THE PERCEIVED MOTIVATIONAL EFFECTIVENESS OF SALES INCENTIVES IN THE INSURANCE INDUSTRY AND A COMPARISON OF THE ANALYTIC HIERARCHY PROCESS AND CONJOINT ANALYSIS

by

Cynthia Faye Hadley

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NAME: Cynthia Faye Hadley

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EXAMINING COMMITTEE:

Chairperson: William C. Wedley, Professor

Robert G. Wyckham
Professor
Senior Supervisor

Bertram Schoner
Professor

Barrie Gibbs
Associate Professor
External Reader

DATE APPROVED: November 13 1991

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The Perceived Motivational Effectiveness of Sales Incentives in the Insurance Industry and A Comparison of the Analytic Hierarchy Process and Conjoint Analysis

Author:

(signature)

Cynthia Faye Hadley

(name)

Nov 14/1991

(date)

ABSTRACT

The use of non-monetary incentives (i.e. contests, recognition, conventions etc.) is a common practice in sales management. Despite the widespread use of these incentives, we have little knowledge regarding their effectiveness. Further, the existing research focuses on the employee salesperson, ignoring the increasingly common independent salesperson. Therefore this study seeks to determine the perceived motivational effectiveness of various non-monetary incentives in the life insurance industry and to determine whether any differences exist between employee and independent salespeople in this regard.

A given incentive is generally made up of a number of different dimensions. For example, most include a recognition element, a prize element, and a competition element (or the basis for giving the award). Therefore, the problem is a multi-attribute decision. A common method for analyzing problems of this type in marketing is Conjoint Analysis. Another technique for analyzing this type of problem is the Analytic Hierarchy Procedure (AHP). Because AHP is relatively new, a great deal of controversy exists regarding its validity. In particular, many believe that Conventional AHP is not a valid technique and have suggested modifications (such as Linking Pin AHP) to the method. This study uses Conjoint Analysis, Conventional AHP, and Linking Pin AHP, to examine the same question to determine whether the criticisms of Conventional AHP are valid and whether Linking Pin AHP is an improvement.

The major conclusions from this study are that sales and product training are perceived to be highly motivational and that employees view

most of the incentives to have a higher motivational ability than do independents. Also, Conventional AHP is found to have low predictive validity, while Linking Pin AHP and Conjoint Analysis produce similar results suggesting that Linking Pin AHP is a valuable modification.

DEDICATION

To my husband, John and my parents, Bev and Keith Lintott

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INTRODUCTION

This thesis addresses two types of questions: one behavioral and one methodological. The first question examined involves the perceived motivational effectiveness of the various non-monetary incentives which are offered to salespeople above and beyond base compensation. This is an important question because substantial resources are expended on these incentives and we know very little about their effectiveness. Part one of this research examines the motivational effectiveness of special incentives in the life insurance industry and the differences in this regard between independent and employee salespeople.

The second question addresses the comparative predictive validity of three methods of measuring multi-attribute decisions. Non-monetary incentives are composed of a number of different elements or dimension. For example, a contest involves a prize, some type of competition, and usually some recognition as well. Therefore, this is a multi-attribute question. A method commonly used in marketing research is conjoint analysis (Green and Srinivasan 1990) with the usual application being for the measurement of consumer preferences. Another method called The Analytic Hierarchy Process (AHP) (Saaty, 1980) has received little attention in marketing but has been applied to many multi-criteria decisions (Zahedi 1986). In addition, the AHP is the subject of a great deal of controversy (c.f. Dyer 1990; Schoner and Wedley 1989). The controversy primarily surrounds the issue of rank reversal and the estimation of criteria weights. A number of modifications to the AHP have been suggested to solve these problems (Schoner, Wedley and Choo 1991; Dyer 1990). and this research conducts an experiment which compares the predictive validity of conjoint analysis, traditional AHP, and one of the suggested modifications, linking pin AHP.

