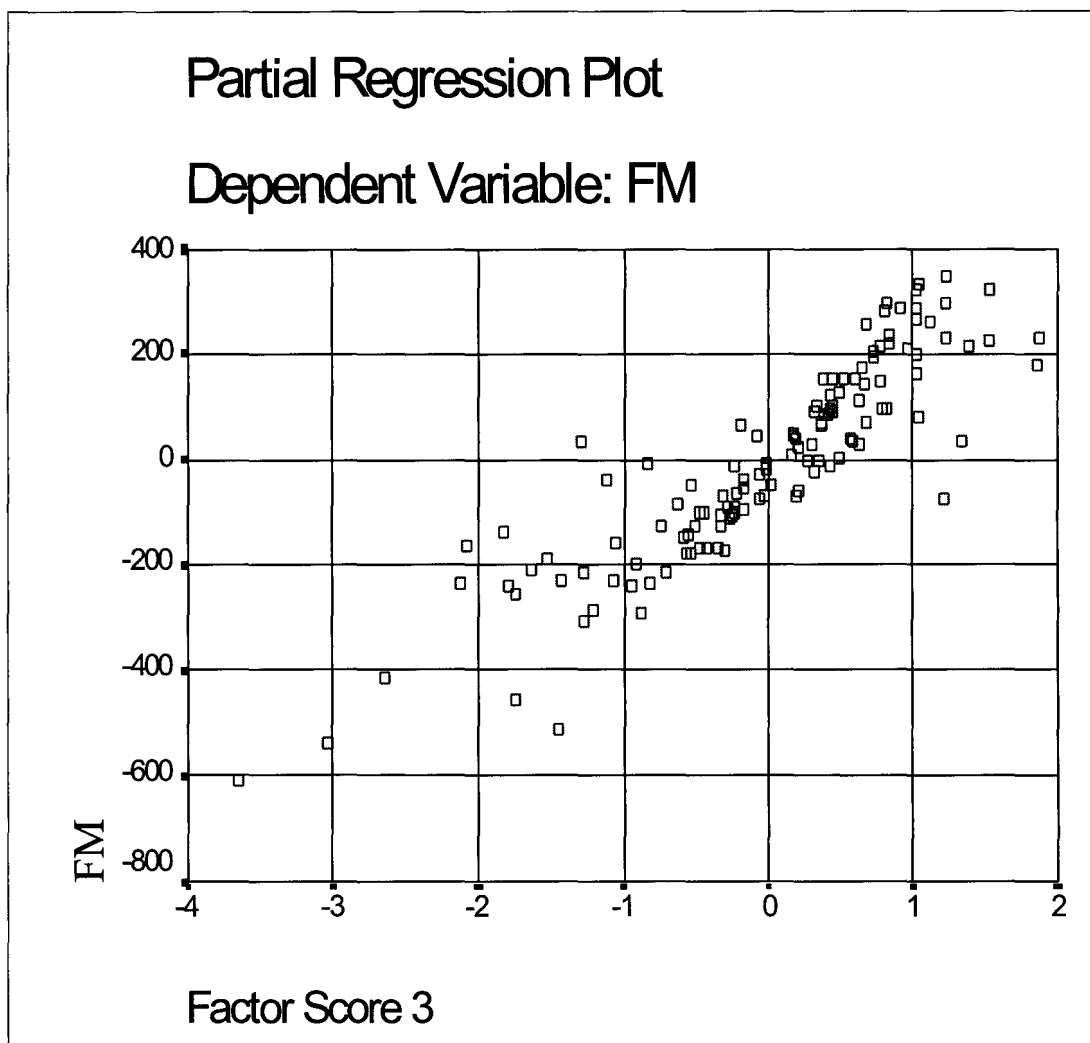
The partial plot for each of the predictor variables (FS 1; FS 2; FS 3; FS 4; FS 5; FS 6) in the regression equation showed that each predictor variable's relationship with the dependent variable was linear. A curvilinear pattern of residuals would indicate a non-linear relationship between the specific predictor variable and the criterion variable. Since the relationship is well defined, we can assume that they have strong and significant effects in the regression equation. Therefore, we reject the NH18.



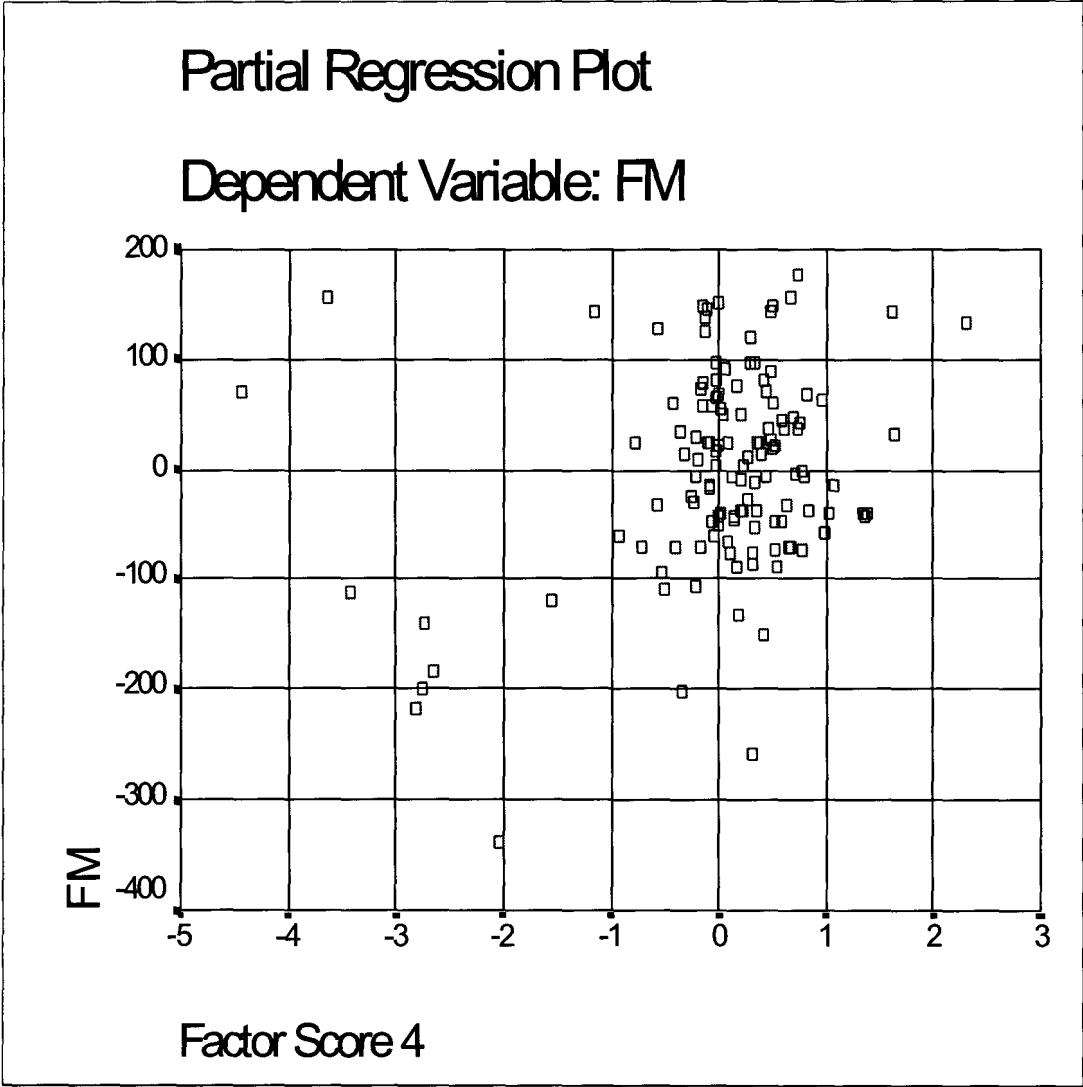
**FIGURE 10.2: PARTIAL REGRESSION PLOT BETWEEN FM AND FACTOR SCORE 1 FOR THE LARGE SAMPLE**



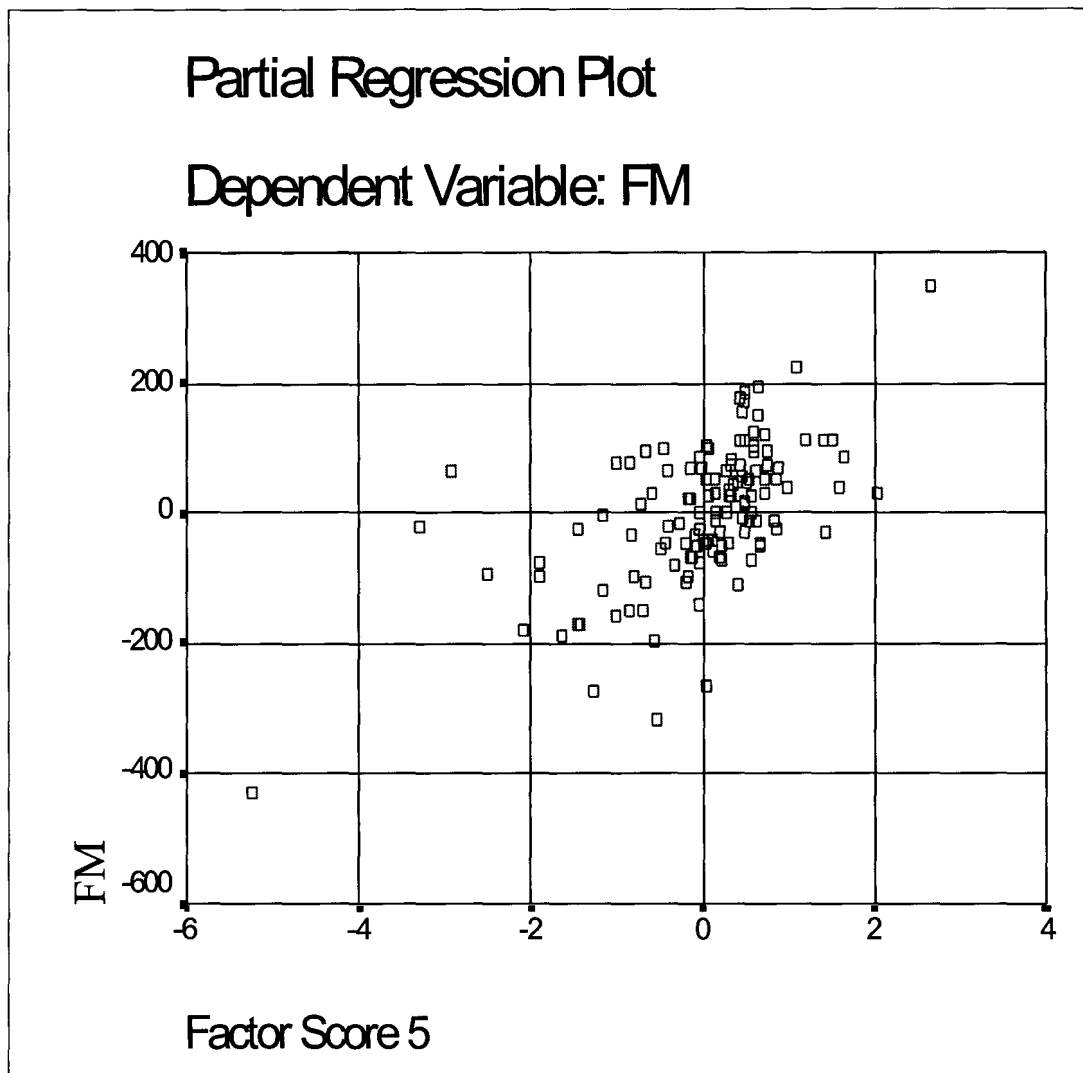
**FIGURE 10.3: PARTIAL REGRESSION PLOT BETWEEN FM AND FACTOR SCORE 2 FOR THE LARGE SAMPLE**



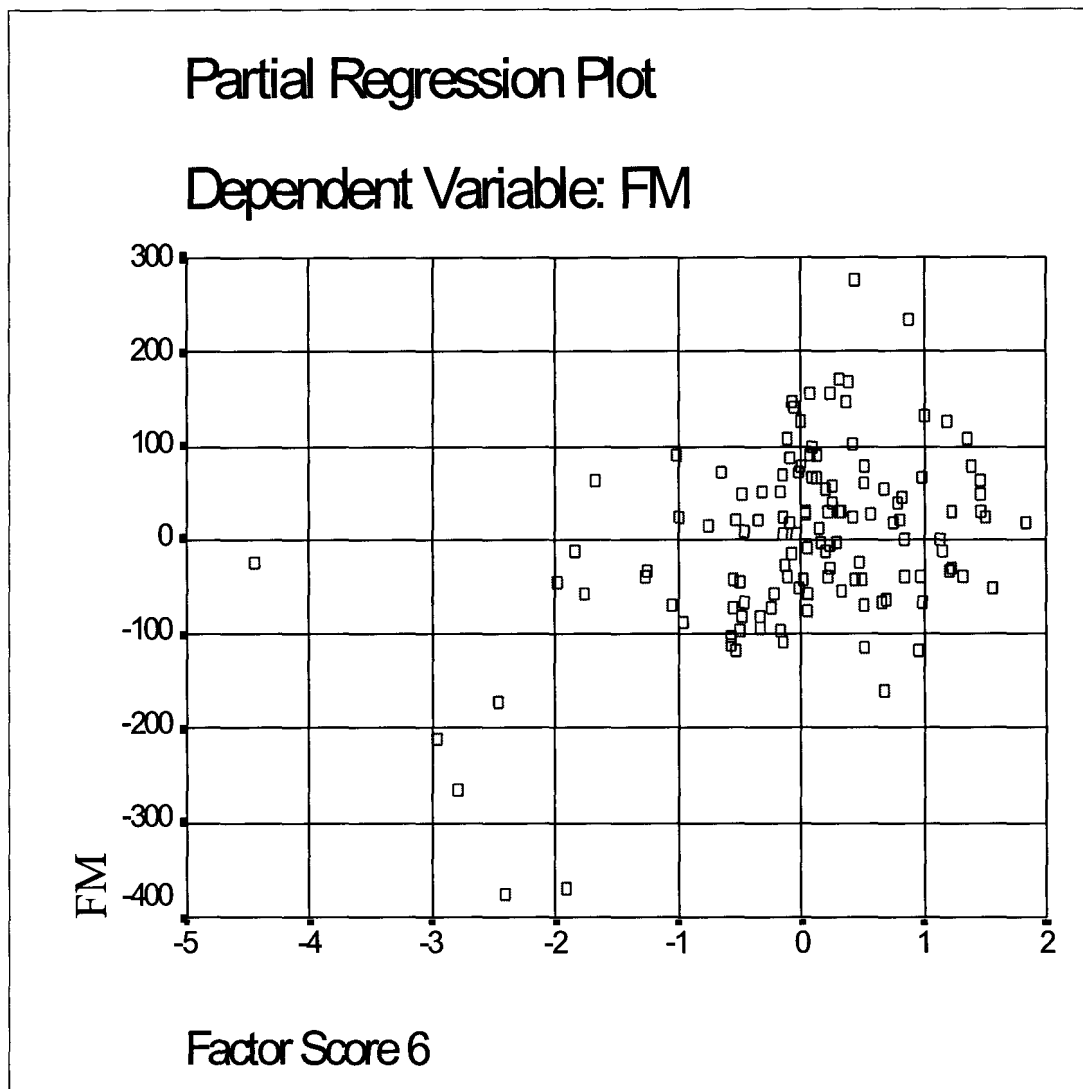
**FIGURE 10.4: PARTIAL REGRESSION PLOT BETWEEN FM AND FACTOR SCORE 3 FOR THE LARGE SAMPLE**



**FIGURE 10.5: PARTIAL REGRESSION PLOT BETWEEN FM AND FACTOR SCORE 4 FOR THE LARGE SAMPLE**



**FIGURE 10.6: PARTIAL REGRESSION PLOT BETWEEN FM AND FACTOR SCORE 5 FOR THE LARGE SAMPLE**



**FIGURE 10.7: PARTIAL REGRESSION PLOT BETWEEN FM AND FACTOR SCORE 6 FOR THE LARGE SAMPLE**



### 10.9.3 Checking violations of assumptions in Multiple Linear Regression Analysis – Independence of the Residuals

This assumption of “independence of the residuals” deals with the effect of carry-over from one observation to another. Each predictor value is supposed to be independent and not sequenced by any variable. For example, time is a common sequencing variable. Since the focus is on the prediction errors, each predictor variable was plotted against the residuals to look for a potential sequencing variable.

The following hypotheses are tested:

*NH19: There is not independence of the residuals.*

*AH19: There is independence of the residuals.*

From the results, there was no consistent pattern among the predictor variables. This meant there is not a violation of assumptions for the independent of the residuals and NH19 is rejected.

A time-ordered effect may occur if measures are taken over time. However, this study is cross-sectional in nature, any potential sequencing variable was most unlikely. Therefore, the assumption that each predictor variable is independent was not violated.

#### 10.9.4 Checking Violations of Assumptions in Multiple Linear Regression Analysis – Normality of the Error Term Distribution & Individual Variable

In this check, we evaluate the normality of the error term of the variate with a visual examination of the normal probability plots of the residuals.

“... the values fall along the diagonal with no substantial or systematic departures, the residuals are considered to represent a normal distribution. The regression variate is found to meet the assumption of normality.” (Hair, Anderson, Tatham and Black (1995, p.143).

The most frequently encountered assumption is that of normality of the independent or dependent variables or both. To double check normality, normal probability plot is used. The third method checks on the normality of the residual.

The test of significance is less useful in samples less than 30, and quite sensitive in large sample. It is recommended that both residual and statistical tests should be used to assess the actual degree of departure from normality.

The following hypotheses are tested:

*NH<sub>20</sub>: There is no normality of the error term of the variate.*

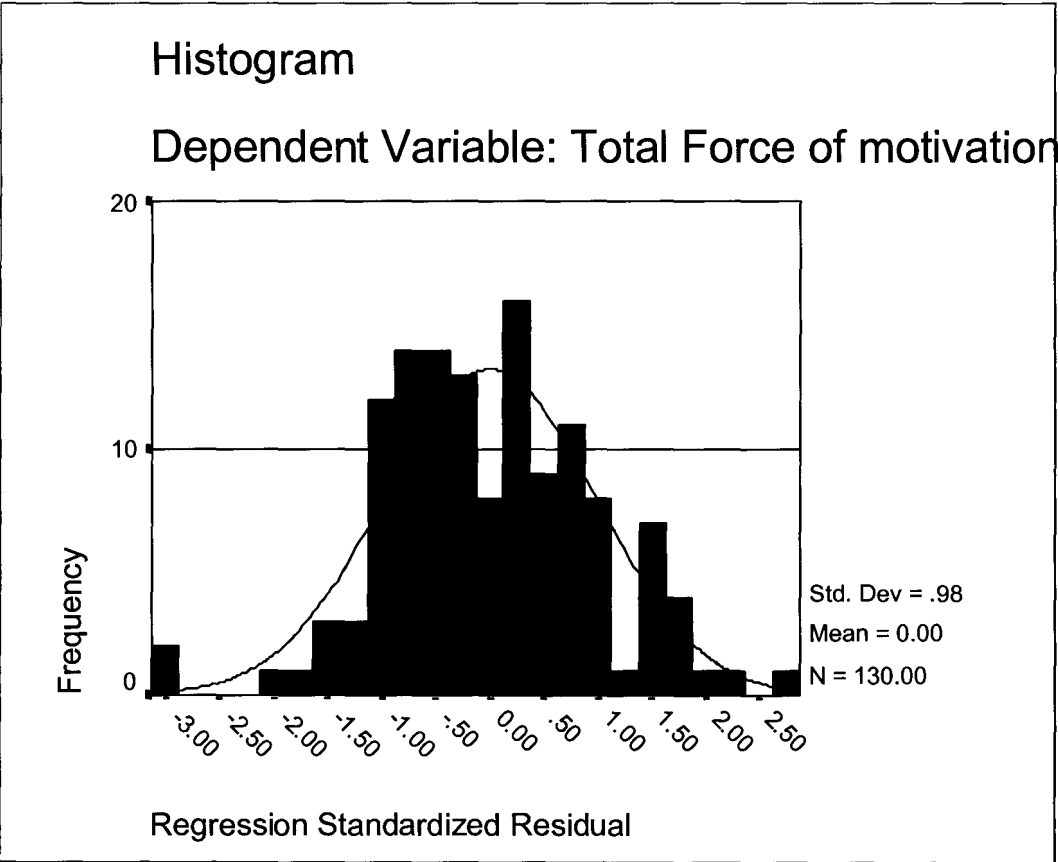
*AH<sub>20</sub>: There is normality of the error term of the variate.*

The first method used to check normality was by visual checking of the histogram of residuals for a distribution approximately the normal

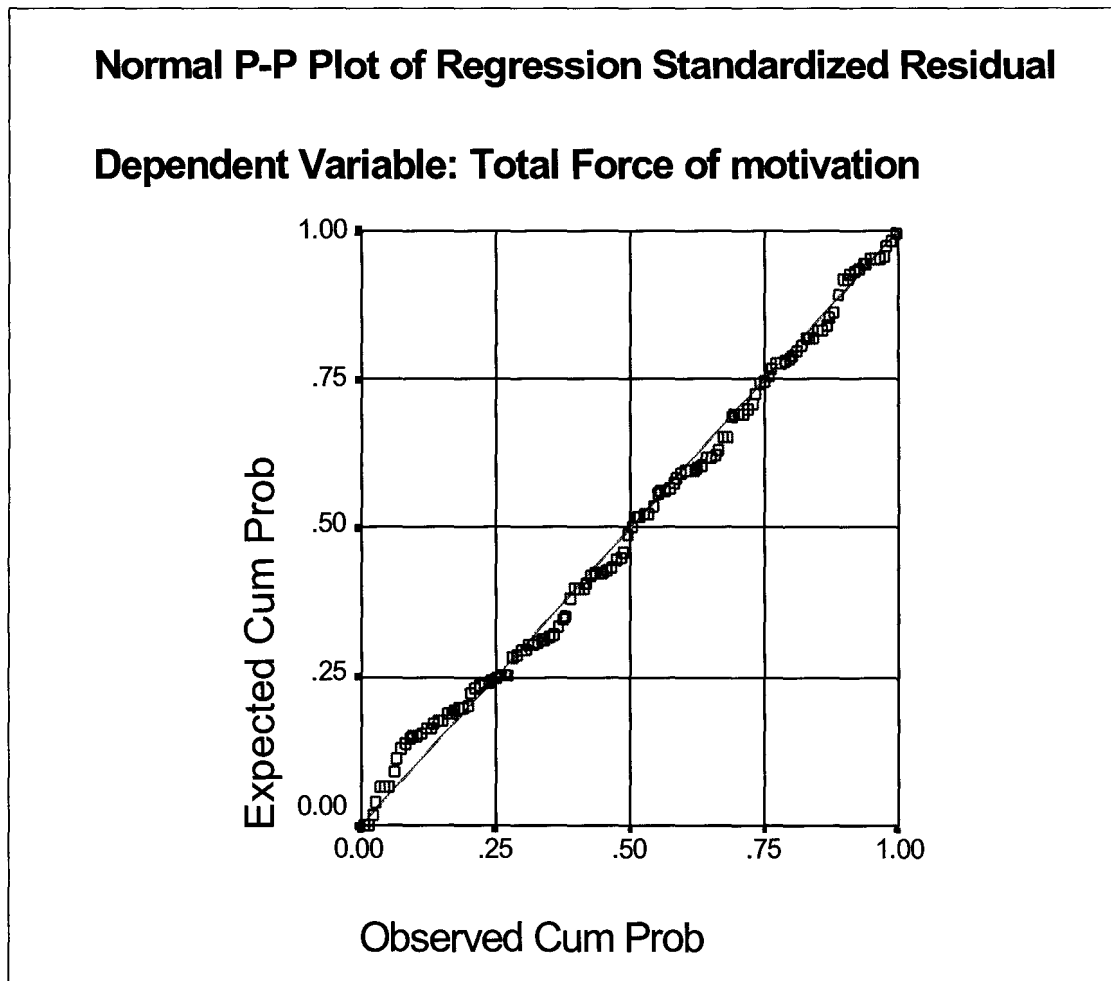
distribution. FIGURE 10.8 show that the standardised residuals approximate a normal distribution.

To double check normality, normal probability plot is used. It is different from residual plots in that the standardised residuals are compared with the normal distribution. The normal distribution is a straight diagonal line and the plotted residuals are compared with the diagonal line.

For normal distribution, the residual line closely follows the diagonal line. Our result for the 130 samples shown in FIGURE 10.9 tends toward normal distribution. The residual line closely follows the diagonal line.



**FIGURE 10.8: DISTRIBUTION OF REGRESSION STANDARDISED RESIDUALS FOR LARGE SAMPLE**



**FIGURE 10.9: NORMAL PROBABILITY PLOT FOR LARGE SAMPLE**

The third method that we can use to check on the normality of the residual is the “skewness” value. It is a measure of the asymmetry of a distribution. Since normal distribution is symmetric, we can expect to have a skewness value of zero.

A distribution with a significant positive skewness has a long right tail. A distribution with a significant negative skewness has a long left tail.

A measure of normality is that the skewness values do not exceed +/- 2.58. Another is the skewness value more than twice its standard error may be taken to indicate a departure from symmetry.

Using the last method of measuring normality, those in bold do not have normality (see the bottom of Table 10.9.1). None of the factor scores and FM, ET, VIT and independent indicators of motivation and performance exceeded +/- 2.58. See Table 10.9.1.

Five of the goals were skew towards the high value numbers (with negative skewness). For example, other desirability was the highest negative number as would be expected.

Test of Normality for Variables of the Large sample	Skewness	Std. Error
Other Desirability	-3.665	.536
Having a better quality lifestyle	-3.384	.212
Being in control of my life	-3.300	.212
Having financial security	-3.231	.212
Promoting products that benefit others	-2.906	.212
Part or full time	-2.561	.212
Not having to report to a superior	-2.093	.212
Likelihood of promoting products that benefit others	-2.029	.212
REGR factor score 4 for analysis 1	-2.008	.212
Likelihood of being in control of my life	-1.956	.212
Managing work & home simultaneously	-1.859	.212
Likelihood of having a better quality Lifestyle	-1.839	.212
Bringing the best out of my team	-1.809	.212
Having more time with my family	-1.789	.212
Likelihood of having financial security	-1.754	.212
Likelihood of not having to report to a superior	-1.737	.212
Making friends & social contacts	-1.706	.212
Being intellectually stimulated & challenged	-1.701	.212
Being part of a team	-1.687	.212
REGR factor score 5 for analysis 1	-1.657	.212
Being able to exercise own leadership style	-1.503	.212

REGR factor score 1 for analysis 1	-1.450	.212
Likelihood of having more time with my family	-1.420	.212
Likelihood of being part of a team	-1.416	.212
REGR factor score 6 for analysis 1	-1.387	.212
Likelihood of being intellectually stimulated & challenged	-1.268	.212
Likelihood of making friends & social contacts	-1.262	.212
Expectation to build a large network	-1.200	.212
Likelihood of managing work & home simultaneously	-1.200	.212
Likelihood of exercising own leadership style	-1.147	.212
Personally organised training	-1.144	.212
Likelihood of bringing the best out of my team	-.950	.212
Chances of reaching highest level	-.933	.212
REGR factor score 2 for analysis 1	-.883	.212
REGR factor score 3 for analysis 1	-.857	.212
Other likelihood	-.833	.491
Uplines' quality of support	-.662	.212
Name of state town and city of residence	-.606	.212
Age	-.390	.212
Likelihood of having public recognition & exposure	-.350	.212
Made any comment	-.283	.212
Having public exposure & recognition	-.256	.212
Sponsor's quality of support	-.245	.212
Mode of survey	-.207	.212
Speed of promotion	-.125	.212
Effort put into the MLM business	.171	.212
Belief in one's ability to recruit prospective	.210	.212
Gender	.219	.212
Highest qualification	.533	.212
Attended meeting in last 6 months?	.691	.212
Time at Advance	.756	.580
Ethnic origin	.922	.212
Time at Intermediate	1.056	.501
Number of dependent children	1.129	.212
Month in company	1.293	.212
Time at Foundation level	1.362	.299
Distributor's status	1.450	.212
Marital status	1.512	.212
Number of promotions	1.517	.212

Present MLM company	2.024	.212
Updating ongoing training	2.027	.212
Time at Highest	2.218	.913
Time at beginner	2.514	.212
Country of permanent residence	3.011	.212
Number of MLM you are member	3.153	.212
Number of countries with sponsored distributors	3.386	.212
Hours of training received	3.794	.212
Length of time as distributor	4.037	.212
<b>Number of MLM organisations involved</b>	4.333	.212
<b>Updating knowledge</b>	5.498	.212
<b>Number of MLM audio heard</b>	6.134	.212
<b>Number of MLM video seen</b>	8.126	.212
<b>MLM training attended</b>	8.256	.212
<b>Number of Non-MLM worked for</b>	8.638	.212
<b>Number of MLM book read</b>	9.874	.212
<b>State amount of funds invested in present MLM company</b>	10.729	.212

**TABLE 10.9.1: SKEWNESS VALUES FOR INDEPENDENT AND DEPENDENT VARIABLES**

Those variables skew toward the positive direction (towards the left) were those that tend toward smaller values. This was expected from these variables. For example, we would expect updating knowledge to be toward "one" since this meant yes.

Therefore, we reject the NH20 and assume there is normality of the error term in the variate.

### 10.10 Relationship of the “Six Factors of Motivation” With FM, VIT & ET (For the Large Sample)

Given that we have tested the six factors with the total force of motivation (FM), we can analyse their relationship with other independent variables in the study. We can begin by comparing the results obtained with the total force of motivation (FM), the total score of expectancy (ET) and the total score of valence and instrumentality (VIT) with these six factors. Table 10.10 shows their relationship to the “six factors of motivation”.

Results in brackets are those derived from the eight factors of motivation (from small sample of 51). Those that are significant at 0.100 levels are given \*, those at 0.050 levels are given \*\*. Those significant at 0.010 levels are given \*\*\*.

Variables	R	R <sup>2</sup>	Adj. R <sup>2</sup>	SE	Significance
FM	.935 (.970)	.874 (.941)	.868 (.930)	90.5479	.000 (.000)***
ET	.932 (.963)	.869 (.927)	.863 (.913)	0.8876	.000 (.000)***
VIT	.972 (.987)	.945 (.974)	.942 (.969)	5.3686	.000 (.000)***

Adj. R<sup>2</sup> = Adjusted R<sup>2</sup>; SE = Standard Errors.

**TABLE 10.10A: REGRESSION ANALYSIS FOR THE LARGE SAMPLE BETWEEN THE SIX FACTORS OF MOTIVATION AND FM, ET AND VIT.**



Table 10.10 shows that the relationship of the “six factors of motivation” is strongest with VIT, FM, and ET, in that order for the large sample with their standard errors (SE). All three are significant at 0.000 levels with high correlations. Results of the correlations are similar for both small and large samples (Table 7.10).

Therefore, we reject NH2, NH3 and NH4 since there is no linear relationship between FM, ET and VIT with the six factors of Motivation for the large sample. The Pearson correlation coefficients for this analysis is provided in Table 10.10B.

Table 10.10B shows the Pearson correlation coefficients for the relationship between the total force of motivation (FM) and the six factors of motivation.

		Correlations						
		FM	F6	F5	F4	F3	F2	F1
Pearson Correlation	FM	1.000	0.181	0.260	0.111	0.684	0.303	0.448
	F6	0.181	1.000	0.000	0.000	0.000	0.000	0.000
	F5	0.260	0.000	1.000	0.000	0.000	0.000	0.000
	F4	0.111	0.000	0.000	1.000	0.000	0.000	0.000
	F3	0.684	0.000	0.000	0.000	1.000	0.000	0.000
	F2	0.303	0.000	0.000	0.000	0.000	1.000	0.000
	F1	0.448	0.000	0.000	0.000	0.000	0.000	1.000
Sig. (1- tailed)	FM		0.020	0.001	0.104	0.000	0.000	0.000
	F6	0.020		0.500	0.500	0.500	0.500	0.500
	F5	0.001	0.500		0.500	0.500	0.500	0.500
	F4	0.104	0.500	0.500		0.500	0.500	0.500
	F3	0.000	0.500	0.500	0.500		0.500	0.500
	F2	0.000	0.500	0.500	0.500	0.500		0.500
	F1	0.000	0.500	0.500	0.500	0.500	0.500	

**TABLE 10.10B: PEARSON CORRELATION COEFFICIENTS FOR THE RELATIONSHIP BETWEEN THE TOTAL FORCE OF MOTIVATION AND THE SIX FACTORS OF MOTIVATION.**

We see a high Pearson correlation between the following:

FM and F3 at  $r^2=0.684$  (at 0.000 significant level). This meant there is a very high correlation of 68.4% between FM and the expectancy factor.

FM and F2 at  $r^2=0.303$  (at 0.000 significant level). This meant there is a high correlation of 30.3% between FM and desirable and achievable goals for public exposure and recognition.

FM and F1 at  $r^2=0.448$  (at 0.000 significant level). F1 is the instrumentality factor to promote self-actualisation, team building and quality lifestyle goals.

FM and F5 at  $r^2=0.264$  (at 0.001 significant level). There is 26.4% correlation coefficient relationship between FM and F5. F5 is the desirable and achievable family and work goals.

FM and F6 at  $r^2=0.181$  (at 0.020 significant level). This F6 is the desirable goal for promoting products that benefit others.

FM and F4 at  $r^2=0.111$  (at 0.104 significant level). This meant that F4 is not significant to FM. It seems to indicate that F4 is not significant in its relationship with FM when evaluated on its own.

### **10.11 Relationship of the “Six factors of motivation” With Other Independent Variables & Indicators of Motivation & Performance for the Large Sample**

As explained in Section 5.5.1, research using the multiplicative combination of VIE have showed that the combined model of VIE is the best predictor of performance. That is, each individual variable of VIE does not provide as good a predictor of performance as when they are combined together.

It is important to understand the relationship of the “six factors of motivation” and other independent variables in the study. All of the following variables were tested for their relationship with the “six factors of motivation.” Most of the variables used in the test of the relationship for the “eight factors of motivation” were used in the “six factors of motivation” with the following additions (For explanation see Section 6.14):

1. Full or part time;
2. Name of present MLM company;
3. Updating your knowledge;
4. Updating in the last 6 months;
5. Personally organised MLM training session;
6. The total number of training hours you have ever received so far;
7. Number of training sessions taken so far;
8. Updating yourself on ongoing training;
9. Quality of support from your uplines;
10. Country of permanent resident;

11. Name of state, town, city of resident;

12. Ethnic origin;

13. Number of years as distributors.

In the large sample, a few questions were taken out of questionnaire B. The questions of “Commission and bonus;” “Number of training sessions per month;” and “how much international & multi-cultural experience do you have?” (For explanation, see Section 6.14).

In the small sample, we identified that the “number of hours of training taken”, “number of audio heard” have a significant relationship with the “eight factors of motivation” (See Table 8.11). However, these two variables do not appear to have any significant relationship with the “six factors of motivation.”

Regression analysis results (Table 10.11) show the significant relationships. Those that are significant at 0.100 levels are given \*, those at 0.050 levels are given \*\*. Those in bold with 0.01 or less levels are given \*\*\*.

Variable	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Significance	SE
<b>Time at highest level</b>	1.00	1.00	1.00	.001***	.7071
<b>Personally organised training</b>	.427	.182	.142	.000***	.4046
<b>Number of non-MLM worked for</b>	.465	.216	.178	.000***	8.4560
<b>Distributor’s status</b>	.406	.165	.124	.001***	.9320
<b>Update ongoing training</b>	.387	.150	.109	.002***	.3348

<b>Number of MLM working for</b>	.392	.154	.112	.002***	2.1554
<b>Sponsor's quality of support</b>	.378	.143	.101	.004***	3.2543
<b>Number of MLM organisations involved</b>	.361	.130	.088	.008***	1.1775
<b>Effort put into MLM business</b>	.360	.130	.087	.008***	31.9735
Attended meeting last 6 months	.348	.121	.078	.013**	.4560
Speed of promotion	.345	.119	.076	.014**	1.9042
Number of promotions	.347	.120	.077	.014**	1.04
Number of countries with sponsored distributors	.337	.114	.070	.020**	1.8614
Part or full time	.335	.113	.069	.021**	.3002
Age	.334	.111	.068	.022**	1.5675
Time at Foundation level	.471	.222	.140	.022**	6.8498
Upline's quality of support	.298	.089	.044	.072*	3.2431
Name of State, Town & City	.291	.084	.040	.088*	1.4270
Length of time as distributor	.289	.084	.039	.091*	42.4772

**TABLE 10.11: REGRESSION ANALYSIS RESULTS SHOWING ONLY SIGNIFICANT RELATIONSHIP BETWEEN THE SIX FACTORS OF MOTIVATION AND OTHER INDEPENDENT VARIABLES AND INDICATORS OF MOTIVATION AND PERFORMANCE.**

The data analysis in Table 10.11 supports what most distributors believe to be important influences of motivation and performance. The nine variables significant at 0.01 levels are:

1. *Time at highest level* ( $R = 1.00$ ;  $R^2 = 1.00$ ). In this study, this represented only 2.3% of the sample that have reached the highest level.
2. *Number of non-MLM worked for* ( $R = .465$ ;  $R^2 = .216$ ).
3. *Personally organised training* ( $R = .427$ ,  $R^2 = .182$ ). In this study, those who have personally organised training are only 25.4% of the sample (See Appendix A7.15).
4. *Distributor's status* ( $R = .406$ ;  $R^2 = .165$ ). In this study, distributors at the beginning are 48.5%, at foundation level 36.2%, advance 6.9%, intermediate 6.2%, and at highest 2.3% (See Appendix A7.4).
5. *Number of MLM working for (Number of other MLM companies they are currently a member)* ( $R = .392$ ;  $R^2 = .154$ ).
6. *Update ongoing training* ( $R = .387$ ;  $R^2 = .150$ ).
7. *Sponsor's quality of support* ( $R = .378$ ;  $R^2 = .143$ ).
8. *Number of MLM organisations involved (Number of other MLM organisations involved in to date)* ( $R = .361$ ;  $R^2 = .130$ ).
9. *Effort put into MLM business* ( $R = .360$ ;  $R^2 = .130$ ).

Therefore, we again reject NH5 since there is no linear relationship between the underlying factors of motivation and other independent variables and indicators of motivation and performance.

### **10.12 Relationship of the “Six Factors of Motivation” and the “Eight Factors of Motivation” With Other Independent Variables & Indicators of Motivation & Performance**

An interesting observation is that not all variables significant to the “six factors of motivation” (of the large sample) are also significant with the “eight factors of motivation” (of the small sample) (See Section 8.15).

Both samples significantly support training with factors of motivation. Firstly, this is seen when the eight factors of motivation from the small sample are significantly correlated to commission and bonus ( $R = .778$  at 0.01 significant level), number of hours of training taken ( $R = 0.595$  at 0.05 significant level) and average number of training sessions per month taken ( $R = 0.567$  at 0.05 significant level).

Secondly, this is seen when the six factors of motivation from the large sample are significantly correlated to distributors having personally organised MLM training ( $R = .427$  at 0.01 significant level), update through ongoing training ( $R = .387$  at 0.01 significant level), and have attended meeting in the last six months ( $R = .348$  at 0.05 significant level). In this study, only 25.4% has personally organised training (See Appendix A7.15).

In the large sample analysis, it shows that the quality of support from the sponsors ( $R = .378^{***}$ ) is more significant than the quality of support from the uplines ( $R = .298^*$ ). See Table 10.11.

Both samples show that motivated distributors are likely to be updating themselves through ongoing training and being involved in organising training and to provide good support as a sponsor.

They are likely to have joined the MLM business because they have worked for many non-MLM organisations ( $R = .465^{***}$ ), and are likely to have good quality support from their sponsors ( $R = .378^{***}$ ). They are likely to have high distributor's status ( $R = .406^{***}$ ) and are able to reach the highest distributor's status ( $R = 1.00^{***}$ ).

The factors of motivation from the large sample are significantly correlated to their age ( $R = .334^{**}$ ); they are likely to have attended meeting in the last six months ( $R = .348^{**}$ ); and sponsored distributors in more than one country ( $R = .337^{**}$ ).

All the variables with 0.05 in significant levels ( $**$ ) or higher ( $***$ ) have correlation of higher than  $R = .33$  for both samples. Their values are in the range of  $R = .334$  to  $R = .471$  for the large sample and  $R = .595$  to  $R = .595$  for the small sample.

Referring to the discussion in Section 5.5.1, we have higher correlation than .30. That was found by Dachler and Mobley (1973) and Lawler and Suttle (1973) and many others in this area using the multiplicative combination of VIE.

A few of the variables do not have significance levels for the large sample. They are "Length of time as distributors" ( $R = .289^*$ ); "Name of state, town and city" ( $R = .291^*$ ); and "Upline's quality of support" ( $R = .298^*$ ).

The six factors of motivation from the large sample have significant relationship (at 0.05 significant level) with the following independent variables and indicators of motivation and performance:

- Attending meeting in the last six months;



- speed of promotion;
- number of promotions;
- number of countries with sponsored distributors;
- full or part time;
- age; and
- time at foundation level.

Since we are looking at variable that are significant at 0.01 level, we cannot accept those significant at 0.05 level. Therefore, for both samples, there is no significant relationship in the factors of motivation with the following independent variables and indicators of motivation and performance:

1. Number of Months with present MLM company.
2. Length of Time as beginner.
3. Length of Time at intermediate level.
4. Length of Time at advance level.
5. Gender. In this study, we have 55.4% male and 44.6% female (See Appendix A7.63)
6. Age. In this study, the largest population was the 50+ at 30.8%, 31-40 year old at 23.1%, 41-45 year old at 16.9%, 46-50 year old at 13%, and 26-30 year old at 11.5% (See Appendix 7.66).
7. Speed of promotion. There were 32.3% who are too early to tell their speed of promotion since they have only been distributors for less than six months. 28% were slowest at beginning after one year, 17% slow in promotion as they reached foundation after 2 years. Those who are average in speed of promotion were 16% as they reached foundation level after one year. 14% were fast to reach intermediate

- level after 2 years, with the fastest at advance level or above after 2 years (See Appendix A7.11).
8. Education achieved. In this sample, we have about 54.6% whose highest qualification is less than a degree (See Appendix A7.64).
  9. Marital Status. In this study, we have 54.6% who were married, 6.5% co-habiting, 26% singles, and 13.1% divorced (See Appendix A7.65).
  10. Number of dependent children. In this study, 50% were without dependent children (See Appendix A7.67).
  11. Investment with current MLM company.
  12. Full or part time. In this study, 1.8% full timers and 89.2% part-timers (See Appendix A7.5).
  13. Income from all MLM.
  14. Name of present MLM Company. We find this sample with 77.7% from Changes International (changed to Goldshield Elite), 4.6% from Telecom Plus, 3.8% from Mannatech (See Appendix A7. 8).
  15. Name of state, town, city of resident.
  16. Ethnic origin. In this study, over 71% of the sample were white Caucasians or from Europe, Chinese with 4.6%, Indian or Hindu with 3%, and Black with 4% (See Appendix A7.29).
  17. Support from Uplines.
  18. Attending meeting in the last six months.
  19. Number of countries with sponsored distributors.
  20. Length of time as distributors.
  21. Number of promotions.
  22. Country of permanent residence. Majority of the distributors were from England 83.1%, USA 6.9%, 3.8% from Australia, and about 2.3% from Singapore (Appendix A7.68).