PART ONE

PERCEIVED MOTIVATIONAL ABILITY OF NON-MONETARY INCENTIVES

CHAPTER I

INTRODUCTION

> "The importance of rewards in increasing salesperson work motivation and performance remains one of the most frequently discussed but relatively under-researched areas in sales management. . . . Sales managers have tended to use reward systems that are based primarily on past experience and current popularity." (Tyagi 1983, p. 31)

There is no question that having a motivated and effective sales force is essential to the success of any marketing operation. Motivation of the sales force is a very broad topic involving questions of compensation, management style, and non-monetary rewards. The base compensation package has been the subject of a great deal of research, but "non-monetary" rewards have received much less attention. In spite of this, millions of dollars are spent every year in a great variety of industries, on non-monetary rewards designed to motivate salespeople. Incentive Magazine reports that over $2.3 billion was spent on incentives in the United States in 1988. In some industries, such as mutual funds, these incentives are so common that regulatory agencies have become concerned about the implications to consumers (Saunders 1990). The managerial time and money spent on these rewards make it important for sales managers to ask whether these special incentives are necessary. If they are necessary, which ones are most effective and in what situations?

The focus of this research is on non-monetary incentives above and beyond the base salary or commission package. While these rewards often have a monetary value they are referred to as non-monetary in order to distinguish them from basic financial compensation. The incentives examined are outlined in table 1.

Table 1 - Non-Monetary Incentives

REWARD	FEATURES	COMMENTS
Contests	Short-term (< 1 year) one-time campaign designed to meet a specific goal. Has a limited number of winners	Provide flexibility to meet short-term goals (Stanton and Buskirk 1969). Can be based on team or individual results. May not be appropriate with small or technical sales forces.
Variations are:		
Sales Incentive Plan	Award given for meeting a level of sales or performing a specific activity.	Award can be cash or merchandise. No limit on number of winners (Turner 1973).
Conventions	Long-term (at least one year), often recurring, involves trip. No limit on number of winners.	Generally includes spouse (Tonning 1957). May serve purpose of inspiration, training, and communications (Stanton and Buskirk 1969).
Sweepstakes	Receive entry in a draw for every sale or other criteria.	Commonly included with contests. Overcomes problem of top person always winning
Recognition - Formal	Plaques, certificates, clubs, testimonials, publication of sales standings in newsletters.	Usually part of any incentive program, i.e. winning a contest involves recognition (Turner 1973). Key is others must know about the award.
Informal	Pat on the back, letter from the pres. etc.	Informal can be very valuable (Leahy 1973).
Promotion	Expansion of territory, responsibility or move to management.	Very important to employee salespeople. Often the reason they took the job (Tonning 1957). Not available in many sales situations.
Training	General sales and personal development training.	Employee salespeople may regard as a right not a reward. Can fulfill needs for growth and development (Leahy 1973).
Job Enrichment	Changing job design to increase intrinsic rewards such as fulfillment worthwhileness.	Often difficult in sales setting. Leahy (1973) suggests using criteria such as idea development and managerial potential as evaluation criteria.

As indicated in the quote above by Tyagi (1983), very little direct information exists regarding the effectiveness of these rewards. The research which has been conducted tends to centre exclusively on the employee sales force. The independent salesperson (i.e. manufacturers' representative) has been almost virtually ignored. The lack of knowledge regarding the independent is important given the trend toward the use of an independent sales force in many industries (Mahajan et al 1984). Therefore, this study examines the question of what is the perceived motivational effectiveness of non-monetary rewards for the salesperson and are there any differences in this respect between an employee and an independent.

A review of the literature is presented, followed by development of hypotheses, details of the methodology, reporting of the findings, and discussion of the managerial implications of the results.

CHAPTER 2

LITERATURE REVIEW

This literature review examines the existing research to answer the following questions: 1) why are special rewards offered to salespeople? 2) what rewards are most effective? and 3) what personal and organizational factors affect the rewards which are valued?