### **10.13 Relationship of the “Total Force of Motivation (FM)” With Other Independent Variables and Indicators of Motivation and Performance (Large Sample)**

It is important to understand the relationship of the “total force of motivation (FM)” and all other independent variables in the study. Regression analysis results in Table 10.12 (see below) showed the relationships that were significant. Those significant at 0.10 level are given \*, those at 0.05 level are given \*\* and those significant at 0.01 levels are given \*\*\* and bolded.

Table 10.12 shows that most of the previous variables that were significant for the small sample (between FM and other independent variables of motivation) were not significant in this large sample analysis. For example, “gender”; “number of audios heard”; “number of books read” were variables were significant at 0.05 levels with FM. The only variable that was significant as before and has the same result is “the number of hours of training taken,” ( $R = .181^{**}$ ).

“Distributor status” was correlated with FM at  $R = .252^*$  for the small sample. For the large sample, its correlation with FM was  $R = .190^{**}$ .

The number of non-MLM worked for was correlated at  $R = .265^*$  for the small sample. However, for the large sample it was not significant.

Variables	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Sig.	SE
<b>Effort put into the MLM business</b>	.391	.153	.147	.000***	30.9145
<b>Part time or full time</b>	.369	.136	.130	.000***	.2903
<b>Attended meeting in the last 6 months</b>	.349	.122	.115	.000***	.4468
<b>Personally organised training</b>	.343	.118	.111	.000***	17.079
<b>Updating Knowledge</b>	.289	.083	.076	.001***	.3409
<b>Speed of promotion</b>	.265	.070	.063	.002***	1.9178
Time at Foundation level	.270	.073	.058	.031**	7.1711
Number of countries with sponsored distributors	.218	.048	.040	.013**	1.8913
Number of promotions	.198	.039	.032	.024**	1.06
Upline's quality of support	.197	.039	.031	.025**	3.2648
Distributor's status	.190	.036	.029	.030**	.9817
Length of time as distributor	.188	.035	.028	.032**	42.7222
Number of MLM video seen	.182	.033	.026	.038**	19.6865
Number of hours of training taken (same result as for the small sample)	.181	.033	.025	.039**	193.19
Fund invested in the MLM business	.164	.027	.019	.062*	44130.72
Country of PR	.160	.026	.018	.069*	1.7031
Updating ongoing training	.160	.026	.018	.069*	.1718

SE = Standard Errors; Sig. = Significance.

**TABLE 10.12: REGRESSION ANALYSIS RESULTS FOR THE LARGE SAMPLE SHOWING ONLY SIGNIFICANT RELATIONSHIP BETWEEN FM AND OTHER INDEPENDENT VARIABLES AND INDICATORS OF MOTIVATION AND PERFORMANCE.**

The correlation is much lower for FM than they were for the “six factors of motivation” in their relationship to the other indicators of performance and motivation (See Table 10.12 above). However, for those

that are correlated at 0.01 significance levels, the correlations were higher than  $R = 0.30$  for “part time or full time” ( $R = .369$ ), “Effort put into the MLM business” ( $R = .391$ ), “Personally organised training” ( $R = .343$ ) and “Attended meeting in the last 6 months” ( $R = .349$ ). “Updating knowledge” was significant at 0.01 level but have  $R = .289$ . “Speed of promotion” was significant at 0.01 level with  $R = .265$ .

There is 0.10 significance level of correlation for “Fund invested in the MLM business ( $R = .164^*$ ),” “country of Permanent Residence ( $R = .160^*$ )” and “updating ongoing training ( $R = .160^*$ ).”

At 0.10 significance levels, FM was correlated to “country of permanent residence” but not to the “state, town and city.” On the other hand, the “six factors of motivation” was correlated to “state, town and city” but not to the “country of permanent residence.”

Therefore, we again reject the NH6 that there is no linear relationship between FM and other independent variables and indicators of motivation and performance.

### 10.14 Comparing Correlation Results of FM & “Six Factors of Motivation” With Other Independent Variables & Indicators of Motivation & Performance for the Large Sample

Table 10.13 shows the large sample results of FM and “six factors of motivation” with other factors of motivation and performance. Those highlighted in bold are significant at 0.01 level

Variable's results with FM	R	Sig.	Variable's results with “Six factors of motivation”	R	Sig.
<b>Part time or full time</b>	.369	.000***	<b>Personally organised training</b>	.427	.000***
<b>Effort put into the MLM business</b>	.391	.000***	<b>Number of non-MLM worked for</b>	.465	.000***
<b>Personally organised training</b>	.343	.000***	<b>Distributor's status</b>	.406	.001***
<b>Attended meeting in the last 6 months</b>	.349	.000***	<b>Time at highest level</b>	1.00	.001***
<b>Updating Knowledge</b>	.289	.001***	<b>Update ongoing training</b>	.387	.002***
<b>Speed of promotion</b>	.265	.002***	<b>Number of MLM working for</b>	.392	.002***
Number of countries with sponsored distributors	.218	.013**	<b>Sponsor's quality of support</b>	.378	.004***
Number of promotions	.198	.024**	<b>Effort put into MLM business</b>	.360	.008***
Upline's quality of support	.197	.025**	<b>Number of MLM worked for</b>	.361	.008***
Distributor's status	.190	.030**	Attended meeting in last 6 months	.348	.013**
Time at Foundation level	.270	.031**	Speed of promotion	.345	.014**
Length of time as distributor	.188	.032**	Number of promotions	.347	.014**

Number of MLM video seen	.182	.038**	Number of countries with sponsored distributors	.337	.020**
Number of hours of training taken	.181	.039**	Part or full time	.335	.021**
Fund invested	.164	.062*	Age	.334	.022**
Country of PR	.160	.069*	Time at Foundation level	.471	.022**
Updating ongoing training	.160	.069*	Upline's quality of support	.298	.072*
			Name of State, Town & City	.291	.088*
			Length of time as distributor	.289	.091*

**TABLE 10.13: REGRESSION ANALYSIS RESULTS FOR THE LARGE SAMPLE SHOWING SIGNIFICANT RELATIONSHIP BETWEEN FM, "SIX FACTORS OF MOTIVATION" AND OTHER INDEPENDENT VARIABLES AND INDICATORS OF MOTIVATION AND PERFORMANCE.**

When comparing the results of FM and "six factors of motivation" with other independent variables of motivation and performance, we found the following variables significant in both results:

"Updating ongoing training" was found to have significant relationship with FM ( $R = .160^*$ ) and "six factors of motivation" ( $R = .387^{**}$ ). This variable represents the questions "Are you updating yourself with ongoing training?"

"Length of time as distributor" was found to have significant relationship with FM ( $R = .188^{**}$ ) and with "six factors of motivation" ( $R = .289^*$ ).

"Time at Foundation level" was found to have significant relationship with FM ( $R = .270^{**}$ ) and "six factors of motivation" ( $R = .471^{**}$ ).

“Distributor’s status” was found to have significant relationship with FM ( $R = .190^{**}$ ) and with “six factors of motivation” ( $R = .406^{***}$ ).

“Speed of promotion” was found to have significant relationship with FM ( $R = .265^{**}$ ) and “six factors of motivation” ( $R = .345^{**}$ ).

“Effort put into the MLM business” was found to have significant relationship with “six factors of motivation” ( $R = .360^{***}$ ) and with FM ( $R = .391^{***}$ ).

“Attended meeting in the last 6 months” was found to have significant relationship with FM ( $R = .349^{***}$ ) and “six factors of motivation” ( $R = .348^{**}$ ).

“Personally organised training” is significant at 0.01 levels with FM ( $R = .343^{***}$ ) and “six factors of motivation” ( $R = .427^{***}$ ).

We may summarise the variables that are significant for both FM and “six factors of motivation,” respectively, with other indicators of motivation and performance below.

“Effort put into the MLM business ( $R = .360^{***}$  &  $.391^{***}$ );” “Personally organised training ( $R = .343^{***}$  &  $.427^{***}$ ).”

Indicators that are significant at 0.01 levels for FM and at 0.05 for the “six factors of motivation” are: “Distributor’s status ( $R = .406^{***}$  &  $.190^{**}$ );” “Attended meeting in the last 6 months ( $R = .349^{***}$  &  $.348^{**}$ ).

Indicators that are significant both at 0.05 levels are: “Speed of promotion ( $r = .265^{***}$  &  $.345^{**}$ );” “Time at Foundation level ( $R = .270^{**}$  &  $.471^{**}$ ).”



There were ten other independent variables and indicators of motivation and performance found in Table 10.14 that have significant relationship with both FM and the “six factors of motivation.” Only two have significance level of 0.000 with FM and the “Six factors of motivation.” They are as follows:

Variable's results with FM	R	Sig.	Variable's results with "Six factors of motivation"	R	Sig.
<b>Effort put into the MLM business</b>	.391	.000***	<b>Effort put into MLM business</b>	.360	.008***
<b>Personally organised training</b>	.343	.000***	<b>Personally organised training</b>	.427	.000***
<b>Part time or full time</b>	.369	.000***	Part or full time	.335	.021**
<b>Attended meeting in the last 6 months</b>	.349	.000***	Attended meeting in last 6 months	.348	.013**
<b>Speed of promotion</b>	.265	.002***	Speed of promotion	.345	.014**
Number of promotions	.198	.024**	Number of promotions	.347	.014**
Time at Foundation level	.270	.031**	Time at Foundation level	.471	.022**
Upline's quality of support	.197	.025**	Upline's quality of support	.298	.072*
Length of time as distributor	.188	.032**	Length of time as distributor	.289	.091*
Updating ongoing training	.160	.069*	Update ongoing training	.387	.002***

**TABLE 10.14: REGRESSION ANALYSIS RESULTS FOR THE LARGE SAMPLE SHOWING SIGNIFICANT RELATIONSHIP BETWEEN FM, “SIX FACTORS OF MOTIVATION” AND OTHER INDEPENDENT VARIABLES AND INDICATORS OF MOTIVATION AND PERFORMANCE. SHOWING ONLY THOSE RESULTS THAT ARE PRESENT IN ITS RELATIONSHIP WITH BOTH FM AND SIX FACTORS OF MOTIVATION.**

From the table above, “effort put into the MLM business” and “personally organised training” have the highest score for R for its relationship with FM and “Six factors of motivation.” Since effort is linked to motivation, it is not surprising to find that both FM and “six factors of motivation” do have a high correlation with these two variables.

#### **10.15 Relationship of the “Total Force of Valence and Instrumentality (VIT)” With Other Independent Variables and Indicators of Motivation and Performance for the Large Sample**

The relationship of the total force of valence and instrumentality (VIT) with the other independent variables showed only two variables are significant with VIT for small sample (See Table 10.14). Those in brackets are the results of the small sample. Those that are significant at 0.100 levels are given \*, those at 0.050 levels are given \*\*. Those with 0.010 or less levels are given \*\*\*. Only four of the variables are highly significant (bold in Table 10.14):

- a) *Attended meetings in the last 6 months;*
- b) *Effort put into the MLM business;*
- c) *Part time or full time;*
- d) *Speed of promotion.*

Therefore, we reject the NH8 that there is no linear relationship between VIT and other independent variables and indicators of motivation and performance.

Regression Analysis results showing significant relationships between the VIT and other independent variables and indicators of motivation and performance are between  $R = .279$  and  $R = .225$  for those at 0.01 significance levels (Table 10.14).

Variables	R	R <sup>2</sup>	Adj. R <sup>2</sup>	Sig.	Standard Errors
<b>Attended meetings in the last 6 months</b>	.279	.078	.071	.001***	.4579
<b>Effort put into the MLM business</b>	.271	.073	.066	.002***	32.3385
<b>Part time or full time</b>	.264	.070	.063	.002***	.3013
<b>Speed of promotion</b>	.225	.051	.043	.010***	1.9380
Updating Knowledge	.222	.050	.042	.011**	.1697
Upline's Quality of support	.206	.042	.035	.019**	3.2586
Number of non-MLM worked for	.173	.030	.022	.049**	9.2202
Personally organised training	.167	.028	.020	.058*	.4325
Gender	.152	.023	.015	.084 *	.4951

**TABLE 10.14: REGRESSION ANALYSIS RESULTS SHOWING SIGNIFICANT RELATIONSHIPS BETWEEN THE VIT AND OTHER INDEPENDENT VARIABLES AND INDICATORS OF MOTIVATION AND PERFORMANCE FOR THE LARGE SAMPLE.**

### **10.16 Relationship of the ET "With Other Independent Variables & Indicators of Motivation & Performance for the Large Sample**

The relationship between the total score of expectancy (ET) and other independent variables of motivation showed eight variables are significant with ET. See Table 10.15 below. Those that are significant at 0.100 levels are given \*, those at 0.050 levels are given \*\*. Those with 0.010 or less levels are given \*\*\* and in bold.

Comparing the results between ET and other independent variables and indicators of motivation and performance in Table 10.15 with Table 10.13, it shows that the highest correlation between FM and other independent variables and indicators of motivation and performance was  $R = .369$  (significant at 0.01 levels). Three variables that have higher correlation with ET are:

- Personally organised training ( $r = .420$ );
- Updating ongoing training ( $r = .405$ );
- Efforts put into the MLM business ( $r = .389$ ).

The highest correlations found are those between other independent variables and indicators of motivation and performance and the "six factors of motivation" (Table 10.11). The variables are "time at the highest level" ( $R = 1.000$ ); "Number of non-MLM worked for" ( $R = .465$ ); and "personally organised training" ( $R = .427$ ).

Therefore, we reject the NH7 that there is no linear relationship between ET and other independent variables and indicators of motivation and performance.

From these results, it seems to indicate that “six factors of motivation” has a higher correlation than ET, FM and VIT in its relationship to other indicators of performance and motivation, respectively. This seems to indicate that the “six underlying factor of motivation” is better at explaining motivation than ET, FM and VIT.

Variables	R	R <sup>2</sup>	Adjusted R <sup>2</sup>	Sig.	Standard Errors
<b>Personally organised Training</b>	.420	.177	.170	.000***	.3980
<b>Updating ongoing training</b>	.405	.164	.158	.000***	.3255
<b>Efforts put into the MLM business</b>	.389	.151	.145	.000***	30.951
<b>Attended meeting in last 6 months</b>	.314	.098	.091	.000***	.4528
<b>Number of promotions</b>	.310	.096	.089	.000***	1.03
<b>Speed of promotion</b>	.302	.091	.084	.000***	1.8962
<b>Distributor status</b>	.340 (.430)	.115 (.185)	.109 (.168)	.0000 (.002***)	.9404
<b>Part time or full time</b>	.301	.091	.083	.001***	.2979
<b>Number of countries with sponsor distributors</b>	.290	.084	.077	.001***	1.8546
<b>Upline’s Quality of support</b>	.279	.078	.071	.001***	3.1977
<b>Length of time as distributor</b>	.277	.077	.070	.001***	41.7893
<b>Time at Foundation level</b>	.366	.134	.120	.003***	6.9295
<b>Updating knowledge</b>	.250	.063	.055	.004***	.1685
<b>Number of hours of training taken</b>	.210 (.515)	.044 (.266)	.037 (.250)	.016 (.000***)	192.02
<b>Time at Advance level</b>	.585	.342	.292	.022**	9.9655
<b>Number of non-MLM worked</b>	.198	.039	.032 (.041)	.024**	9.1760

for	(.246)	(.061)		(.082*)	(2.2578)
Time at beginners level	.180	.032	.025	.040**	10.9151
Time at Intermediate level	.437	.191	.148	.048**	6.2169
Present MLM company	.173	.030	.022	.050**	2.2698
Number of MLM video seen	.168	.028	.021	.055*	19.7347
Country of Permanent Residence	.162	.026	.019	.066*	3.434
Ethnic origin	.161	.026	.018	.067*	5.2952
Sponsor's quality of support	.160	.025	.018	.070*	3.4015
Number of audio heard	.149 (.240)	.022 (.058)	.015 (.038)	.09* (.09*)	114.640

**TABLE 10.15: REGRESSION ANALYSIS RESULTS FOR THE LARGE SAMPLE SHOWING ONLY SIGNIFICANT RELATIONSHIP BETWEEN THE ET AND OTHER INDEPENDENT VARIABLES AND INDICATORS OF MOTIVATION AND PERFORMANCE**

### **10.17 Summaries of Regression Analysis for VIT, ET, FM and the Six Factors of Motivation for the Large Sample.**

We use Table 10.16 below to summarise the regression analysis for VIT, ET, FM and the “six factors of motivation” with the other independent variables and indicators of motivation and performance. The Table 10.16 shows the significant relationship of all the other independent variables and indicators of motivation and performance (from the large sample) and FM, VIT, ET and the “six factors of motivation”. Those with significance level of 0.01 are given \*\*\* and those with significance level of 0.05 are given \*\*.

Table 10.16 shows that “effort put into the MLM business” is the only variable that has 0.01 significance level for FM, ET, VIT and the six factors of motivation.

Two variables, “attended meeting in the last 6 months” and “part time or full time,” have 0.01 significance levels with FM, ET and VIT, with 0.05 significance level with the “six factors of motivation.” The “speed of promotion” is significant with ET and VIT at 0.01 levels, and significant with FM and the six factors of motivation at 0.05 levels.

The variable, “personally organised training,” is significant at 0.01 level with FM, ET and the “six factors of motivation” but not with VIT.

Update ongoing training is significant at 0.01 level for both the six factors of motivation and ET only. Updating knowledge is significant at 0.01 level for FM and ET and at 0.05 level with VIT.

A few variables that are significant at 0.01 level with ET, and 0.05 level with FM and the “six factors of motivation” are as follows: number of promotions, time at Foundation level and number of countries with sponsored distributors.

The variable “number of non-MLM worked for” is significant at 0.01 level with the six factors of motivation and 0.05 level with ET and VIT.

Therefore, it seems that variables that have significant relationship with motivation are as follows:

The effort these distributors put into the MLM business, such as updating themselves with ongoing training, updating their knowledge

regularly, attending meeting in the last 6 months and personally may have organised training.

The speed of promotion that these distributors received, the number of promotions and the length of time that they stayed at the Foundation level can also influence their motivation.

It is likely that these motivated distributors have worked for a number of non-MLM organisations before and this influences them to work harder in network marketing, either as part time or full time. Their efforts may include a number of countries with sponsored distributors to expand their target markets.

<b>Others with FM</b>	<b>Others with six factors of motivation</b>	<b>Others with ET</b>	<b>Others with VIT</b>
<b>Effort put into the MLM business ***</b>	<b>Effort put into MLM business ***</b>	<b>Efforts put into the MLM business ***</b>	<b>Effort put into the MLM business ***</b>
<b>Part time or full time ***</b>	<b>Part or full time **</b>	<b>Part time or full time ***</b>	<b>Part time or full time ***</b>
<b>Attended meeting in the last 6 months ***</b>	<b>Attended meeting last 6 months **</b>	<b>Attended meeting in last 6 months ***</b>	<b>Attended meetings in the last 6 months ***</b>
<b>Personally organised training ***</b>	<b>Personally organised training ***</b>	<b>Personally organised Training ***</b>	
<b>Speed of promotion **</b>	<b>Speed of promotion **</b>	<b>Speed of promotion ***</b>	<b>Speed of promotion ***</b>
<b>Distributor's status **</b>	<b>Distributor's status ***</b>	<b>Distributor status ***</b>	
<b>Updating Knowledge ***</b>		<b>Updating knowledge ***</b>	<b>Updating Knowledge **</b>
	<b>Update ongoing</b>	<b>Updating ongoing</b>	



	<b>training ***</b>	<b>training ***</b>	
Upline's quality of support **		<b>Upline's Quality of support ***</b>	Upline's Quality of support **
Number of promotions **	Number of promotions **	<b>Number of promotions ***</b>	
Time at Foundation level **	Time at Foundation level **	<b>Time at Foundation level ***</b>	
Number of countries with sponsored distributors **	Number of countries with sponsored distributors **	<b>Number of countries with sponsor distributors ***</b>	
	<b>Number of non-MLM worked for ***</b>	Number of non-MLM worked for **	Number of non-MLM worked for **
Length of time as distributor **		<b>Length of time as distributor ***</b>	
Number of hours of training taken **		<b>Number of hours of training taken ***</b>	
	<b>Number of MLM organisations involved ***</b>		
	<b>Number of MLM working for ***</b>		
	<b>Sponsor's quality of support ***</b>		
	<b>Time at highest level ***</b>		
Number of MLM video seen **			
	Age **		
		Present MLM company **	
		Time at Advance level **	

		Time at beginners level **	
		Time at Intermediate level **	

**TABLE 10.16: THE TABLE SHOWS THE SIGNIFICANT RELATIONSHIP OF ALL THE OTHER INDEPENDENT VARIABLES AND INDICATORS OF MOTIVATION (FROM THE LARGE SAMPLE) AND FM, VIT, ET AND THE "SIX FACTORS OF MOTIVATION".**

## **CHAPTER 11 – CONCLUSION**

The research aims to answer important questions on motivation like:

“How useful are the theories of motivation? Is it possible to measure motivation at work? How do we measure motivation at work? What are the factors significant in motivating distributors to work hard? What is the relationship between these underlying dimensions that motivate distributors? What is the relationship of each of these underlying factors to the overall motivation score calculated as per Vroom's theory of work motivation?” This chapter attempts to conclude the findings obtained.

### **11.1 How Useful Are the Theories of Motivation?**

Seeing the theories of motivation as a whole can help one to understand different aspects of human behaviour, performance and motivation. Many theories of motivation view motivation from different perspectives. Some emphasise on contents and others the processes of motivation. The philosophical thinking of the culture, society and belief of the days have influenced the theories of motivation.

This research generally looks for answers to motivate people at work by overcoming as much of the difficulties as possible so that it can be used to give a better understanding of motivation in the future.

The results from the research validate the fact that successful (entrepreneurs) distributors are those receiving training programmes to help

them think and act in a high achieving manner that increase their probability of success.

There seems to be a generic list of outcomes for all entrepreneurs, irrespective of which country or work they are in. Their efforts and performances correlated significantly to the three independent variables of motivation i.e. valence, instrumentality and expectancy. These outcomes are significant in encouraging distributors (especially downlines) to work together as a team. The list of outcomes found was as follows:

1. *Managing work and home simultaneously.*
2. *Making friends and social contacts.*
3. *Not having to report to a superior.*
4. *Bringing the best of my team.*
5. *Promoting products that benefit others.*
6. *Having more time with my family.*
7. *Having public exposure and recognition.*
8. *Having a better quality lifestyle.*
9. *Being in control of my life (Independent).*
10. *Intellectually stimulated and challenged.*
11. *Exercising own leadership style.*
12. *Having financial security.*
13. *Being part of a team.*

It seems to be important to build a small team of motivated distributors based on:

1. Setting desirable goals (V);
2. Doing things that help to achieve desirable goals;

3. Increasing the likelihood of achieving these goals (I); and
4. Increasing the expectation of performing at the desirable level (E).

In this way, the team can develop high complementary skills and define a common working approach by building on the VIE of the distributors. In this way, they would know what to do in their response to demanding challenges they face together.

### **11.2 Is it possible to measure motivation? How is motivation measured?**

Yes, it is possible. First, a working list of outcomes and expectations is created through personal interviews and literature review. These working lists are used to form the survey questionnaire to discover the factors of motivation from the chosen samples.

It is important to remember to study motivation under voluntary conditions and that no two groups of people interviewed have the same set of valence and expectancy.

Through factor analysis, we can uncover the factors that motivate people at work. The relationship between these factors and other independent variables of motivation and performance may be found using multiple linear regression analysis.

### **11.3 How Realistic is Vroom's Theory of Motivation?**

Vroom believed that people do not always make the optimal decisions, nor do they always make choices subjectively, quickly and rationally. Therefore, it is hard to expect a strict application of VIE theory since in many situations they are not able to consider all alternatives or evaluate each of the dimensions (Vroom, 1995, p.xviii).

However, from the research on persuasive communication by Petty & Caccioppo (1986) and Chaiken (1980), they suggested that there are two levels of information processing, i.e. "systematic" and "heuristic" processing.

The "systematic processing" is consistent with the belief of VIE where there is relatively detailed analysis. However, the "heuristic processing" uses more casual and superficial evaluation of information. This may give rise to why literature reviews show many conflicting results and methodologies of conducting and measuring motivation, thus driving many to abandon research in motivation.

It is the researcher's belief that it is best to use the multiplicative combination of VIE for motivational study. It seems that the small variance of about 10% explained in many previous motivation research may be because Vroom's theory applies best in a voluntary work situation and in relatively stable and structured environment where clear logical and detailed analysis is possible.

This meant that the theory works well when people view their investment in work from a "voluntary" perspective, where they are not forced

to do their work. When this is applied to the distributors in this study, we see a higher percentage of variance explained.

Initially, it is vital to have a working list of all relevant desirable outcomes and a working list of all relevant activities that may need to be performed effectively by distributors.

From the definition provided by Vroom, valence is the anticipated attraction from a reward or an affective orientation toward particular outcome. The attraction or desirable dimension should measure it and not important - unimportant dimension, which does not reflect the anticipated satisfaction.

To overcome the limitations and difficulties of the Expectancy theory, more diverse subject groups are used. Within-subject research was conducted with the use of interviews in addition to questionnaires.

Although VIE are significantly related to various criteria, very little is known about how the relationship occurs. It is unlikely that most individuals would rationally calculate the probability before making a decision. However, even when we do not understand completely how decisions are made, it is still possible to understand motivation using the process and methodology designed from different disciplines for this research, as shown.

This research was able to measure motivation with interviews, questionnaires and multivariate analysis to calculate valence, instrumentality and expectation. Multivariate analyses, such as factor analysis and multiple linear regression analysis show the relationship between VIE and other independent variables and indicators of motivation and performance.

In a work situation, it is likely that actions are largely dependent of goals and information, where information is usually available. This is especially true for entrepreneurs who are only likely to be in business when there is sufficient information available before starting their businesses. For example, distributors are likely to know the desirability of outcomes, their associated likelihoods and the expectations to reach their highest goals.

It is true that some distributors take longer to complete the questionnaire, but under voluntary condition, they are not made to do it quickly, and are able to provide rational information processing.

From this research, FM, VIT, and ET derived from Vroom's theory of motivation, and the set of factors derived from factor analysis, were shown to predict effort and job performance significantly, with predictions correlated highly with actual effort and performance of distributors. FM, VIT, and ET correlated significantly with the set of factors derived form factor analysis.

It is recommended that motivation research use the within-subject model, which is a more powerful predictor of effort than the between-subject model, because it taps different level of motivational forces. It is also in line with Vroom's theory.

From this research, we are able to see that VIE variables change in people and are different at different levels of hierarchy (of needs, status, promotion, training and life cycles). For example, those who are retired and have no dependants are less likely to see spending time with the family as a desirable outcome.



However, it is very satisfying to be able to understand and measure motivation, since it can provide a sound theory that is applicable synergistically to different disciplines, e.g. it is applicable to Personnel and Educational, General Management, Organisational Behaviour, Applied Psychology and Sociology and Consumer Behaviour.

As suggested by Tan (2000):

“Leaders in organisations strive to have continuous improvement and drive toward business excellence by investing heavily in work processes and practices. The main end-goal they desire is an overall favorable business result and competitive advantage. However, the goals of leaders are likely to be different to those of their employees. This is especially true in an environment that is dynamic and always changing.” (Tan, 2000, p.338).

Tan (2000) suggested that

“It is this gap that requires attention first, as it is critical to the employees in order that they may accept changes and move toward business excellence... However, in order for organisations to develop teamwork and business excellence, they must discover the different goals of employees. With an understanding of the latter, mutual trust and understanding could be developed, communicated, maintained and improved. If needs are not met, this may cause frustration, conflict, stress, and anger with and between individuals. Therefore, an organization must be concerned with the expectations and needs of their people.” (Tan, 2000, p.338).

It is possible for organisations to use this study to help them bridge the gaps, for example, between management, employees, suppliers, customers, and society.

Another possible method to identify the gap is by using SERQUAL perception measurement. However, it is a multiple-item scale mainly for measuring consumer perceptions of service quality and not really suitable for measuring motivation (Parasuraman, Zeithaml, & Berry, 1988).

#### **11.4 What is the Relationship Between These Six Underlying Factors That Motivate Distributors, Other Independent Variables & Indicators of Motivation & Performance?**

There are nine variables that correlate significantly at 0.01 levels with the six factors of motivation (see Table 10.11):

1. *Time at highest level* ( $R = 1.00$ ;  $R^2 = 1.00$ ).
2. *Number of non-MLM worked for in the past* ( $R = .465$ ;  $R^2 = .216$ ).
3. *Personally organised training sessions* ( $R = .427$ ,  $R^2 = .182$ ).
4. *Distributor's status* ( $R = .406$ ;  $R^2 = .165$ ).
5. *Number of MLM working for (Number of other MLM companies they are currently a member)* ( $R = .392$ ;  $R^2 = .154$ ).
6. *Update ongoing training* ( $R = .387$ ;  $R^2 = .150$ ).
7. *Sponsor's quality of support* ( $R = .378$ ;  $R^2 = .143$ ).
8. *Number of MLM organisations involved (Number of other MLM organisations involved in the past)* ( $R = .361$ ;  $R^2 = .130$ ).
9. *Effort put into the MLM business* ( $R = .360$ ;  $R^2 = .130$ ).

This means that motivation has a highly significant relationship with the status of distributors. The higher the status, the more motivated they become, or vice versa. The quality of support they received, updating themselves in ongoing training and being personally involve in organising training sessions motivate distributors. Motivated distributors are also likely to work for more than one MLM organisation. They are also influenced by past work experience with non-MLM organisations which encourages them to put more effort into the MLM businesses.

There are seven variables that correlate significantly at 0.05 levels with the six factors of motivation. They are:

1. Age (R = .334).
2. Part-time or full time (R = .335).
3. Number of countries with sponsored distributors (R = .337).
4. Speed of Promotions (R = .345).
5. Number of promotions (R= .347).
6. Attended meeting during the last six months (R = .348).
7. Time at Foundation level (R = .471).

Attending meeting during the last six months confirms the importance of updating themselves with ongoing training. The promotion, the speed of promotion of distributors and the amount of time spent at the foundation level are significantly related to motivation.

This meant that motivated distributors are promoted more often and faster. This is the actual number of promotions experienced by distributors

given their status. The age group of distributors joining this industry has a relationship to motivation.

### **11.5 What is the Relationship between FM and the Underlying Factors of Motivation?**

The underlying factors (six factors of motivation as a group) are significantly correlated to the overall motivation score (FM) calculated as per Vroom's theory of work motivation. Individually, five of the six factors are significantly correlated to FM. However, F4 is not correlated to FM on its own.

The study shows validity and reliability for Vroom's Expectancy theory of work motivation. The first three factors are factors of instrumentality, valence and expectancy. This suggested that Vroom's model of work motivation has construct validity for measuring the motivation of distributors.

### **11.6 What is the Relationship of the Underlying Factors of Motivation to FM, VIT & ET?**

This study shows that the set of "six factors of motivation" is significantly correlated with VIT ( $R = .972$ ), FM ( $R = .935$ ) and ET ( $R = .932$ ), respectively. This meant that motivation could be explained by using FM and the six factors of motivation.

### **11.7 What is the Relationship of the Underlying Factors of Motivation & FM with the other Independent Variables & Indicators of Motivation & Performance?**

This study shows other indicators and variables of motivation and performance that are significant at 0.01 significance levels (\*\*\*) and at 0.05 significance levels (\*\*) with both the FM and the underlying factors of motivation (see Section 10.13).

It seems that motivated distributors are likely to put more effort into their MLM business ( $R = .465^{***}$ ), being either part time or full time ( $R = .427^{***}$ ), and attended meeting in the last six months ( $R = .349^{***}$ ). They have personally organised training session ( $R = .427^{***}$ ), achieved faster speed of promotion ( $R = .265^{***}$ ), and have a number of promotions ( $R = .347^{**}$ ) with high distributor's status ( $R = .406^{***}$ ). There is a correlation of motivation with time at Foundation level ( $R = .471^{**}$ ) and the number of countries with sponsored distributors ( $R = .337^{**}$ ). We learn from the small sample that there is a high correlation between commission and bonus ( $R = .887^{***}$ ), number of hours of training taken ( $R = .595^{**}$ ) and average number of training sessions per month ( $R = .567^{**}$ ).

A few performance variables that are highly correlated to the six factors of motivation but not to FM are as follows:

The quality of support from the sponsor ( $R = .378^{***}$ ); update in ongoing training ( $R = .387^{***}$ ); and the number of MLM organisations that they are currently member of ( $R = .392^{***}$ ).

## 11.8 Organisational Implications

The limitations of the study and the implications of the research findings are reviewed and it concludes with directions for future research.

Given the findings of this research, we may modify Vroom's theory of motivation by expressing the motivation theory for network marketing distributors into Figures 11.8 A, 11.8 B, 11.8 C and 11.8 D.

Independent variables and indicators of motivation that are highly correlated to the six dimensions of motivation are effort invested, commissions and bonuses, attend training regularly and speed of promotion to a high status level.

### Figure 11.8 A

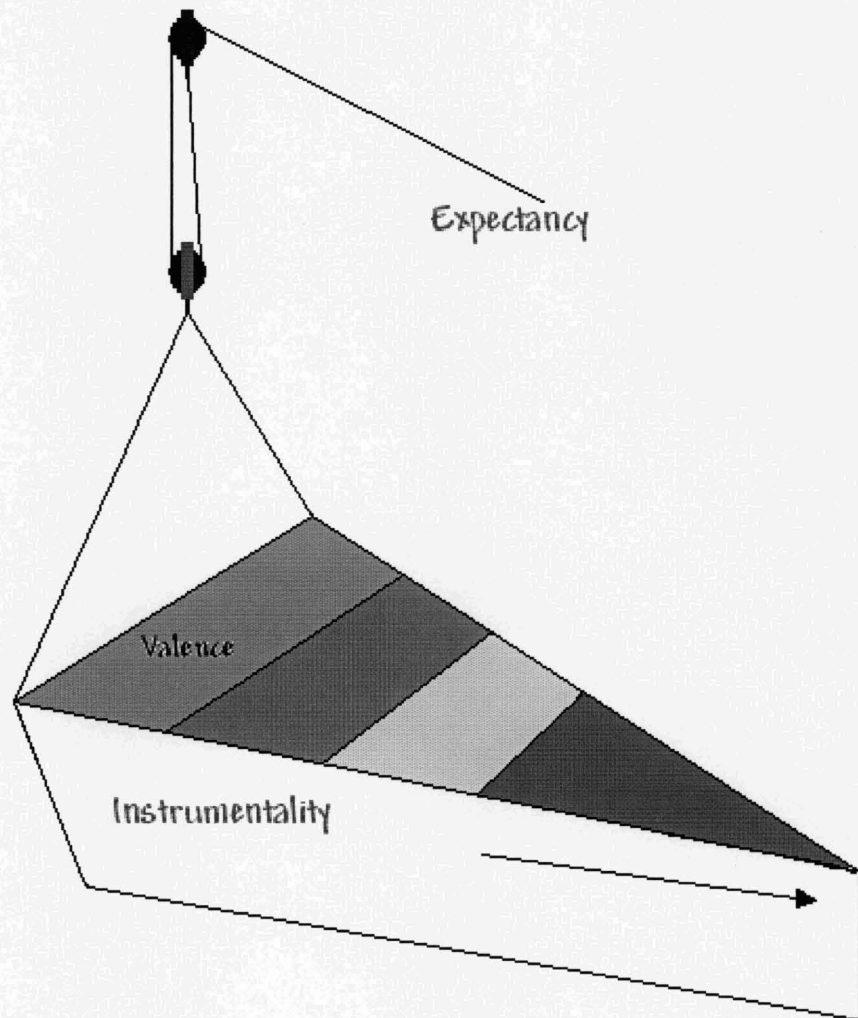
The triangle lying on the floor signifies the valence or desirable goals of distributors (see Figure 11.8 A below). Each colour represents a set of valence. Different distributors would have different pattern on how valence are prioritised. When there are very few desirable goals, distributors are likely to reach for them.

This research discovered four main sets of valence (See Figure 11.8 B). The order of these sets of valence is contingent (dependent) on the type of beneficial products offered by the distributors, the desirability of goals, their lifestyles and expectations (Figure 11.8 B). A retired distributor (living on his own) is unlikely to want to have the set of valence related to managing his work and family or to spend more time with his family.

The greater the likelihood that performance (or first-level outcomes) will lead to second level outcomes, the larger the area of the triangle will become. Figure 11.8 D shows examples of what first and second level outcomes are to distributors.

Figure 11.8 A indicates that when distributors increase their expectation of being rewarded for their efforts, their expectancy increases. This, in effect, pulls on the pulley (in Figure 11.8 A) to lift the whole valence triangle higher until it reaches its maximum height. When there is no expectancy, distributors make no effort in the business even if there are desirable goals. When there is no instrumentality, distributors make no effort to do anything even if high expectancy is presented.

Figure 11.8 A indicates that both expectancy and instrumentality must be working together to lift the pyramid to its full potential (vertical position). It seems logical that distributors are likely to be more motivated when they are promoted. Promotion when achieved helps them to become financially secured and being able to spend more time with their family.



**FIGURE 11.8 A: MODEL OF MOTIVATION SHOWING THE RELATIONSHIP BETWEEN VALENCE, INSTRUMENTALITY AND EXPECTANCY (TAN, 2003)**

Figure 11.8 B

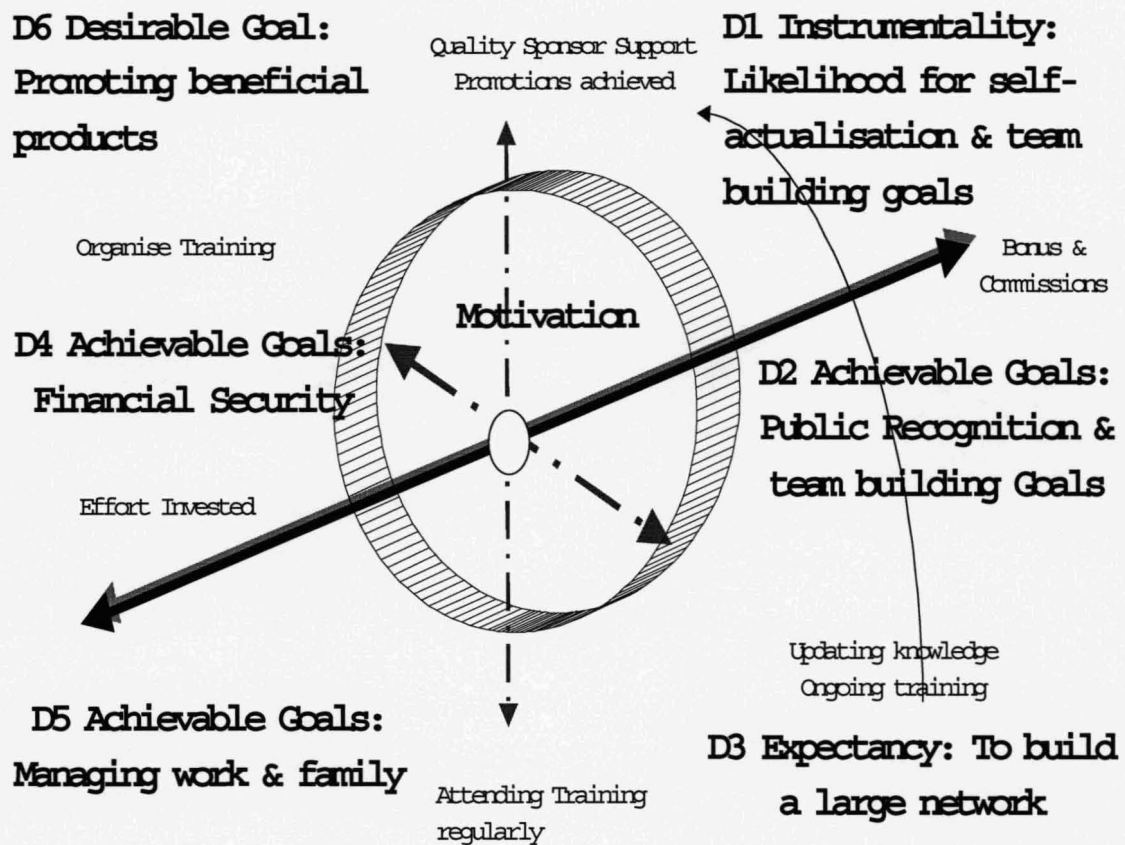
Each of the factors of motivation is represented by an independent dimension. For example, Factor 1 (F1) is represented by Dimension 1 (D1) (See Figure 11.8 B below).



In Figure 11.8 B, motivation is the cumulative effect of all these six dimensions, each building on one another (See also Figure 11.8 C). The arrows show how an individual thinks in term of motivation. It is something forward looking, and other times the person may be reflecting on what has happened in the past to themselves or what others have experienced. For example, distributors may reflect whether his effort or achievement in sponsoring correspond with the bonus received. The circular arrows indicate how motivation within a person moves (in clockwise direction). Therefore, motivation is assumed to be moving in the direction starting from Factor 1 to Factor 6.

From the study, it seems that an individual is constantly evaluating the likelihoods of getting desirable goals with the desirability of the goals themselves (See also Figure 11.8 D). Notice expectation is an important factor here because it makes the person work harder or slower according to how quickly he sees he could get to the top or to achieve his desired performance (Figures 11.8 B & 11.8 D).