Are Special Incentives Needed for Sales Motivation?

Salespeople tend to be treated as being different from the rest of the work force in both theory and practice. The special incentives outlined in table 1 are seldom offered to workers in other occupations (Drenth, Thierry, Willems and Wolff 1984). Therefore, we must ask whether it is necessary to offer salespeople these incentives. This section examines whether the use of these special incentives is justified by: 1) theories of motivation; 2) some inherent characteristic of salespeople; or 3) the nature of the sales position.

Rewards and Theories of Motivation

Theories of motivation can be classified as mechanistic or cognitive. The mechanistic theories, which view motivation as a stimulus-response reaction (e.g. Skinner's behaviorist theory and Hullian drive theory), are not generally viewed as appropriate in the occupational setting due to their denial of the importance of a persons internal states (McCormick and Ilgen 1985). An exception would be factory piece work plans. The cognitive theories see cognitions as intervening between the stimulus and response (e.g. Maslow's hierarchy of needs and Herzberg's two-factor theory).

Mechanistic Theories The mechanistic theories focus mostly on the reward and the way it is given. Berry and Abrahamsen (1981, p. 209) adopt a behavior modification approach to rewarding the sales force and suggest

that the "implication of behavior modification, . . ., is that through providing the salesman with the 'right set' of cues the sales manager can elicit the desired response--improved performance".

Bushardt, Fowler and Debnath (1989) use Skinner's reinforcement theory to design an incentive scheme. The authors point out that most of the incentive plans currently being used do not comply with the optimal reinforcement schedule prescribed by theory. For example, contests tend to conform to a tandem schedule consisting of a fixed ratio and a fixed interval. This schedule is characterized by great swings in the desired behavior which is one of the common complaints about contests.

A mechanistic view of rewards assumes that the reward schedule is the most important motivator. The assumption is that if the proper reward is provided on the right schedule then performance will improve. These theories suggest that special incentives are appropriate but do not answer the question of why they are used more commonly for salespeople than for other occupations.

Cognitive Theories While mechanistic theories give no recognition to the higher order needs, such as feelings of accomplishment, the cognitive theories do take these needs into account. These theories can be divided into content and process theories, with the latter being the most dominant in the work motivation literature. Content theories focus on the question of what arouses, energizes, or starts behavior (e.g. need to achieve, desire for feelings of accomplishment). The emphasis is on needs and drives (Williamson 1982). Maslow's hierarchy of needs, Herzberg's Two-Factor theory, and Vroom's Expectancy theory have implications for the non-monetary incentives.

Maslow's (1954) theory sees a reward as important if it satisfies a need and states that the rewards valued will change depending upon the level the person is at in a hierarchy of needs. Churchill et al's (1976) study of salespeople found results more consistent with two levels of needs (high-order and low-order) rather than Maslow's five levels. Further, Berl et al (1984) found that none of the salespeople in their study fully conform to Maslow's hypothesized pattern of decreasing levels of satisfaction going up the hierarchy.

In spite of the lack of empirical support, Maslow's theory is commonly cited in the sales literature (c.f. Futrell 1988; and Suri 1973). Maslow's theory suggests that as long as the needs for security and safety are satisfied, additional pay will not be motivating. What will motivate are the higher-order rewards such as feelings of liking and respect, accomplishment, and worthwhile achievement. Contests, recognition programs, training, promotion, and job enrichment can all fulfill these needs. Suri (1973, p. 12) notes that "non-financial incentives recognize the salesman's desire for recognition, feelings of accomplishment, desire for prestige, status, and self-actualization as genuine needs." However, caution must be exercised when trying to relate rewards directly to need categories as Ford et al (1981) point out that one reward can satisfy more than one need. For example, a pay increase may satisfy needs for safety and security but also increase feelings of social esteem.