The arrow from the expectation dimension reflects its influence to make a person work harder (Figures 11.8 B & 11.8 D). For example, if the person believes that he is able to get to the top within a small period of time, the person is likely to try harder and faster. However, if the person believes that he is only able to get to the top within a much longer time period, he may pace his effort accordingly. Also he may not attempt to drive himself so seriously so as not to disappoint himself. Effort would be reduced when compared with the first example.



**FIGURE 11.8 B: THE SIX DIMENSIONS OF MOTIVATION (TAN 2003)**

From Figure 11.8 B, the six dimensions of motivation are as follows:

**Dimension 1 is a set of likelihoods to promote quality product, quality lifestyle, and self-actualisation for their team.** It suggests that the likelihood to promote beneficial products is the most important and is associated with being able to exercise one's own leadership style and likelihood of being in control of one's life.

Once these priorities are set, distributors are motivated by the likelihood of having a better quality lifestyle and social contacts that are likely to intellectually stimulate and challenge them.

**Dimension 2 is predominately a set of self-actualisation and team building desirable and achievable goals.** Achievable goals are defined as goals that are desirable and achievable since both the desirability and the likelihoods of receiving the goals are present within a factor.

The composition for Factor 2 (or Dimension 2) is as follows:

- o) Having public exposure & recognition;*
- p) Being able to exercise own leadership style;*
- q) Being intellectually stimulated & challenged;*
- r) Being part of a team;*
- s) Making friends & social contacts;*
- t) Likelihood of having public recognition & exposure;*
- u) Bringing the best out of my team.*

Factor 2 for the large sample consisted mainly of intrinsic goals which consisted of the goal and likelihood of “having public exposure and recognition” as its priority. This was carried through leadership challenge to build up team members and bring the best out in them through friendship and social contacts. This should help to bring out the best of the distributor’s team while creating friendship and social contacts. All these should provide intellectual stimulation, challenge, public exposure and recognition.

**Dimension 3 is the expectation to build a large network.** It is predominately a set of expectancy consisting of the expectation to build a large network, the expectation that one has the ability to recruit prospective distributors, and the expectation that one has of the chance of reaching the

highest distributor status through sponsoring and training. It is associated with the likelihood of bringing the best out of one's team.

**Dimension 4 is a set of desirable and achievable goals for financial security and quality lifestyle.** It is associated with achieving financial security goal, having a better quality lifestyle and being in control of one's life.

**Dimension 5 is a set of desirable and achievable goals for managing work and family simultaneously.** It consists of the goal and likelihood of three variables. They are managing work and home simultaneously; having more time with one's family; and not having to report to a superior in one's work.

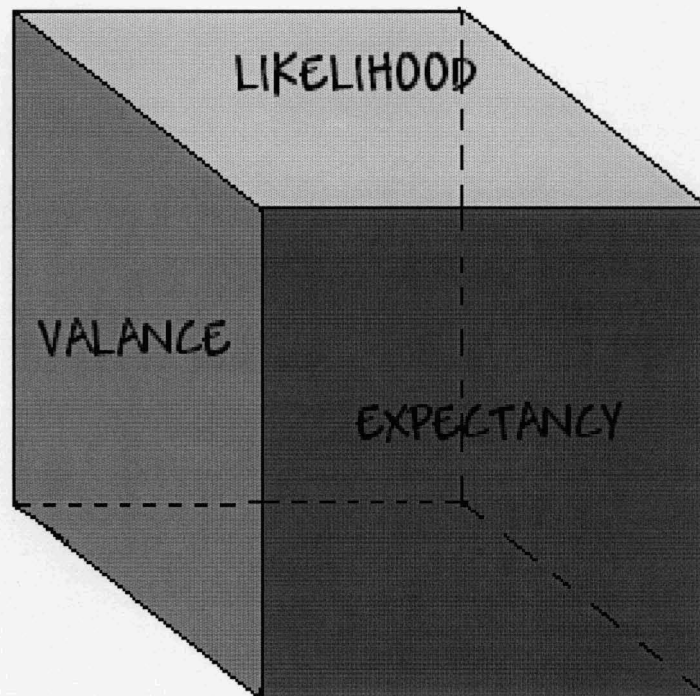
**Dimension 6 is the desirable goal to promote products that benefits others.**

#### Figure 11.8 C

The six dimensions of motivation of distributors can be represented by a cube in Figure 11.8 C. Its six sides represent the six dimensions of motivation. Four sides of the cube of motivation are mainly achievable goals (valence and associated likelihoods), with instrumentality and expectancy the other two sides.

This study shows that motivation is influenced by instrumentality, valence and expectancy (Figures 11.8 A, 11.8 B, 11.8 C & 11.8 D). Generally, there are four main sets of desirable and achievable goals for

distributors. These goals may change their order of priority depending on the types of products and benefits provided by the MLM organisations.



**FIGURE 11.8 C: THE CUBE OF MOTIVATION BY TAN (2003)**

Figure 11.8 D

Figure 11.8 D provides a picture of the process of motivation. It shows the reality of motivation in the real world (represented by the large and medium size bold arrows) and the abstract world of thought process (represented by the Valence, Instrumentality and Expectancy).

In the real world, individuals are unlikely to put an effort into doing something, such as attending meeting, training, inviting or sponsoring prospective distributors, if they do not see any relationship between effort and performance. This is represented by the large bold arrow.

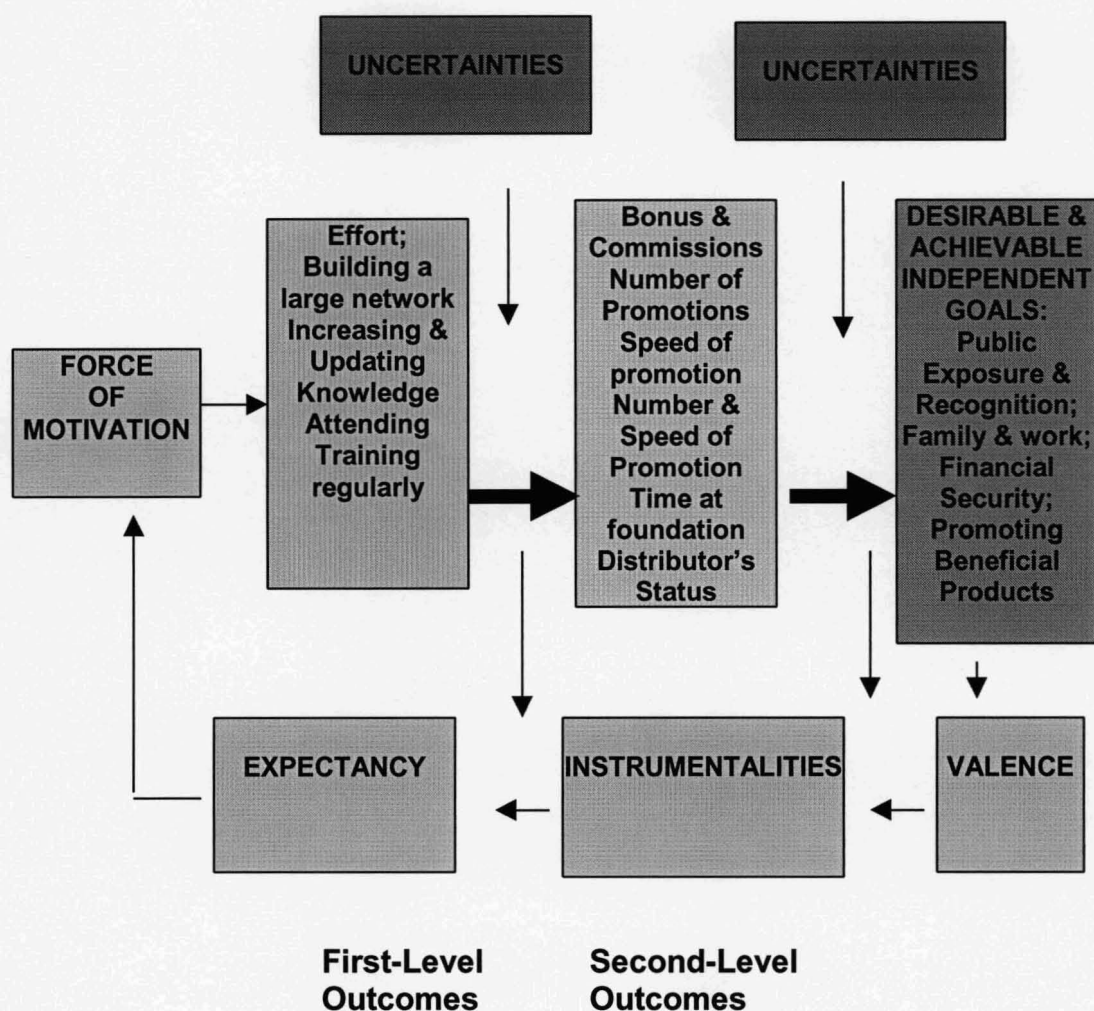
There are always “uncertainties” over the probability that efforts invested may reach the performance expected (presented by the medium size bold arrow). This is because it is impossible to tell the chance of success between effort and performance as he puts in an effort. It is also impossible to tell whether level-one outcomes would lead to level-two outcomes. Environmental, social, spiritual or physical factors may reduce his probability of successful performance at any time.

In the abstract world, distributors are constantly weighing the values of receiving the goals (represented by valence) personally. They then estimate the probabilities of getting the desirable goals with their performance (represented by instrumentality). Then they would again estimate the probability that their effort would lead to certain performance (represented by expectancy). It is these three factors, (valence, instrumentality and expectancy), in that order, that motivate distributors to work harder in their business. The abstract world is represented by the dotted arrows.

Motivated distributors are likely to have good quality support from their sponsors, even when they do not have any support from their uplines. They are likely to have been promoted to a high distributor status and are able to reach the higher distributor status. They are constantly updating themselves with ongoing training and are likely to personally organise training workshop for their team member and prospective distributors.

Variables that do not have significant relationship with motivation are “gender;” “name of state, town and city;” “country of permanent residence;” and “fund invested.” The proposition was that women make better

distributors and that those living in different countries or near to larger towns are likely to be more motivated. However, the data does not seem to support these hypotheses.



▼ **Effort -----> Performance linkage** (How hard will I have to work?) This is **Expectancy**.

▼ **Performance -----> Reward linkage** (What is the likelihood of getting the reward with my performance?) This is **Instrumentality**.

▼ **Desirability** (How attractive is the reward?) This is **Valence**. In this study, the desirability of the some of the goals (outcomes) is very likely to be achievable.

**FIGURE 11.8 D: EXPECTANCY THEORY OF MOTIVATION BY TAN (2003)**

Organisational implications may be drawn from the six factors of motivation according to the management strategy of each network marketing organisation. Distributors, directors, trainers, motivators and planners of MLM organisations who wanted to motivate distributors may use the findings in this research to help them plan more strategically.

Network marketing organisations need to provide on-going training programmes that encourage distributors to attend. They need to train uplines and sponsors to support distributors they have personally sponsored and understand the desirable outcomes of each distributor.

According to Professor Yoshio Kondo (2001), Professor Emeritus, Kyoto University, Kyoto (Japan), when comparing human beings, machines, materials and methods, it was recognised that human beings is the most important and indispensable element to achieve the aim of work in any organisation. Kondo believes that human beings take no pleasure just to “exist” in the world or at work, but they take pleasure to “exist well” (Kondo, 2001, pp.28-29). This research shows how distributors like to exist well with their set of achievable goals, instrumentality and expectancy.

Therefore, any organisations existing on a daily basis to “make money” rather to help their people to “exist well” has in fact no reason to exist, and can do nothing but decline.

It is likely that organisation that “exists well” usually make essential contributions to their employees, society and the community. Organisations may motivate their distributors, employees or entrepreneurs by offering them a balanced strategy from the six dimensions of motivation.



In addition, total quality management philosophy and integrated management has shown that quality improvement is usually more acceptable rather than cost reduction and higher productivity at work (Kondo, 2001). Kondo shows that quality has a far more human character than either cost or productivity. This is reflected in the findings of this research. For example, likelihoods to achieve self-actualisation, team building and quality lifestyle goals, achievable family and work goals, achievable financial security, and achievable public exposure and recognition goals. All these dimensions are quality dimensions.

Furthermore, improving quality in creative ways can lead to lower cost and higher productivity though the opposite is not necessarily true. Kondo suggested that quality should be placed at the centre of integrated management in any organisations (Kondo, 2001, p.29).

This research reinforced what Kondo has been trying to explain. It has shown empirically that distributors worked for better quality of life and wellness for themselves and others in their team.

It is important for all organisations to find ways to work out a philosophy (with a balanced strategy) that can be accepted and bought by all (directors, employees, customers and stakeholders). It has to be one that is attractive to all, and forms the basis for its entire workforce. This research is one of the most powerful ways for working that out, creating a win – win relationship.

## **11.9 Limitation of the Research & Suggestions for Future Research**

The data are samples of active distributors mainly in England. Since it is not a large comprehensive study of the motivational field, it suffers from limitations. This gives rise to number of suggestions for future research.

The main limitation is that this is a cross-sectional research design. This meant that it is a snapshot of the motivation of distributors at a specific time. More of these snapshots are needed to compare results. A case study may be used to follow the motivation of distributors on a longitudinal basis to identify the change in motivation before and after training sessions.

Another limitation is that the results presented here are drawn from a group of distributors residing mainly in the England. Generalising the results to the whole industry and to entrepreneurial industry or perspective distributors should be done with caution.

For the purpose of further research, the researcher could increase the size of the samples and take samples from different countries. More work is still needed in understanding differences in distributor's status and motivation. It is proposed that those who are advanced in distributor's status are motivated differently from those who are at the beginners/foundation levels. Therefore, more data are needed to compare between distributor's status, nationality, countries, states, cities and genders.

A set of longitudinal studies could be used to measure training received with performance and motivation scores across a three to five year period examining the relationships and their development through time. In

addition to cross-sectional surveys, in-depth case studies should be considered.

The organisation implications from these six factors of motivation are applicable to network marketing organisations and may be also applicable to non-network marketing organisations. For example, the desirable goal of selling products and services in factor 6 does not have to be physical in nature, such as selling computers and vitamins. The desirable goals of most entrepreneurs are mainly in promoting intrinsic needs (as well as physical needs). Therefore, selling computers and vitamins may be changed to promoting solutions to business and entertainment and vitamins to health and wellness.

### **11.10 Contribution of This Research**

There are conflicting empirical results on the validity of Vroom's theory of work motivation. At the same time, there are few empirical research in the area of motivation for entrepreneurs, especially for those working as distributors. This research attempts to fill the gap in this area.

Through the use of literature reviews and personal interviews, the study methodologically and rigorously refined and constructed a valid and reliable survey questionnaire for the purpose of collecting empirical quantitative data on the motivation of distributors. In this way, others may use the questionnaire and its methodology to construct their own survey.

Using the rigorously tested empirical quantitative and qualitative data, the study evaluated and established the underlying factors that motivate entrepreneurs working as distributors in the England. The internal validity of the regression model's constructs for the "six factors of motivation" is acceptably strong. The methodology allows others to do the same in establishing the underlying factors of motivation for their particular group that they are evaluating, being aware that no two groups are likely to have the same underlying factors of motivation.

The findings from this study provide validity and reliability for Vroom's model of the theory of work motivation for entrepreneurs working in the network marketing industry. It shows that the three variables of motivation, VIE and the total scores of motivation have a high correlation to the "six factors of motivation."

The success and motivation of these distributors are crucial to the survival of the network marketing industry. By understanding what motivates distributors to work hard and the effective tools to use for training these distributors, organisations may set strategy that would attract and motivate distributors to work harder for their organisations.

The study contributes to management's understanding of motivation at work. It also contributes to a deeper understanding of the factors of motivation at work and their relationship to performance variables for entrepreneurs working in the network marketing industry.

Rigorous statistical analysis of the data was undertaken using the Statistical Package for Social Science (SPSS 10 & 11). This multivariate analysis is a powerful methodology for analysing the magnitude and direction for the hypothesised relationships using factor analysis and multiple linear regression analysis.

Therefore, a significant contribution of the study exists in the methods and techniques used to validate and to test for reliability of the theory of motivation and to identify and analyse the factors that influence motivation and their relationship with performance variables. The methodology illustrates how theories can be tested and the implications of the findings provided for England and international network marketing organisations.

## **Appendix 1 - Definitions of Terms, Concepts & Abbreviations**

This section provides a definition of terms and abbreviations commonly used in this research. Detailed explanations of any definition of the terms are found in the content.

A reward represents pleasure, value or outcome gained from an activity, action, ability or experience.

Content Theory of Motivation refers to theory of motivation that focuses on "what" motivates an individual. The content theory looks mainly at "what" factors motivate an individual. The process is less clear in the content theory of motivation. It tends to focus on the goals or traits of motivation.

Distributors are distributors working within the network marketing industry. They may be affiliated to one or more network marketing organisations.

Expectancy represents an independent factor in the Expectancy Theory theoretical approach to human motivation. It addresses the level of confidence and strength of the momentary belief a person has in his ability to achieve a given task or performance when investing an adequate amount of effort. It is an action-outcome association.

Expectancy analysis represents an approach to analyse human motivation from an expectancy theoretical perspective.

Expectancy theory is a theoretical research model developed to predict motivation. It contains both the content (valence) and process of motivation but emphasises the process rather than the content of motivation. Rather than explaining “what” motivates an individual (the content of motivation), it explains “how” (the process of motivation) an individual is motivated. This is the context of an individual's motivation. There are a few versions of the Expectancy Theory and they are usually built on three basic criteria of the theory by Vroom (1964). It proposes that motivation is a cognitive process and each individual chooses to do those things because of the combined interaction of the following:

He perceives his own ability to perform a task successfully when investing sufficient effort (expectancy).

Her belief that different level of performance will be associated with different desired outcomes (instrumentality).

He perceives that there is a relationship between successful performance and the value of the predetermined reward or outcome (valence).

Extrinsic motivators are factors of motivation that come from outside an individual. They are usually rewards that organisation grants an individual. In the network marketing industry, these outcomes could be bonuses, cars and holidays.

FM is defined as the force of motivation. It is the overall force of motivation as calculated using Vroom's theory of motivation.

Distributors are adults who signed up with the network marketing organisation for the sole purpose of distributing and buying products from the organisation for themselves or for resale to their contacts. As distributors, they are entitled to commissions and bonus when they are actively buying products from the organisation. Commission and bonus are given based on the payment structure of the organisation, which may be modified regularly to meet the needs of the organisation and their distributors. Any forms of payments are mainly on the basis that goods and services are sold or moved through their personal recommendations and through distributors that they have personally sponsored. See definition for distributors.

Instrumentality represents an independent factor in the Expectancy theory. It addresses an individual's perceptions of the degree of certainty for the attainment of an ascribed reward or outcome upon successful completion of the necessary tasks. It is the subjective probability or belief that different levels of performance will be associated with different outcomes. It is an



outcome-outcome association (Vroom, 1964). See definition for outcome below for more information.

Motivation is a process governing choices made by persons among alternative forms of voluntary activities (Vroom, 1964).

Motivation theory represents any theory of motivation explaining the factors motivating an individual or group of individuals. There are two categories of motivation theory, the "content" and "process". The content theory looks mainly at "what" factors motivate an individual. The process is less clear in the content theory of motivation. It tends to focus on the goals or traits of motivation. Process theory looks at mainly at "how" each individual is motivated. Vroom's theory of motivation is the process theory of motivation.

Network marketing is the term used to represent "word of mouth" or "referral" distribution network. Here distributors are the sole distributors of the products. It replaces traditional methods of selling goods and services to end-users such as wholesalers, retailers and advertisers. Network marketing is sometimes known as "the small people's franchise", where individuals have exclusive rights to sell the company's products and receive commissions and bonus as agreed by contract. Other names of network marketing are:

- I. Multi-Level Marketing (MLM).
- II. Network Distribution.

- III. People's Franchise.
- IV. Referral Marketing.
- V. Progressive Marketing.
- VI. Home-Based-Business.
- VII. "Word of Mouth" Advertising.

Network Marketing Independent Distributors (nmids or distributors) are individuals in the network marketing industry. They are usually affiliated to a network marketing organisation through membership and work for themselves independently as entrepreneurs. As distributors they have been given the authority or franchise to buy, sell all the company's products and services and market the company's products to their customers.

Intrinsic motivators are motivational factors coming from within an individual and what he grants himself, such as recognition and the feeling of accomplishment (Galbraith and Cummings, 1967; Miskel, 1982; Vroom, 1964).

Network marketing Organisations are organisations that sell their products and services to the end-users using network marketing distribution. They are responsible for products and services information and patents and their marketing materials. They must fulfil their contract to their customers and to their distributors.

Outcome is something that an individual acquires as a result of an action or ability. Only positive outcomes are used for this study. For example, rewards and incentives may be substituted for outcomes in this study. Therefore, outcome is anything an individual might want to attain and it can be intrinsic and /or extrinsic rewards.

Process theory of Motivation refers to theory of motivation that focuses mainly on "how" individuals are motivated. The theory would have the goals and the process as the ingredients for motivation. However, the chief focus is the process of motivation, which is Vroom's Motivation theory.

Valence is an independent factor in the Expectancy theory model. It addresses the degree of importance, value, or attractiveness of a given reward or outcome as perceived by an individual. It is an affective orientation towards a particular outcome.

Wants are specific goals or needs, which arise out of basic needs.



**Q18.** What are your expectations of building a large network of independent distributors successfully?

Very unlikely 0 1 2 3 4 5 6 7 8 9 10 Very likely

**Q19.** What are your chances of reaching the highest distributor status in this company?

Very unlikely 0 1 2 3 4 5 6 7 8 9 10 Very likely

**Q20.** How much effort are you putting into your MLM business each week (in %)? \_\_\_\_\_

**Q21.** How many hours of MLM training have you received already? \_\_\_\_\_

**Q22.** How much money have you invested with present MLM company? \_\_\_\_\_

**Q23.** Number of countries to which you have introduced a new distributor \_\_\_\_\_

**Q24.** How much international & multi-cultural experience do you have?

Very Little 1 2 3 4 5 Very Much

**Q25.** How many other MLM companies are you currently a member of? \_\_\_\_\_

**Q26.** Below are 12 key outcomes that **Motivate** distributors to work hard. Estimate the **Attractiveness & Desirability Score** for each outcome.

For example, for the section "Attractiveness or desirability of outcomes." 1 = No Attraction or None; 2 = Very little attraction; 3 = Some Attraction; 4 = Attractive; 5 = Very Attractive.

Your Personal Outcomes Or Goals	Attractiveness & desirability of outcomes				
	None	Attractive			Very
Managing Work & Home Simultaneously	1	2	3	4	5
Making Friends & Social Contacts	1	2	3	4	5
Not Having To Report To A Superior	1	2	3	4	5
Bringing The Best Out Of My Team	1	2	3	4	5
Promoting Products That Benefit Others	1	2	3	4	5
Having More Time With My Family	1	2	3	4	5
Having Public Exposure & Recognition	1	2	3	4	5
Having A Better Quality Lifestyle	1	2	3	4	5
Being In Control Of My Life (Independent)	1	2	3	4	5
Intellectually Stimulated & Challenged	1	2	3	4	5
Exercising Own Leadership Style	1	2	3	4	5
Having Financial Security	1	2	3	4	5

**Q27.** Below are the same 12 key outcomes that **Motivate** distributors to work hard. Estimate your chance of achieving these outcomes. For this section 0 = Very Unlikely or 0%; 10 = 100% chance of achieving the outcomes or very likely.

Your Personal Outcomes or Goals	The Likelihood of achieving the outcomes									
	Very Unlikely					Very Likely				
Managing Work & Home Simultaneously	1	2	3	4	5	6	7	8	9	10
Making Friends & Social Contacts	1	2	3	4	5	6	7	8	9	10
Not Having To Report To A Superior	1	2	3	4	5	6	7	8	9	10
Bringing The Best Out Of My Team	1	2	3	4	5	6	7	8	9	10
Promoting Products That Benefit Others	1	2	3	4	5	6	7	8	9	10
Having More Time With My Family	1	2	3	4	5	6	7	8	9	10
Having Public Exposure & Recognition	1	2	3	4	5	6	7	8	9	10
Having A Better Quality Lifestyle	1	2	3	4	5	6	7	8	9	10
Being In Control Of My Life (Independent)	1	2	3	4	5	6	7	8	9	10
Intellectually Stimulated & Challenged	1	2	3	4	5	6	7	8	9	10
Exercising Own Leadership Style	1	2	3	4	5	6	7	8	9	10
Having Financial Security	1	2	3	4	5	6	7	8	9	10

**Q.28** Estimate your annual income

From Paid Employment	From MLM Business
N/A - I am A Full- Time Distributor	Nil
Less than £10,000	Less than £10,000
£10,001- £15,000	£10,001- £15,000
£15,001- £20,000	£15,001- £20,000
£20,001- £25,000	£20,001- £25,000
£25,001- £30,000	£25,001- £30,000
£30,001- £40,000	£30,001- £40,000
More than £40,000	More than £40,000

**Q29.** Commission & bonus received from present MLM company \_\_\_\_\_

**Q.30** Did you find this survey useful and interesting?

Not at all 0      1      2      3      4      5      6      7      8      9      Very much 10

Comments:

Please use the back of the page, if you need more space to make comments. Thank you for your time in completing the questionnaire. If you have any queries, please contact me on 0171-320-1595.

Regards Peter Tan ([peterktan@usa.net](mailto:peterktan@usa.net))

### Appendix 3 – Questionnaire B

**Network Marketing MLM Questionnaire © Peter K. L. Tan (1998).**

This is a survey concerning the aspirations, goals, expectations and profiles of network marketing (Multi-Level Marketing) distributors. The information is gathered and analysed to help distributors to achieve their goals. You are invited to participate in the survey and all information is treated with confidence.

Please circle or write in your answer to each question accordingly.

**Q1.** Gender: Male/Female **Q2.** Age \_\_\_\_\_ **Q3.** No. of dependent children \_\_\_\_\_

<b>Q4. Qualification</b>	<b>Q5. Marital Status</b>	<b>Q6. Distributor Status</b>	<b>Q7. Current Job Status</b>
a. None	a. Single	a. Beginner Level	a. House Wife/Husband
b. Secondary	b. Married	b. Foundation Level	b. Full-Time Distributor
c. Undergraduate	c. Divorced	c. Intermediate Level	c. Managerial Grade
d. Graduate	d. Widower	d. Advanced Level	d. Technical Grade
e. Post Graduate	e. Co-habit	e. Highest Level	e. Self - Employed
f. Doctorate	f. Others	f. Others	f. Unemployed
g. Professional			g. Others

**Q8.** Average number of sessions you attend MLM training in a month \_\_\_\_\_

**Q9.** No. of MLM organisations you have ever been involved with (including today). \_\_\_\_\_

**Q10.** No. of non-MLM organisations (i.e. Employers) you have worked for. \_\_\_\_\_

**Q11.** No. of MLM books read. \_\_\_\_\_

**Q12.** No. of MLM audio heard. \_\_\_\_\_

**Q13.** No. of MLM videos seen. \_\_\_\_\_

**Q14.** No. of months with present MLM company. \_\_\_\_\_

**Q15.** Length of time at different level with current MLM company.

<b>Levels</b>	<b>No. Of Months</b>
<b>Beginner Level</b>	
<b>Foundation Level</b>	
<b>Intermediate Level</b>	
<b>Advanced Level</b>	
<b>Highest Level</b>	
<b>Others</b>	

**Q16.** What kind of support do you get from your sponsor?  
 Poor 1 2 3 4 5 6 7 Excellent

**Q17.** Do you believe you are properly trained and equipped at recruiting prospective distributors and users into the business?

Not At All 1 2 3 4 5 6 7 8 9 10 Very Good At It

**Q18.** What are your expectations of building a large network of distributors successfully?

Very unlikely  
 1      2      3      4      5      6      7      8      9      Very likely  
 10

**Q19.** What are your chances of reaching the highest distributor status in this company?

Very unlikely  
 1      2      3      4      5      6      7      8      9      Very likely  
 10

**Q20.** How much effort are you putting into your MLM business each week (in %)? \_\_\_\_\_

**Q21.** How many hours of MLM training have you received already? \_\_\_\_\_

**Q22.** How much money have you invested with present MLM company? \_\_\_\_\_

**Q23.** Number of countries to which you have introduced a new distributor \_\_\_\_\_

**Q24.** How much international & multi-cultural experience do you have?

Very Little  
 1                      2                      3                      4                      Very Much  
 5

**Q25.** How many other MLM companies are you currently a member of? \_\_\_\_\_

**Q26.** Below are 13 goals that **Motivate** distributors to work hard. Estimate **your own chance** of achieving these goals as distributor. For example, 0 = 0%, 4 = 40%, 10 = 100%, chance of achieving these goals. Choose a number from 0 to 10.

Your Personal Goals Derived From Being A MLM Distributor	Likelihood Of Achieving Each Goal. 0 = Very Unlikely, 10=Very Likely	Attractiveness & Desirability Of Each Goal. 0 = None, 10 = Very Attractive
Managing Work & Home Simultaneously	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Making Friends & Social Contacts	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Not Having To Report To A Superior	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Bringing The Best Out Of My Team	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Promoting Products That Benefit Others	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Having More Time With My Family	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Having Public Exposure & Recognition	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Having A Better Quality Lifestyle	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Being In Control Of My Life	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Intellectually Stimulated & Challenged	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Exercising Own Leadership Style	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Having Financial Security	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Being Part of A Team	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Other (Specify)	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10



**Q.28** Estimate your annual income

<b>From Paid Employment</b>	<b>From MLM Business</b>
N/A - I am A Full- Time Distributor	Nil
Less than £10,000	Less than £10,000
£10,001- £15,000	£10,001- £15,000
£15,001- £20,000	£15,001- £20,000
£20,001- £25,000	£20,001- £25,000
£25,001- £30,000	£25,001- £30,000
£30,001- £40,000	£30,001- £40,000
More than £40,000	More than £40,000

**Q.29.** Commission & bonus received from present MLM company \_\_\_\_\_

**Q.30** Did you find this survey useful and interesting?

Not at all  
0      1      2      3      4      5      6      7      8      9      Very much  
10

Comments:

Please use the back of the page, if you need more space to make comments. Thank you for your time in completing the questionnaire. If you have any queries, please contact me on 0171-320-1405.

Regards Peter Tan (ptan@lgu.ac.uk)

## Appendix 4 – Questionnaire C1

### Network Marketing MLM Questionnaire © Peter K. L. Tan (2000).

This is a survey concerning the aspirations, goals, expectation and profile of Network Marketing (Multi-level Marketing) distributors. The information is gathered and analysed to help independent distributors achieve their goals. You are invited to participate in this survey. **All information is treated with confidence.** Please **circle** or **write** in your answer to each question accordingly. You can also answer this questionnaire on the following website: <http://www.lgu.ac.uk/bro/tanphd.htm>

#### Distributor's Profile

Q1. Length of time with present MLM company. \_\_\_\_\_

#### Q2. Present Distributor Status Level with above company

a. Beginner

b. Foundation (e.g. Silver, Consultant, Executive, Manager, 1-2 Star)

c. Intermediate (e.g. Supervisor, Gold, Marketing Manager, 3 Star)

d. Advanced (e.g. Director, Platinum, Marketing Director, 4 Star)

e. Highest (e.g. Senior Marketing Director, Diamond, 5 Star)

#### Q3. I am a MLM distributor on

a. Full-Time (F/T) basis

b. Part - Time (P/T) basis

Q4. No. of other MLM organisations involved in to date. \_\_\_\_\_

Q5. Name of present MLM company. \_\_\_\_\_

Q6. No. of non-MLM organisations (i.e. F/T & P/T) worked with to date \_\_\_\_\_

Q7. Length of time at each level with current MLM company.

Level	Beginner	Foundation	Intermediate	Advanced	Highest
No. of Months					

#### Training Profile

Q8. No. of MLM training sessions you have attended so far. \_\_\_\_\_

Q9. No. of MLM books read.

Q10. No. of MLM audios listen.

Q11. No. of MLM videos seen.

Q12. Are you updating your knowledge? Yes / No

Q13. Have you attended training in the last 6 months? Yes / No

Q14. Are you updating yourself with ongoing training? Yes / No

Q15. Length of time you have been a distributor. \_\_\_\_\_

Q16. State your degree of competence to recruit prospective distributors into the business.

Poor									Excellent
0	1	2	3	4	5	6	7	8	9 10

Q17. State the total number of training hours you have ever received so far. \_\_\_\_\_

Q18. Have you personally organized a MLM training session? Yes/No

**Expectations & Support**

**Q19.** State the quality of support you get from your sponsor.  
 Poor 0 1 2 3 4 5 6 7 8 9 10 Excellent

**Q20.** State the quality of support you get from your uplines.  
 Poor 0 1 2 3 4 5 6 7 8 9 10 Excellent

**Q21.** State your expectation of building a successful network of distributors.  
 Very unlikely 0 1 2 3 4 5 6 7 8 9 10 Very likely

**Q22.** State your chances of reaching highest distributor status with this company.  
 Very unlikely 0 1 2 3 4 5 6 7 8 9 10 Very likely I have reached it

**Q23.** State the amount of effort put into your MLM business (%). \_\_\_\_\_

**Q24.** Number of countries you have sponsored distributor to date. \_\_\_\_\_

**Q25.** Number of other MLM companies you are currently a member. \_\_\_\_\_

**Attractiveness & Likelihood of achieving Your Goals**

**Q26.** Below are 13 goals that **Motivate** distributors to work hard. Estimate **your own chance** of achieving these goals as distributor. For example, 0 = 0%, 4 = 40%, 10 = 100%, chance of achieving these goals. Choose a number from 0 to 10.

<b>Your Personal Goals Derived From Being A MLM Distributor</b>	<b>Likelihood Of Achieving Each Goal. 0 = Very Unlikely, 10=Very Likely</b>	<b>Attractiveness &amp; Desirability Of Each Goal. 0 = None, 10 = Very Attractive</b>
Managing Work/Home Simultaneously	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Not Having To Report To A Superior	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Bring The Best Out Of My Team	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Promote Products That Benefit others	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Making Friends & Social Contacts	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Having More Time With My Family	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Having Public Exposure & Recognition	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Having A Better Quality Lifestyle	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Being In Control Of My Life	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Intellectually Stimulated & Challenged	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Exercising Own Leadership Style	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Being Part Of A Team	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Having Financial Security	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Other (Specify)	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10

**Personal Profile**

**Q27.** Gender: Male / Female

<b>Q28. Highest Qualification Obtained</b>	<b>Q29. Marital Status</b>	<b>Q30. Age</b>
a. None	a. Single	a. 18-21
b. Secondary	b. Married	b. 22-25
c. Undergraduate	c. Divorced	c. 26-30
d. Graduate	d. Widow/Widower	d. 31-40
e. Post Graduate	e. Co-habit/living together	e. 41-45
f. Doctorate	f. Separated	f. 46-50
g. Professional		g. 50+

**Q31.** No. of dependent children \_\_\_\_\_

**Q32.** Country of permanent residence. \_\_\_\_\_

**Q33.** Name the State, Town, or City of residence. \_\_\_\_\_

**Q34.** Ethnic Origin. \_\_\_\_\_

**Q35.** State amount of funds invested in present MLM company. \_\_\_\_\_

Please check that all questions are clearly answered to ensure the success of this research. If you are interested in the research outcome, receive information and participate in future survey, please give your name, address, telephone and email below.

**Comments:**

Use the page overleaf, if you need more space. Thank you for time in completing this questionnaire. Please return this survey to

Peter Tan  
2 Morland Road  
London E17 7JB  
UK

If you have any queries, please contact me on +44 - 171-320-1405  
or email [ptan@lgu.ac.uk](mailto:ptan@lgu.ac.uk)

Regards & Best Wishes

Peter Tan

## Appendix 5 – Questionnaire C2

### Network Marketing MLM Questionnaire © Peter K. L. Tan (2000).

"This is a survey concerning the aspirations, goals, expectation and profiles of network marketing (Multi-level Marketing) distributors. The information is gathered and analyzed to help independent distributors to understand themselves better in order to achieve their goals. You are invited to participate in this survey. **All information will be treated with strict confidence.** Please tick or circle your answer to each question accordingly."

#### Distributor's Profile

**Q1.** Length of time with present MLM company. \_\_\_\_\_

**Q2.** Present Distributor Status Level with above company

a. Beginner

b. Foundation (e.g. Silver, Consultant, Executive, Manager, National, 1-2 Star)

c. Intermediate (e.g. Supervisor, Gold, Marketing Manager, Presidential or Bronze Presidential, 3 Star)

d. Advanced (e.g. Director, Platinum, Marketing Director, Gold or Silver Presidential, 4 Star)

e. Highest (e.g. Senior Marketing Director, Diamond, Platinum Presidential, 5 Star)

**Q3.** I am a MLM distributor on

a. Full-Time (F/T) basis

b. Part - Time (P/T) basis

**Q4.** No. of other MLM organisations involved in to date. \_\_\_\_\_

**Q5.** Name of present MLM company. \_\_\_\_\_

**Q6.** No. of non-MLM organisations (i.e. F/T & P/T) worked with to date \_\_\_\_\_

**Q7.** Length of time at each level with current MLM company.

Level	Beginner	Foundation	Intermediate	Advanced	Highest
No. of Months					

#### Training Profile

**Q8.** No. of MLM training sessions you have attended so far. \_\_\_\_\_

**Q9.** No. of MLM books read.

**Q10.** No. of MLM audios listen.

**Q11.** No. of MLM videos seen.

**Q12.** Are you updating your knowledge? Yes / No

**Q13.** Have you attended training in the last 6 months? Yes / No

**Q14.** Are you updating yourself with ongoing training? Yes / No

**Q15.** Length of time you have been a distributor. \_\_\_\_\_

**Q16.** State your degree of competence to recruit prospective distributors into the business.

Poor  
0      1      2      3      4      5      6      7      8      9      10  
Excellent

**Q17.** State the total number of training hours you have ever received so far. \_\_\_\_\_

**Q18.** Have you personally organized a MLM training session? Yes/No

**Expectations & Support**

**Q19.** State the quality of support you get from your sponsor.

Poor 0 1 2 3 4 5 6 7 8 9 10 Excellent

**Q20.** State the quality of support you get from your uplines.

Poor 0 1 2 3 4 5 6 7 8 9 10 Excellent

**Q21.** State your expectation of building a successful network of distributors.

Very unlikely 0 1 2 3 4 5 6 7 8 9 10 Very likely

**Q22.** State your chances of reaching highest distributor status with this company.

Very unlikely 0 1 2 3 4 5 6 7 8 9 10 Very likely

**Q23.** State the amount of effort you put into your MLM business (%). \_\_\_\_\_

**Q24.** Number of countries you have sponsored distributor to date. \_\_\_\_\_

**Q25.** Number of other MLM companies you are currently a member. \_\_\_\_\_

**Attractiveness & Likelihood of achieving Your Goals**

**Q26.** Below are 13 goals that **Motivate** distributors to work hard. Estimate **your own chance** of achieving these goals as distributor. For example, 0 = 0%, 4 = 40%, 10 = 100%, chance of achieving these goals. Choose a number from 0 to 10.

Your Personal Goals Derived From Being A MLM Distributor	Likelihood Of Achieving Each Goal. 0 = Very Unlikely, 10=Very Likely.	Attractiveness & Desirability Of Each Goal. 0 = None, 10 = Very Attractive.
Managing Work/Home Simultaneously	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Not Having To Report To A Superior	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Bring The Best Out Of My Team	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Promote Products That Benefit others	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Making Friends & Social Contacts	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Having More Time With My Family	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Having Public Exposure & Recognition	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Having A Better Quality Lifestyle	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Being In Control Of My Life	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Intellectually Stimulated & Challenged	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Exercising Own Leadership Style	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Being Part Of A Team	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Having Financial Security	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10
Other (Specify)	0-1-2-3-4-5-6-7-8-9-10	0-1-2-3-4-5-6-7-8-9-10

**Personal Profile**

**Q27.** Gender: Male / Female

<b>Q28. Highest Qualification Obtained</b>	<b>Q29. Marital Status</b>	<b>Q30. Age</b>
a. None	a. Single	a. 18-21
b. Secondary	b. Married	b. 22-25
c. Undergraduate	c. Divorced	c. 26-30
d. Graduate	d. Widow/Widower	d. 31-40
e. Post Graduate	e. Co-habit/living together	e. 41-45
f. Doctorate	f. Separated	f. 46-50
g. Professional		g. 50+

**Q31.** No. of dependent children \_\_\_\_\_

**Q32.** Country of permanent residence. \_\_\_\_\_

**Q33.** Name the State, Town, or City of residence. \_\_\_\_\_

**Q34.** Ethnic Origin. \_\_\_\_\_

**Q35.** State amount of funds invested in present MLM company. \_\_\_\_\_

Please check that all questions are clearly answered to ensure the success of this research. If you are interested in the research outcome, receive information and participate in future survey, please give your name, address, telephone and email below.

**Comments:**

Use the page overleaf, if you need more space. Thank you for time in completing this questionnaire. Please return this survey to

Peter Tan  
2 Morland Road  
London E17 7JB  
UK

If you have any queries, please contact me on +44 - 171-320-1405 or email [peterktan@bigfoot.com](mailto:peterktan@bigfoot.com)

Regards & Best Wishes

**Peter Tan**

**Appendix 6 – Table for Determining Sample Size from a Given Population**

<b>N</b>	<b>S</b>	<b>N</b>	<b>S</b>	<b>N</b>	<b>S</b>
10	10	220	140	1200	291
15	14	230	144	1300	297
20	19	240	148	1400	302
25	24	250	152	1500	306
30	28	260	155	1600	310
35	32	270	159	1700	313
40	36	280	162	1800	317
45	40	290	165	1900	320
50	44	300	169	2000	322
55	48	320	175	2200	327
60	52	340	181	2400	331
65	56	360	186	2600	335
70	59	380	191	2800	338
75	63	400	196	3000	341
80	66	420	201	3500	346
85	70	440	205	4000	351
90	73	460	210	4500	354
95	76	480	214	5000	357
100	80	500	217	6000	361
110	86	550	226	7000	364
120	92	600	234	8000	367
130	97	650	242	9000	368
140	103	700	248	10000	370
150	108	750	254	15000	375
160	113	800	260	20000	377
170	118	850	265	30000	379
180	123	900	269	40000	380
190	127	950	274	50000	381
200	132	1000	278	75000	382
210	136	1100	285	1000000	384

(Sekaran, 1992, p. 253. N = the population size. S = the sample size).