Herzberg's (1968) theory also has intuitive appeal. This theory divides rewards into hygiene factors and motivating factors. Hygiene factors are hypothesized to reduce dissatisfaction, while only the motivators can induce effort and performance. The hygiene factors relate loosely to Maslow's lower-level needs and the motivators to the higher-level needs. The two-factor

theory has been heavily criticized as being dependent upon the use of the critical incidents method of empirical research (Williamson and Berl 1983), but has also been very influential.

The implication is that the hygiene factors must be present to induce any performance at all. They are a necessary, but not sufficient, condition for motivation. An example of a hygiene factor is pay. The motivating factors identified by Herzberg suggest that job enrichment is an important reward (Herzberg 1968). However, studies involving salespeople have produced support both for (Tyagi 1985, and Futrell 1979) and against (Williamson 1983) job enrichment.

Process theories focus on the "how" of motivation rather than the "what". The most influential theories in this category are the Expectancy theory and the Equity theory.

Expectancy theory (Vroom 1964) attempts to account for the motivational force an individual might be likely to expend on a given task. A worker's motivation to expend effort is determined by the interaction of three psychological variables: 1) expectancy - the worker's estimate of the probability that expending a given amount of effort on the task will lead to an improved level of performance; 2) instrumentality - the worker's estimate of the probability that achieving an improved level of performance will lead to attainment of a particular reward; and 3) valence - the worker's perception of the desirability of receiving the reward. The relationship is multaplicative so that if one element is low, motivation is low.

Most of the empirical research on rewards valued by salespeople has used the expectancy theory framework (c.f. Oliver 1974 and Ingram and Bellenger 1983). Expectancy theory implies that rewards must be valued in

order to be effective. A salesperson will not expend extra effort to receive a reward of low value.

Adam's Equity theory (1965) is based upon the social comparison the individual makes concerning the ratio of his or her own job "outcomes" to job "inputs" in comparison with the ratio of a reference person. If inequity is perceived, some action will be taken to help bring about equity. The theory has not been applied in the sales setting but Tyagi (1982) suggests that perceptions of equity or inequity may moderate instrumentalities and valences in the expectancy theory. The major implication of this theory for non-monetary incentives is that programs must be perceived as being fair to be effective.

Finally, although not technically a theory of motivation, the works of Taylor (1911) have been influential in the field of organizational management (Szilagi, 1981). Taylor's scientific management theory views workers as basically lazy and motivated to work only by money. This view is often applied to salespeople even though it is generally held to be inappropriate in occupational settings. Walker et al (1977, p. 157) in a review of sales motivation literature note that "two basic assumptions pervade much of (the research on salespeople): 1) monetary rewards are the primary motivator of sales effort; and 2) the pay package is the basic motivator whereas other incentives, such as bonuses and contests, operate only to induce effort over and above that produced by the basic plan in certain circumstances". This view suggests that only monetary incentives are needed.

In summary, the majority of the theories reviewed suggest that some reward or incentive beyond base pay must be offered in order to produce extra effort. The mechanistic theories focus on the extrinsic, or externally mediated, rewards while the content theories suggest that many rewards come

from within the person. The process theories imply that the method of delivering the reward is very important and must be perceived as being fair. Expectancy theory suggests rewards must be valued to be effective. These theories provide a framework for deciding which rewards to use but they do not answer the question of why so many special rewards are used in sales and not in other fields. Perhaps the answer is in the nature of the salesperson or the sales job.

The Salesperson

Salespeople are subject to a number of assumptions and biases about their needs which effect the rewards which are viewed as appropriate. A common assumption is that salespeople are motivated only by money (Darmon 1974; Stanton and Buskirk 1969; and Haring and Morris 1968). This bias is even more prevalent for commission salespeople (Ingram and Bellenger 1983) and implies that contests are effective because of the monetary value of the prize. Research does not support this position (Tyagi 1982; Churchill et al 1979; and Winer 1973). Goodman (1971) states that "management generally tends to underestimate the significance and power of intangible rewards and overestimate the importance of monetary rewards".