## Appendix 7 Descriptive Statistics

### A7.1: Descriptive means and standard deviation of all variables

	N	Mean	Std. Deviation
Mode of survey	130	1.79	.524
Month in company	130	14.6715	13.15708
Distributor's status	130	1.7846	.99600
Part or full time	130	1.8923	.31119
Number of mlm organisations involved	130	2.0322	2.28773
Present MLM company	130	2.1000	2.29543
Non-mlm orgs worked for	130	3.4692	9.32463
Number of promotion achieved	130	1.82	1.082
Speed of promotion	130	3.7154	1.98144
Time at beginner	130	9.1296	11.05315
Time at foundation	64	7.5688	7.38767
Time at Intermediate	21	6.8148	6.73702
Time at Advance	15	12.8740	11.84095
Time at Highest	5	213.3200	440.47941
MLM training attended	130	23.9538	97.75922
Number of mlm book read	130	17.4538	91.45042
Number of mlm audio heard	130	35.6308	115.49034
Number of mlm video seen	130	6.2692	19.94286
Updating knowledge?	130	1.0308	.17336
Attended meeting last 6 months?	130	1.3385	.47502
Updating ongoing training?	130	1.1462	.35463
Length of time as distributor	130	27.3965	43.32698
Belief in one's ability to recruit prospectives	130	4.3318	2.79209
Hours of training received	130	81.9500	195.69544
Personally organised training	130	1.7462	.43689
Sponsor's quality of support	130	5.4167	3.43232
Uplines' quality of support	130	6.2932	3.31707
Expectation to build a large network	130	7.6387	2.71023

Chances of reaching highest level	130	7.1081	3.02417
Effort put into the mlm business	130	51.5154	33.46460
Number of countries sponsored	130	1.3846	1.93052
Number of MLM you are member	130	.7538	1.23302
Likelihood of managing work & home simultaneously	130	7.4852	2.76386
Likelihood of not having to report to a superior	130	8.1544	2.87165
Likelihood of bringing the best out of my team	130	7.0313	2.84876
Likelihood of promoting products that benefit others	130	8.6769	2.05436
Likelihood of making friends & social contacts	130	7.8309	2.59093
Likelihood of having more time with my family	128	7.7434	2.68002
Likelihood of having public recognition & exposure	130	5.8628	3.53226
Likelihood of having a better quality Lifestyle	130	8.3618	2.55711
Likelihood of being in control of my life	130	8.4465	2.51730
Likelihood of being intellectually stimulated & challenged	130	7.7695	2.67433
Likelihood of exercising own leadership style	130	7.6541	2.74068
Likelihood of being part of a team	130	7.9156	2.64076
Likelihood of having financial security	130	8.1697	2.88983
Other likelihood	22	6.7759	4.73546
Desirability in managing work & home simultaneously	129	8.4112	2.64927
Desirability in not having to report to a superior	129	8.5664	2.70776
Desirability in bringing the best of my team	129	8.3493	2.66385
Desirability in promoting products that benefit others	130	9.1923	1.72126

Desirability in making friends & social contacts	130	8.3078	2.42008
Desirability in having more time with my family	128	8.4613	2.75956
Desirability in having public exposure & recognition	130	5.7782	3.56847
Desirability in having a better quality lifestyle	130	9.2618	2.06588
Desirability being in control of my life	130	9.2233	2.00383
Desirability in intellectually stimulated & challenged	130	8.2772	2.52972
Desirability in exercising own leadership style	130	8.2463	2.47749
Desirability in being part of a team	130	8.3156	2.36179
Desirability in having financial security	130	9.1851	2.37308
Other desirability	18	9.7778	.73208
Gender	130	1.4462	.49902
Highest qualification	130	3.6077	2.02119
Marital status	130	2.3077	1.20623
Age	130	5.1231	1.62354
Number of dependent children	130	1.1385	1.36827
Country of permanent residence	130	1.6077	1.71855
Name of state town and city of residence	130	3.5846	1.45626
Ethnic origin	130	6.1769	5.34466
State amount of funds invested in present m/m company	130	6639.2308	44564.12662
Made any comment	130	1.5692	.49710

A7.2: Month in company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.75	2	1.5	1.5	1.5
	1.00	3	2.3	2.3	3.8
	1.30	1	.8	.8	4.6
	1.50	4	3.1	3.1	7.7
	2.00	8	6.2	6.2	13.8
	2.50	1	.8	.8	14.6
	3.00	13	10.0	10.0	24.6
	4.00	7	5.4	5.4	30.0
	5.00	5	3.8	3.8	33.8
	6.00	3	2.3	2.3	36.2
	7.00	2	1.5	1.5	37.7
	8.00	7	5.4	5.4	43.1
	9.00	2	1.5	1.5	44.6
	10.00	6	4.6	4.6	49.2
	11.00	3	2.3	2.3	51.5
	12.00	9	6.9	6.9	58.5
	13.00	1	.8	.8	59.2
	14.00	2	1.5	1.5	60.8
	15.00	2	1.5	1.5	62.3
	16.00	1	.8	.8	63.1
	18.00	9	6.9	6.9	70.0
	20.00	1	.8	.8	70.8
	21.00	2	1.5	1.5	72.3
	24.00	11	8.5	8.5	80.8
	25.00	2	1.5	1.5	82.3
	26.00	2	1.5	1.5	83.8
	27.00	1	.8	.8	84.6
	29.00	1	.8	.8	85.4
	30.00	2	1.5	1.5	86.9
	31.00	1	.8	.8	87.7
36.00	10	7.7	7.7	95.4	
39.00	2	1.5	1.5	96.9	
48.00	3	2.3	2.3	99.2	
72.00	1	.8	.8	100.0	
	Total	130	100.0	100.0	

### A7.3: Mode of survey

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Internet	34	26.2	26.2	26.2
	Conference	89	68.5	68.5	94.6
	Survey	7	5.4	5.4	100.0
	Total	130	100.0	100.0	

### A7.4: Distributor's status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Beginning	63	48.5	48.5	48.5
	Foundation	47	36.2	36.2	84.6
	Intermediate	8	6.2	6.2	90.8
	Advance	9	6.9	6.9	97.7
	Highest	3	2.3	2.3	100.0
	Total	130	100.0	100.0	

### A7.5: Part or full time

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Full time	14	10.8	10.8	10.8
	Part time	116	89.2	89.2	100.0
	Total	130	100.0	100.0	

### A7.6: Number of mlm organisations involved

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	2	1.5	1.5	1.5
	.01	18	13.8	13.8	15.4
	1.00	41	31.5	31.5	46.9
	2.00	39	30.0	30.0	76.9
	3.00	13	10.0	10.0	86.9
	4.00	7	5.4	5.4	92.3
	5.00	3	2.3	2.3	94.6
	6.00	1	.8	.8	95.4
	7.00	3	2.3	2.3	97.7
	8.00	2	1.5	1.5	99.2
	20.00	1	.8	.8	100.0
	Total	130	100.0	100.0	

A7.8: Present MLM company

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Changes	101	77.7	77.7	77.7
	Amway	2	1.5	1.5	79.2
	Marinda	1	.8	.8	80.0
	I & T	3	2.3	2.3	82.3
	Others	8	6.2	6.2	88.5
	Telecom Plus	6	4.6	4.6	93.1
	Excel	1	.8	.8	93.8
	Mannatech	5	3.8	3.8	97.7
	Neways	1	.8	.8	98.5
	Euphony	1	.8	.8	99.2
	Enrich	1	.8	.8	100.0
	Total	130	100.0	100.0	

A7.9: Non-mlm orgs worked for

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	41	31.5	31.5	31.5
	1.00	24	18.5	18.5	50.0
	2.00	19	14.6	14.6	64.6
	3.00	10	7.7	7.7	72.3
	4.00	11	8.5	8.5	80.8
	5.00	8	6.2	6.2	86.9
	6.00	5	3.8	3.8	90.8
	8.00	2	1.5	1.5	92.3
	9.00	2	1.5	1.5	93.8
	10.00	2	1.5	1.5	95.4
	12.00	1	.8	.8	96.2
	20.00	4	3.1	3.1	99.2
	99.00	1	.8	.8	100.0
	Total	130	100.0	100.0	

A7.10: Number of promotion achieved

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Beginner	63	48.5	48.5	48.5
	Foundation	48	36.9	36.9	85.4
	Intermediate	3	2.3	2.3	87.7
	Advance	11	8.5	8.5	96.2
	Highest	5	3.8	3.8	100.0
	Total	130	100.0	100.0	

A7.11: Speed of promotion

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Slowest at beginner after 1 year	28	21.5	21.5	21.5
	Slow at foundation after 2 years	17	13.1	13.1	34.6
	Average at foundation after 1 year	16	12.3	12.3	46.9
	Fast at intermediate after 2 years	14	10.8	10.8	57.7
	Fastest at advance after 2 years	13	10.0	10.0	67.7
	Unknown too early to tell less than 6 months	42	32.3	32.3	100.0
	Total	130	100.0	100.0	

A7.12: Time at Highest

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.60	1	.8	20.0	20.0
	2.00	1	.8	20.0	40.0
	3.00	1	.8	20.0	60.0
	60.00	1	.8	20.0	80.0
	1000.00	1	.8	20.0	100.0
	Total	5	3.8	100.0	
Missing	99.00	125	96.2		
Total		130	100.0		

A7.13: Time at beginner

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	5	3.8	3.8	3.8
	.10	1	.8	.8	4.6
	.25	1	.8	.8	5.4
	.75	2	1.5	1.5	6.9
	1.00	15	11.5	11.5	18.5
	1.50	2	1.5	1.5	20.0
	2.00	8	6.2	6.2	26.2
	3.00	14	10.8	10.8	36.9
	4.00	13	10.0	10.0	46.9
	5.00	6	4.6	4.6	51.5
	6.00	14	10.8	10.8	62.3
	7.00	2	1.5	1.5	63.8
	8.00	3	2.3	2.3	66.2
	9.00	4	3.1	3.1	69.2
	10.00	3	2.3	2.3	71.5
	11.00	1	.8	.8	72.3
	12.00	7	5.4	5.4	77.7
	13.00	1	.8	.8	78.5
	14.00	3	2.3	2.3	80.8
	15.00	1	.8	.8	81.5
	18.00	7	5.4	5.4	86.9
	20.00	2	1.5	1.5	88.5
	21.00	1	.8	.8	89.2
	24.00	2	1.5	1.5	90.8
	25.00	1	.8	.8	91.5
	26.00	2	1.5	1.5	93.1
30.00	1	.8	.8	93.8	
32.00	1	.8	.8	94.6	
36.00	5	3.8	3.8	98.5	
48.00	1	.8	.8	99.2	
72.00	1	.8	.8	100.0	
	Total	130	100.0	100.0	



A7.14: Time at foundation

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	1	.8	1.6	1.6
	.10	1	.8	1.6	3.1
	1.00	7	5.4	10.9	14.1
	1.30	1	.8	1.6	15.6
	2.00	5	3.8	7.8	23.4
	3.00	9	6.9	14.1	37.5
	4.00	9	6.9	14.1	51.6
	5.00	1	.8	1.6	53.1
	6.00	8	6.2	12.5	65.6
	7.00	3	2.3	4.7	70.3
	8.00	1	.8	1.6	71.9
	10.00	4	3.1	6.3	78.1
	14.00	1	.8	1.6	79.7
	15.00	1	.8	1.6	81.3
	16.00	2	1.5	3.1	84.4
	17.00	1	.8	1.6	85.9
	18.00	3	2.3	4.7	90.6
	22.00	1	.8	1.6	92.2
	23.00	1	.8	1.6	93.8
	24.00	2	1.5	3.1	96.9
28.00	2	1.5	3.1	100.0	
	Total	64	49.2	100.0	
Missing	99.00	66	50.8		
Total		130	100.0		

A7.15: Personally organised training

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	33	25.4	25.4	25.4
	No	97	74.6	74.6	100.0
	Total	130	100.0	100.0	

A7.16: Time at Intermediate

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	1	.8	4.8	4.8
	.10	1	.8	4.8	9.5
	1.00	2	1.5	9.5	19.0
	2.00	4	3.1	19.0	38.1
	3.00	2	1.5	9.5	47.6
	4.00	1	.8	4.8	52.4
	6.00	2	1.5	9.5	61.9
	7.00	1	.8	4.8	66.7
	9.00	2	1.5	9.5	76.2
	10.00	1	.8	4.8	81.0
	18.00	2	1.5	9.5	90.5
	20.00	2	1.5	9.5	100.0
	Total		21	16.2	100.0
Missing	99.00	109	83.8		
Total		130	100.0		

A7.17: Time at Advance

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	1	.8	6.7	6.7
	.10	1	.8	6.7	13.3
	2.00	1	.8	6.7	20.0
	3.00	1	.8	6.7	26.7
	4.00	1	.8	6.7	33.3
	5.00	2	1.5	13.3	46.7
	12.00	2	1.5	13.3	60.0
	16.00	1	.8	6.7	66.7
	17.00	1	.8	6.7	73.3
	24.00	2	1.5	13.3	86.7
	33.00	1	.8	6.7	93.3
	36.00	1	.8	6.7	100.0
	Total		15	11.5	100.0
Missing	99.00	115	88.5		
Total		130	100.0		

A7.18: MLM training attended

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	17	13.1	13.1	13.1
	1.00	20	15.4	15.4	28.5
	2.00	21	16.2	16.2	44.6
	3.00	19	14.6	14.6	59.2
	4.00	6	4.6	4.6	63.8
	5.00	7	5.4	5.4	69.2
	6.00	5	3.8	3.8	73.1
	8.00	3	2.3	2.3	75.4
	10.00	6	4.6	4.6	80.0
	11.00	1	.8	.8	80.8
	12.00	3	2.3	2.3	83.1
	15.00	1	.8	.8	83.8
	16.00	1	.8	.8	84.6
	20.00	3	2.3	2.3	86.9
	25.00	1	.8	.8	87.7
	30.00	3	2.3	2.3	90.0
	40.00	1	.8	.8	90.8
	50.00	1	.8	.8	91.5
	55.00	1	.8	.8	92.3
	60.00	2	1.5	1.5	93.8
	100.00	2	1.5	1.5	95.4
150.00	2	1.5	1.5	96.9	
200.00	1	.8	.8	97.7	
300.00	1	.8	.8	98.5	
305.00	1	.8	.8	99.2	
999.00	1	.8	.8	100.0	
Total		130	100.0	100.0	

A7.19: Number of mlm book read

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	22	16.9	16.9	16.9
	1.00	17	13.1	13.1	30.0
	2.00	28	21.5	21.5	51.5
	3.00	16	12.3	12.3	63.8
	4.00	8	6.2	6.2	70.0
	5.00	7	5.4	5.4	75.4
	6.00	3	2.3	2.3	77.7
	7.00	3	2.3	2.3	80.0
	8.00	1	.8	.8	80.8
	9.00	1	.8	.8	81.5
	10.00	10	7.7	7.7	89.2
	15.00	2	1.5	1.5	90.8
	20.00	3	2.3	2.3	93.1
	25.00	1	.8	.8	93.8
	51.00	1	.8	.8	94.6
	60.00	1	.8	.8	95.4
	100.00	3	2.3	2.3	97.7
	200.00	2	1.5	1.5	99.2
	999.00	1	.8	.8	100.0
	Total		130	100.0	100.0

A7.20: Number of mlm audio heard

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	4	3.1	3.1	3.1
	1.00	9	6.9	6.9	10.0
	2.00	11	8.5	8.5	18.5
	3.00	14	10.8	10.8	29.2
	4.00	6	4.6	4.6	33.8
	5.00	12	9.2	9.2	43.1
	6.00	13	10.0	10.0	53.1
	7.00	3	2.3	2.3	55.4
	8.00	7	5.4	5.4	60.8
	10.00	15	11.5	11.5	72.3
	12.00	3	2.3	2.3	74.6
	15.00	3	2.3	2.3	76.9
	20.00	8	6.2	6.2	83.1
	25.00	2	1.5	1.5	84.6
	30.00	2	1.5	1.5	86.2
	40.00	1	.8	.8	86.9
	45.00	1	.8	.8	87.7
	50.00	2	1.5	1.5	89.2
	60.00	1	.8	.8	90.0
	70.00	1	.8	.8	90.8
	100.00	4	3.1	3.1	93.8
	150.00	1	.8	.8	94.6
	200.00	3	2.3	2.3	96.9
250.00	1	.8	.8	97.7	
505.00	1	.8	.8	98.5	
600.00	1	.8	.8	99.2	
999.00	1	.8	.8	100.0	
Total		130	100.0	100.0	

A7.21: Likelihood of having public recognition & exposure

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	17	13.1	13.1	13.1
	1.00	4	3.1	3.1	16.2
	2.00	9	6.9	6.9	23.1
	3.00	7	5.4	5.4	28.5
	4.00	11	8.5	8.5	36.9
	5.00	6	4.6	4.6	41.5
	6.00	10	7.7	7.7	49.2
	7.00	14	10.8	10.8	60.0
	8.00	15	11.5	11.5	71.5
	9.00	3	2.3	2.3	73.8
	Very likely	34	26.2	26.2	100.0
	Total	130	100.0	100.0	

A7.22: Number of mlm video seen

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	7	5.4	5.4	5.4
	1.00	28	21.5	21.5	26.9
	2.00	31	23.8	23.8	50.8
	3.00	22	16.9	16.9	67.7
	4.00	10	7.7	7.7	75.4
	5.00	9	6.9	6.9	82.3
	6.00	7	5.4	5.4	87.7
	10.00	5	3.8	3.8	91.5
	11.00	1	.8	.8	92.3
	12.00	3	2.3	2.3	94.6
	15.00	1	.8	.8	95.4
	20.00	1	.8	.8	96.2
	25.00	2	1.5	1.5	97.7
	50.00	1	.8	.8	98.5
	100.00	1	.8	.8	99.2
	200.00	1	.8	.8	100.0
Total	130	100.0	100.0		

A7.23: Updating knowledge?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	126	96.9	96.9	96.9
	No	4	3.1	3.1	100.0
	Total	130	100.0	100.0	

A7.24: Attended meeting last 6 months?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	86	66.2	66.2	66.2
	No	44	33.8	33.8	100.0
	Total	130	100.0	100.0	

A7.25: Updating ongoing training?

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	111	85.4	85.4	85.4
	No	19	14.6	14.6	100.0
	Total	130	100.0	100.0	

A7.26: Length of time as distributor

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.75	1	.8	.8	.8
	1.00	5	3.8	3.8	4.6
	1.30	1	.8	.8	5.4
	1.50	1	.8	.8	6.2
	2.00	7	5.4	5.4	11.5
	3.00	11	8.5	8.5	20.0
	4.00	9	6.9	6.9	26.9
	5.00	6	4.6	4.6	31.5
	6.00	4	3.1	3.1	34.6
	7.00	2	1.5	1.5	36.2
	8.00	5	3.8	3.8	40.0
	9.00	2	1.5	1.5	41.5
	10.00	5	3.8	3.8	45.4
	11.00	2	1.5	1.5	46.9
	12.00	4	3.1	3.1	50.0
	13.00	1	.8	.8	50.8
	14.00	1	.8	.8	51.5
	15.00	2	1.5	1.5	53.1
	16.00	1	.8	.8	53.8
	18.00	8	6.2	6.2	60.0
	20.00	3	2.3	2.3	62.3
	24.00	10	7.7	7.7	70.0
	25.00	1	.8	.8	70.8
	27.00	1	.8	.8	71.5
	30.00	3	2.3	2.3	73.8
	31.00	1	.8	.8	74.6
	36.00	11	8.5	8.5	83.1
	39.00	1	.8	.8	83.8
	40.00	1	.8	.8	84.6
	43.00	1	.8	.8	85.4
48.00	3	2.3	2.3	87.7	
60.00	1	.8	.8	88.5	
72.00	3	2.3	2.3	90.8	
84.00	3	2.3	2.3	93.1	
96.00	4	3.1	3.1	96.2	
108.00	2	1.5	1.5	97.7	
180.00	1	.8	.8	98.5	
240.00	1	.8	.8	99.2	
324.00	1	.8	.8	100.0	
Total		130	100.0	100.0	



A7.27: Belief in one's ability to recruit prospectives

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	13	10.0	10.0	10.0
	1.00	13	10.0	10.0	20.0
	2.00	10	7.7	7.7	27.7
	3.00	16	12.3	12.3	40.0
	4.00	18	13.8	13.8	53.8
	5.00	17	13.1	13.1	66.9
	6.00	11	8.5	8.5	75.4
	7.00	13	10.0	10.0	85.4
	8.00	10	7.7	7.7	93.1
	9.00	2	1.5	1.5	94.6
	Excellent	7	5.4	5.4	100.0
	Total	130	100.0	100.0	

A7.28: Sponsor's quality of support

	Frequency	Percent	Cumulative Percent
Very poor	1	.8	.8
.01	17	13.1	13.8
1.00	7	5.4	19.2
2.00	8	6.2	25.4
3.00	10	7.7	33.1
4.00	8	6.2	39.2
5.00	9	6.9	46.2
6.00	13	10.0	56.2
7.00	11	8.5	64.6
8.00	12	9.2	73.8
9.00	17	13.1	86.9
Excellent	17	13.1	100.0
Total	130	100.0	

A7.29: Ethnic origin

	Frequency	Percent	Valid Percent	Cumulative Percent	
Valid	Caucasian	38	29.2	29.2	29.2
	Black African	1	.8	.8	30.0
	Black Caribbean	4	3.1	3.1	33.1
	English	36	27.7	27.7	60.8
	Irish	4	3.1	3.1	63.8
	Welsh	1	.8	.8	64.6
	Chinese	6	4.6	4.6	69.2
	Indian	3	2.3	2.3	71.5
	Others	1	.8	.8	72.3
	British	23	17.7	17.7	90.0
	USA	3	2.3	2.3	92.3
	Hindu	1	.8	.8	93.1
	French	1	.8	.8	93.8
	European	4	3.1	3.1	96.9
	Canadian	1	.8	.8	97.7
	Australian	3	2.3	2.3	100.0
Total	130	100.0	100.0		

A7.30: Uplines' quality of support

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Very poor	1	.8	.8	.8
	.01	12	9.2	9.2	10.0
	1.00	4	3.1	3.1	13.1
	2.00	9	6.9	6.9	20.0
	3.00	5	3.8	3.8	23.8
	4.00	4	3.1	3.1	26.9
	5.00	9	6.9	6.9	33.8
	6.00	13	10.0	10.0	43.8
	7.00	11	8.5	8.5	52.3
	8.00	16	12.3	12.3	64.6
	9.00	23	17.7	17.7	82.3
	Excellent	23	17.7	17.7	100.0
	Total	130	100.0	100.0	

A7.31: Number of countries sponsored

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	37	28.5	28.5	28.5
	1.00	64	49.2	49.2	77.7
	2.00	10	7.7	7.7	85.4
	3.00	8	6.2	6.2	91.5
	4.00	3	2.3	2.3	93.8
	5.00	1	.8	.8	94.6
	6.00	3	2.3	2.3	96.9
	7.00	1	.8	.8	97.7
	8.00	2	1.5	1.5	99.2
	14.00	1	.8	.8	100.0
	Total	130	100.0	100.0	

A7.32: Number of MLM you are member

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	71	54.6	54.6	54.6
	1.00	39	30.0	30.0	84.6
	2.00	12	9.2	9.2	93.8
	3.00	5	3.8	3.8	97.7
	5.00	1	.8	.8	98.5
	7.00	1	.8	.8	99.2
	8.00	1	.8	.8	100.0
	Total	130	100.0	100.0	

A7.33: Expectation to build a large network

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	3	2.3	2.3	2.3
	1.00	4	3.1	3.1	5.4
	2.00	1	.8	.8	6.2
	3.00	5	3.8	3.8	10.0
	4.00	6	4.6	4.6	14.6
	5.00	9	6.9	6.9	21.5
	6.00	8	6.2	6.2	27.7
	7.00	8	6.2	6.2	33.8
	8.00	19	14.6	14.6	48.5
	9.00	23	17.7	17.7	66.2
	Excellent	44	33.8	33.8	100.0
	Total	130	100.0	100.0	

A7.34: Chances of reaching highest level

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	5	3.8	3.8	3.8
	1.00	7	5.4	5.4	9.2
	2.00	2	1.5	1.5	10.8
	3.00	7	5.4	5.4	16.2
	4.00	4	3.1	3.1	19.2
	5.00	10	7.7	7.7	26.9
	6.00	8	6.2	6.2	33.1
	7.00	13	10.0	10.0	43.1
	8.00	19	14.6	14.6	57.7
	9.00	15	11.5	11.5	69.2
	Excellent	40	30.8	30.8	100.0
	Total	130	100.0	100.0	

A7.35: Effort put into the mlm business

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	3	2.3	2.3	2.3
	5.00	4	3.1	3.1	5.4
	10.00	16	12.3	12.3	17.7
	15.00	1	.8	.8	18.5
	20.00	15	11.5	11.5	30.0
	22.00	1	.8	.8	30.8
	25.00	4	3.1	3.1	33.8
	26.00	1	.8	.8	34.6
	30.00	5	3.8	3.8	38.5
	35.00	1	.8	.8	39.2
	40.00	3	2.3	2.3	41.5
	45.00	6	4.6	4.6	46.2
	50.00	14	10.8	10.8	56.9
	55.00	1	.8	.8	57.7
	60.00	5	3.8	3.8	61.5
	65.00	1	.8	.8	62.3
	70.00	4	3.1	3.1	65.4
	75.00	9	6.9	6.9	72.3
	80.00	7	5.4	5.4	77.7
	85.00	2	1.5	1.5	79.2
	89.00	1	.8	.8	80.0
	90.00	5	3.8	3.8	83.8
	95.00	2	1.5	1.5	85.4
99.00	1	.8	.8	86.2	
100 percent	12	9.2	9.2	95.4	
101.00	3	2.3	2.3	97.7	
110.00	2	1.5	1.5	99.2	
120.00	1	.8	.8	100.0	
Total		130	100.0	100.0	

A7.36: Likelihood of managing work & home simultaneously

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	7	5.4	5.4	5.4
	1.00	1	.8	.8	6.2
	2.00	1	.8	.8	6.9
	3.00	2	1.5	1.5	8.5
	4.00	4	3.1	3.1	11.5
	5.00	15	11.5	11.5	23.1
	6.00	9	6.9	6.9	30.0
	7.00	12	9.2	9.2	39.2
	8.00	20	15.4	15.4	54.6
	9.00	15	11.5	11.5	66.2
	Very likely	44	33.8	33.8	100.0
	Total	130	100.0	100.0	

A7.37: Likelihood of not having to report to a superior

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	7	5.4	5.4	5.4
	1.00	3	2.3	2.3	7.7
	2.00	1	.8	.8	8.5
	4.00	5	3.8	3.8	12.3
	5.00	5	3.8	3.8	16.2
	6.00	3	2.3	2.3	18.5
	7.00	8	6.2	6.2	24.6
	8.00	16	12.3	12.3	36.9
	9.00	12	9.2	9.2	46.2
	Very likely	70	53.8	53.8	100.0
	Total	130	100.0	100.0	

A7.38: Likelihood of bringing the best out of my team

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	7	5.4	5.4	5.4
	1.00	2	1.5	1.5	6.9
	2.00	3	2.3	2.3	9.2
	3.00	4	3.1	3.1	12.3
	4.00	7	5.4	5.4	17.7
	5.00	10	7.7	7.7	25.4
	6.00	12	9.2	9.2	34.6
	7.00	17	13.1	13.1	47.7
	8.00	21	16.2	16.2	63.8
	9.00	13	10.0	10.0	73.8
	Very likely	34	26.2	26.2	100.0
	Total	130	100.0	100.0	

A7.39: Likelihood of promoting products that benefit others

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	3	2.3	2.3	2.3
	2.00	1	.8	.8	3.1
	3.00	2	1.5	1.5	4.6
	5.00	5	3.8	3.8	8.5
	6.00	5	3.8	3.8	12.3
	7.00	6	4.6	4.6	16.9
	8.00	24	18.5	18.5	35.4
	9.00	12	9.2	9.2	44.6
	Very likely	72	55.4	55.4	100.0
	Total	130	100.0	100.0	

A7.40: Likelihood of making friends & social contacts

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	2	1.5	1.5	1.5
	1.00	2	1.5	1.5	3.1
	2.00	5	3.8	3.8	6.9
	3.00	3	2.3	2.3	9.2
	4.00	3	2.3	2.3	11.5
	5.00	9	6.9	6.9	18.5
	6.00	6	4.6	4.6	23.1
	7.00	14	10.8	10.8	33.8
	8.00	20	15.4	15.4	49.2
	9.00	14	10.8	10.8	60.0
	Very likely	52	40.0	40.0	100.0
	Total	130	100.0	100.0	

A7.41: Likelihood of having more time with my family

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	5	3.8	3.9	3.9
	.10	1	.8	.8	4.7
	1.00	1	.8	.8	5.5
	2.00	2	1.5	1.6	7.0
	3.00	2	1.5	1.6	8.6
	4.00	4	3.1	3.1	11.7
	5.00	7	5.4	5.5	17.2
	6.00	9	6.9	7.0	24.2
	7.00	8	6.2	6.3	30.5
	8.00	27	20.8	21.1	51.6
	9.00	17	13.1	13.3	64.8
	Very likely	45	34.6	35.2	100.0
Total	128	98.5	100.0		
Missing	99.00	2	1.5		
Total		130	100.0		



A7.42: Likelihood of having a better quality Lifestyle

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	3	2.3	2.3	2.3
	1.00	1	.8	.8	3.1
	2.00	6	4.6	4.6	7.7
	4.00	3	2.3	2.3	10.0
	5.00	6	4.6	4.6	14.6
	6.00	2	1.5	1.5	16.2
	7.00	5	3.8	3.8	20.0
	8.00	19	14.6	14.6	34.6
	9.00	17	13.1	13.1	47.7
	Very likely	68	52.3	52.3	100.0
	Total	130	100.0	100.0	

A7.43: Likelihood of being in control of my life

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	4	3.1	3.1	3.1
	1.00	1	.8	.8	3.8
	2.00	3	2.3	2.3	6.2
	3.00	1	.8	.8	6.9
	4.00	2	1.5	1.5	8.5
	5.00	5	3.8	3.8	12.3
	6.00	3	2.3	2.3	14.6
	7.00	11	8.5	8.5	23.1
	8.00	13	10.0	10.0	33.1
	9.00	14	10.8	10.8	43.8
	Very likely	73	56.2	56.2	100.0
	Total	130	100.0	100.0	

A7.44: Likelihood of being intellectually stimulated & challenged

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	3	2.3	2.3	2.3
	1.00	2	1.5	1.5	3.8
	2.00	6	4.6	4.6	8.5
	3.00	2	1.5	1.5	10.0
	4.00	2	1.5	1.5	11.5
	5.00	5	3.8	3.8	15.4
	6.00	15	11.5	11.5	26.9
	7.00	12	9.2	9.2	36.2
	8.00	17	13.1	13.1	49.2
	9.00	13	10.0	10.0	59.2
	Very likely	53	40.8	40.8	100.0
	Total	130	100.0	100.0	

A7.45: Likelihood of exercising own leadership style

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	3	2.3	2.3	2.3
	1.00	3	2.3	2.3	4.6
	2.00	5	3.8	3.8	8.5
	3.00	2	1.5	1.5	10.0
	4.00	3	2.3	2.3	12.3
	5.00	10	7.7	7.7	20.0
	6.00	11	8.5	8.5	28.5
	7.00	11	8.5	8.5	36.9
	8.00	21	16.2	16.2	53.1
	9.00	7	5.4	5.4	58.5
	Very likely	54	41.5	41.5	100.0
	Total	130	100.0	100.0	

A7.46: Likelihood of being part of a team

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	3	2.3	2.3	2.3
	1.00	3	2.3	2.3	4.6
	2.00	3	2.3	2.3	6.9
	3.00	3	2.3	2.3	9.2
	4.00	3	2.3	2.3	11.5
	5.00	6	4.6	4.6	16.2
	6.00	6	4.6	4.6	20.8
	7.00	16	12.3	12.3	33.1
	8.00	18	13.8	13.8	46.9
	9.00	13	10.0	10.0	56.9
	Very likely	56	43.1	43.1	100.0
	Total	130	100.0	100.0	

A7.47: Likelihood of having financial security

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	6	4.6	4.6	4.6
	1.00	3	2.3	2.3	6.9
	2.00	4	3.1	3.1	10.0
	3.00	2	1.5	1.5	11.5
	4.00	2	1.5	1.5	13.1
	5.00	2	1.5	1.5	14.6
	6.00	1	.8	.8	15.4
	7.00	10	7.7	7.7	23.1
	8.00	20	15.4	15.4	38.5
	9.00	9	6.9	6.9	45.4
	Very likely	71	54.6	54.6	100.0
	Total	130	100.0	100.0	

A7.48: Other likelihood

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	7	5.4	31.8	31.8
	9.00	1	.8	4.5	36.4
	Very likely	14	10.8	63.6	100.0
	Total	22	16.9	100.0	
Missing	System	108	83.1		
Total		130	100.0		

A7.49: Desirability in managing work & home simultaneously

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	5	3.8	3.9	3.9
	1.00	1	.8	.8	4.7
	2.00	3	2.3	2.3	7.0
	3.00	1	.8	.8	7.8
	5.00	9	6.9	7.0	14.7
	6.00	5	3.8	3.9	18.6
	7.00	3	2.3	2.3	20.9
	8.00	15	11.5	11.6	32.6
	9.00	11	8.5	8.5	41.1
	Very attractive & desirable	76	58.5	58.9	100.0
	Total	129	99.2	100.0	
Missing	99.00	1	.8		
Total		130	100.0		

A7.50: Desirability in not having to report to a superior

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	7	5.4	5.4	5.4
	2.00	3	2.3	2.3	7.8
	4.00	2	1.5	1.6	9.3
	5.00	3	2.3	2.3	11.6
	6.00	4	3.1	3.1	14.7
	7.00	6	4.6	4.7	19.4
	8.00	9	6.9	7.0	26.4
	9.00	12	9.2	9.3	35.7
	Very attractive & desirable	83	63.8	64.3	100.0
	Total	129	99.2	100.0	
Missing	99.00	1	.8		
Total		130	100.0		

A7.51: Desirability in bringing the best of my team

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	6	4.6	4.7	4.7
	1.00	1	.8	.8	5.4
	3.00	2	1.5	1.6	7.0
	4.00	4	3.1	3.1	10.1
	5.00	3	2.3	2.3	12.4
	6.00	7	5.4	5.4	17.8
	7.00	11	8.5	8.5	26.4
	8.00	11	8.5	8.5	34.9
	9.00	8	6.2	6.2	41.1
	Very attractive & desirable	76	58.5	58.9	100.0
Total	129	99.2	100.0		
Missing	99.00	1	.8		
Total		130	100.0		

A7.52: Desirability in promoting products that benefit others

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1.00	2	1.5	1.5	1.5
	3.00	2	1.5	1.5	3.1
	5.00	3	2.3	2.3	5.4
	6.00	2	1.5	1.5	6.9
	7.00	5	3.8	3.8	10.8
	8.00	10	7.7	7.7	18.5
	9.00	15	11.5	11.5	30.0
	Very attractive & desirable	91	70.0	70.0	100.0
	Total	130	100.0	100.0	

A7.53: Desirability in making friends & social contacts

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	1	.8	.8	.8
	1.00	3	2.3	2.3	3.1
	2.00	4	3.1	3.1	6.2
	3.00	2	1.5	1.5	7.7
	4.00	1	.8	.8	8.5
	5.00	6	4.6	4.6	13.1
	6.00	2	1.5	1.5	14.6
	7.00	12	9.2	9.2	23.8
	8.00	24	18.5	18.5	42.3
	9.00	9	6.9	6.9	49.2
	Very attractive & desirable	66	50.8	50.8	100.0
	Total	130	100.0	100.0	

A7.54: Desirability in having more time with my family

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	4	3.1	3.1	3.1
	1.00	1	.8	.8	3.9
	2.00	6	4.6	4.7	8.6
	3.00	3	2.3	2.3	10.9
	4.00	1	.8	.8	11.7
	5.00	4	3.1	3.1	14.8
	6.00	2	1.5	1.6	16.4
	7.00	5	3.8	3.9	20.3
	8.00	8	6.2	6.3	26.6
	9.00	14	10.8	10.9	37.5
	Very attractive & desirable	80	61.5	62.5	100.0
	Total	128	98.5	100.0	
Missing	99.00	2	1.5		
Total		130	100.0		

A7.55: Desirability in having public exposure & recognition

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	16	12.3	12.3	12.3
	1.00	8	6.2	6.2	18.5
	2.00	7	5.4	5.4	23.8
	3.00	5	3.8	3.8	27.7
	4.00	8	6.2	6.2	33.8
	5.00	20	15.4	15.4	49.2
	6.00	6	4.6	4.6	53.8
	7.00	11	8.5	8.5	62.3
	8.00	9	6.9	6.9	69.2
	9.00	3	2.3	2.3	71.5
	Very attractive & desirable	37	28.5	28.5	100.0
	Total	130	100.0	100.0	

A7.56: Desirability in having a better quality lifestyle

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	3	2.3	2.3	2.3
	2.00	3	2.3	2.3	4.6
	4.00	1	.8	.8	5.4
	5.00	1	.8	.8	6.2
	6.00	2	1.5	1.5	7.7
	8.00	7	5.4	5.4	13.1
	9.00	9	6.9	6.9	20.0
	Very attractive & desirable	104	80.0	80.0	100.0
	Total	130	100.0	100.0	

A7.57: Desirability being in control of my life

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	3	2.3	2.3	2.3
	2.00	2	1.5	1.5	3.8
	5.00	3	2.3	2.3	6.2
	6.00	1	.8	.8	6.9
	7.00	4	3.1	3.1	10.0
	8.00	9	6.9	6.9	16.9
	9.00	6	4.6	4.6	21.5
	Very attractive & desirable	102	78.5	78.5	100.0
	Total	130	100.0	100.0	

A7.58: Desirability in intellectually stimulated & challenged

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	3	2.3	2.3	2.3
	1.00	1	.8	.8	3.1
	2.00	5	3.8	3.8	6.9
	3.00	1	.8	.8	7.7
	5.00	8	6.2	6.2	13.8
	6.00	7	5.4	5.4	19.2
	7.00	8	6.2	6.2	25.4
	8.00	16	12.3	12.3	37.7
	9.00	14	10.8	10.8	48.5
	Very attractive & desirable	67	51.5	51.5	100.0
	Total	130	100.0	100.0	



A7.59: Desirability in exercising own leadership style

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	2	1.5	1.5	1.5
	1.00	1	.8	.8	2.3
	2.00	5	3.8	3.8	6.2
	4.00	2	1.5	1.5	7.7
	5.00	9	6.9	6.9	14.6
	6.00	7	5.4	5.4	20.0
	7.00	14	10.8	10.8	30.8
	8.00	12	9.2	9.2	40.0
	9.00	8	6.2	6.2	46.2
	Very attractive & desirable	70	53.8	53.8	100.0
	Total	130	100.0	100.0	

A7.60: Desirability in being part of a team

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	3	2.3	2.3	2.3
	2.00	3	2.3	2.3	4.6
	3.00	1	.8	.8	5.4
	4.00	2	1.5	1.5	6.9
	5.00	7	5.4	5.4	12.3
	6.00	6	4.6	4.6	16.9
	7.00	13	10.0	10.0	26.9
	8.00	20	15.4	15.4	42.3
	9.00	8	6.2	6.2	48.5
	Very attractive & desirable	67	51.5	51.5	100.0
	Total	130	100.0	100.0	

A7.61: Desirability in having financial security

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.01	6	4.6	4.6	4.6
	2.00	2	1.5	1.5	6.2
	5.00	2	1.5	1.5	7.7
	7.00	1	.8	.8	8.5
	8.00	5	3.8	3.8	12.3
	9.00	7	5.4	5.4	17.7
	Very attractive & desirable	107	82.3	82.3	100.0
	Total	130	100.0	100.0	

A7.62: Other desirability

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	7.00	1	.8	5.6	5.6
	9.00	1	.8	5.6	11.1
	Very attractive & desirable	16	12.3	88.9	100.0
	Total	18	13.8	100.0	
Missing	System	112	86.2		
Total		130	100.0		

A7.63: Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	72	55.4	55.4	55.4
	Female	58	44.6	44.6	100.0
	Total	130	100.0	100.0	

A7.64: Highest qualification

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	None	18	13.8	13.8	13.8
	Secondary	31	23.8	23.8	37.7
	Undergraduate	22	16.9	16.9	54.6
	Graduate	24	18.5	18.5	73.1
	Post-Graduate	7	5.4	5.4	78.5
	Doctorate	4	3.1	3.1	81.5
	Professional	24	18.5	18.5	100.0
	Total	130	100.0	100.0	

A7.65: Marital status

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Single	26	20.0	20.0	20.0
	Married	71	54.6	54.6	74.6
	Divorced	17	13.1	13.1	87.7
	Widow/widower	3	2.3	2.3	90.0
	Co-habit/living together	9	6.9	6.9	96.9
	Separated	4	3.1	3.1	100.0
	Total	130	100.0	100.0	

A7.66: Age

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-21	3	2.3	2.3	2.3
	22-25	3	2.3	2.3	4.6
	26-30	15	11.5	11.5	16.2
	31-40	30	23.1	23.1	39.2
	41-45	22	16.9	16.9	56.2
	46-50	17	13.1	13.1	69.2
	50+	40	30.8	30.8	100.0
	Total	130	100.0	100.0	

A7.67: Number of dependent children

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	.00	65	50.0	50.0	50.0
	1.00	13	10.0	10.0	60.0
	2.00	32	24.6	24.6	84.6
	3.00	12	9.2	9.2	93.8
	4.00	7	5.4	5.4	99.2
	7.00	1	.8	.8	100.0
	Total	130	100.0	100.0	

A7.68: Country of permanent residence

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	England	108	83.1	83.1	83.1
	USA	9	6.9	6.9	90.0
	Scotland	2	1.5	1.5	91.5
	Canada	1	.8	.8	92.3
	Others	2	1.5	1.5	93.8
	Singapore	3	2.3	2.3	96.2
	Australia	5	3.8	3.8	100.0
	Total	130	100.0	100.0	

A7.69: Name of state town and city of residence

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Within capital	20	15.4	15.4	15.4
	Outskirt of Capital	9	6.9	6.9	22.3
	Inside Large city	28	21.5	21.5	43.8
	Near Large City	21	16.2	16.2	60.0
	Others	52	40.0	40.0	100.0
	Total	130	100.0	100.0	

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