Other common assumptions, and justifications for using special incentives, are that salespeople are inherently competitive and are highly motivated by competition and recognition (Haring and Morris 1968; San Augustine and Greene 1982; Calvin 1984). These assumptions suggest that salespeople are somehow quite different from people in other occupations who are assumed to be motivated by the higher-order needs.

If salespeople are fundamentally different from people in other occupations then studies examining the traits of successful salespeople

should be able to identify what these differences are. However, the findings of such studies are inconclusive at best. Traits which the various studies have related to success include: financial responsibility, leadership, height, dominance, social status, intelligence, empathy, ego-drive, stability, self control, endurance, and extroversion among others (Weitz 1985). This list could go on and on. The problem is that results of this type of study are often contradictory (Churchill et al 1985) suggesting that the belief that "salespeople are born and not made" is unlikely to be true.

Research repeatedly finds that, similar to people in other occupations, the higher-order or internal rewards (such as personal growth and development, feelings of liking and respect, and feelings of worthwhile accomplishment) rate very high with salespeople (Churchill et al 1979; Ford et al 1981; Berry and Abrahamsen 1981; and Cron et al 1988). The importance of higher-order rewards to salespeople suggests that some of the less common special incentives should receive more attention. For example, if personal development is important to a salesperson, training may be an effective reward. Involving salespeople in decisions about the company and making them feel that they make a worthwhile contribution to the company are other rewards which may be appropriate. The special clubs which are commonly used often include meetings with upper management to allow the salespeople to have input into the company. This reward not only provides some status but may also provides the salesperson with feelings of importance and worthwhileness.

This finding also implies that perhaps we need to look at contests and recognition programs in a different light. For example, if a salesperson wins a contest and receives recognition in the process, his feelings of social esteem may be increased and therefore he may really be receiving more

than one reward. Of course, there will also be an effect if he losses which must also be taken into consideration. This suggests that different measures of the effectiveness of these programs (satisfaction as opposed to only sales increases) and different approaches to the design of the programs are needed. Research evaluating the effectiveness of the special incentives in meeting the higher-order needs is required.

An important question raised by this finding, and the implications of the cognitive theories, is whether the special incentives are appropriate. If salespeople are the same as people in other occupations in terms if their needs, wants, and desires, then why are these incentives necessary? The sales literature has recognized the existence of higher-order needs in the sales force for a number of years (Abratt and Smythe 1989; Median 1986; and Calvin 1984) but the use of incentives such as contests, which often amount to no more than dangling a carrot in front of the salesperson, continues to increase. This suggests that there is something distinctive about the sales job which makes the special incentives necessary.

The Sales Job

Researchers have recognized the distinctiveness of the sales job in the past (Futrell 1979). Some of these features are outlined in table 2. The features of the sales job are divided into two categories: organizational aspects, and psychological and physical aspects. The implications of each of these features for the need for non-monetary incentives are outlined following the table.

Table 2 - Distinctive Features of the Sales Job

ORGANIZATIONAL FEATURES	COMMENTS
Boundary Position	Can lead to a low sense of belonging (Dubinsky et al 1986). May not work out of the same office as other workers or may not be an employee.
Works Alone	Success and failure rise and fall on individual abilities rather than on teamwork (Bagozzi 1978).
Performance Judged on Results	Bagozzi (1978) notes that most sales positions are structured to emphasize extrinsic rather than intrinsic rewards and that the job provides more direct feedback than most other jobs.
Non-Routine Nature	Often requires innovative thinking to deal with difficult customers.
Multiple Roles	May have to sell, service, gather intelligence, etc. (Dubinsky et al 1986), but paid based on sales.
Responsibility Without Authority	Customers hold salesperson responsible for every -thing the company does.
High Degree of Role Ambiguity	Boundary spanning and isolation of job increase role ambiguity which is negatively correlated with job satisfaction (Teas 1980).
High Degree of Role Conflict	Highly prevalent in sales and often related to low satisfaction and performance (Bagozzi 1978).
PSYCHOLOGICAL AND PHYSICAL	**COMMENTS**
Humiliation and Rejection	Face humiliation, rudeness, and rejection on a day to day basis (Howton 1965). Causes stress.
Competition	Pay plans encourage competition making colleagues more like competitors than teammates (Howton 1965).
Morale Up and Down	"High" from making the sale followed by "low" of rejection. Requires ability to maintain moti -vation in the face of adversity.
Uncertainty and Inter-Personal Conflict	Exchanges with customers are more intense and risky than typical inter-firm encounters. Sales -person is vulnerable and dependent upon the customer (Dubinsky 1980).
Low Prestige	Selling is not highly regarded by the public (Pineo and Porter 1967; Thompson 1966)

Organizational Features

Many of the organizational characteristics of the sales job create a great deal of stress. The inherent high degree of role conflict and ambiguity, the boundary position, and the non-routine nature of the job all cause low job satisfaction and high job anxiety (Teas 1980; Bagozzi 1978; Walker et al 1975). Low satisfaction can also lead to high turnover (Johnston et al 1988). It can be argued that if organizational factors are causing stress and low satisfaction, changes in the job structure should be made. However, Walker et al (1975) point out that some of these factors are out of control of management. An example, is the role conflict which exists when the salesperson believes that the role demands of two or more members of the role set (e.g. the sales manager, the customer, or family) are incompatible (Churchill, 1990). This conflict is difficult to change and makes some job enrichment strategies hard to implement.

This suggests that non-monetary incentives may be effective for overcoming some of the stress and increasing satisfaction. No research could be located which dealt with this issue but we can speculate that winning a contest may make the conflict and ambiguity more bearable. The incentives themselves cannot remove the causes of the stress but they may be able to alleviate the negative effects to some extent. The downside is the effect on losers. The actual process of taking part in a contest or competition may also have some effect. Again this is a question for future research.

The boundary spanning role and isolation of the salesperson has another implication for rewards. The salesperson is very much alone and sees the customer more often than people at head office. This can contribute to a low sense of belonging (Cranston 1966). Incentive programs

which involve bringing the salespeople together, such as conventions and special clubs, may be successful in overcoming this problem.

The salesperson usually does not have a supervisor standing over him telling him what he is doing right or wrong or even what he should do next. This lack of supervision means the salesperson must decide when to make the first call in the morning and when to make the last call in the evening. The self-motivation required may be helped by an incentive. It may be easier for the salesperson to make the extra call if he knows that he may win a trip or even just receive a plaque as a result. No research could be located which examines this issue.

Tonning suggests that incentives should be viewed as control mechanisms. Suri (1973) agrees with this view noting that incentive schemes can be used for directing and controlling the efforts of salespeople to achieve the objectives of the organization. The function of directing and controlling is important because most of the salesperson's activities take place away from the office with no supervision. For example, a new product may have been introduced which the sales force is not accepting. Raising commissions may not achieve acceptance if the salesperson is already highly compensated, but holding a contest or providing some recognition to sellers of the new product may be effective (Templeton 1986). Contests can also be used to reinforce the use of new selling skills, encourage servicing, or other desired behaviors (Turner 1973).

Differences exist in the organizational characteristics of an employee sales force and that of independents. Mahajan et al (1984) found that manufacturers' agents perceive that they are less closely supervised and believe they have less influence over company standards than employee salespeople. The independents also perceive more role ambiguity and less

role conflict, although these differences are not statistically significant. This study revealed that satisfaction is highest in manufacturers' agents when management provides a minimum amount of direction and does not restrict their autonomy. The controlling and directing function of special incentives may thus be more important for independents than for employees.

In summary, the organizational features of the sales job suggest that various forms of special incentives can help overcome some of the stress, provide help with the self-motivation process, and aid in directing and controlling the sales force.

Psychological and Physical Features

The psychological and physical aspects of the sales job produce a great deal of stress and may suggest why non-monetary incentives are needed. The up and down nature of the job combined with a high degree of interpersonal conflict, humiliation, and rejection suggest that something extra may be needed to keep the salesperson going.

Many authors cite the need to have incentives to help overcome the mental and physical strain of the selling job (Stanton and Buskirk 1969). Still, Cundiff and Govoni (1981) mention that the up and down nature of the job, rudeness encountered, long hours, and boundary position can produce a tendency to become bored with the job. Non-monetary incentives such as contests may induce an element of fun and excitement and thus, prevent the sales call from turning into mere order-taking. The need to create some excitement and enthusiasm is important for older salespeople who have been calling on the same customers with the same products year after year. In this case, the job becomes very boring. A contest or recognition program may help to overcome this boredom (Dalrymple 1985).

Salespeople are often defensive about the way they make their living and will work very hard for a promotion, preferably to a non-sales job (Churchill et al 1979; Ford et al 1981; and Ingram and Bellenger 1983). Adkins and Swan (1980) find that salespeople are motivated by a promotion even when the only change is in the title. The most popular titles are those which do not include the term "sales".

Not all sales positions have the same degree of the stresses outlined above. For example, selling for IBM probably has a much higher status associated with it than selling life insurance or used cars. A great variety of jobs are referred to as sales but this does not mean they involve the same tasks. For example, a retail sales clerk would seem to have a very different job than a travelling salesperson. This implies that non-monetary incentives may be more appropriate for some sales jobs than for others.

Classification of Sales Positions

Sales positions are usually classified based on the selling skill involved. A commonly cited classification is that developed by McMurray (1961) which is outlined in table 3 below.

Table 3 - Classification of Sales Positions

CLASSIFICATION	DESCRIPTION	IMPLICATION FOR REWARDS
Product Deliverer	Selling secondary, originates few sales.	Requires few special incentives. Awards for Customer service appropriate.
Inside Order Taker	Merely serves customers with little creative selling.	Same as product deliverer.
Field Order Taker	Little creative selling.	Same as product deliverer.
Missionary Sales	Expected to build good will and not make sales.	Contests useful in encour -aging new accounts.

Continued on Next Page

Table 3 - Continued

Technical Salesperson	Emphasis on technical knowledge. Serves as consultant.	Contests based on sales and recognition for technical knowledge.
Creative Sale of Tangibles (e.g. Ency-lopedias)	Requires a high degree of selling skill and ecompasses the entire range of selling task.	Incentives very important. Contests and recognition programs are vital.
Creative Sales of Intangibles (e.g. Life Insurance)	Like sale of tangibles but more difficult because cannot demonstrate product.	Same as tangibles.

As the level of selling skill required increases, the stresses and strains of the job also increase. This implies that special incentives are more appropriate for the more difficult type of sale. Thus, the features of the specific position being considered must be fully understood before an incentive program can be designed. Further, statements regarding incentive programs cannot be generalized to all people holding a job called sales. The existence of different types of selling jobs must also be kept in mind when reviewing the results of empirical research. For example, research on a retail sales force may not be generalizable to an industrial sales force.

Thus, we can conclude that the sales position contains some stresses and features which suggest that non-monetary incentives are needed. Research, to be discussed more fully later in this paper, indicates that the sales job is often difficult to enrich and, therefore, other methods of providing the higher-order rewards identified by research and the cognitive motivational theories must be found. The question then arises as to which the of the special incentives is most effective.

Which Rewards Should be Used?

The following examines each of the special incentives outlined in table 1 (page 1) in terms of the amount the reward is valued by salespeople

and the effectiveness of the rewards. Unfortunately very little research exists to answer these questions. A limited number of studies, outlined in table 4, ask salespeople to rank a list of rewards in terms of which are most valued. The table indicates the rank for the rewards in each study.

Table 4 - Ranking of Rewards

STUDY	PAY	PROMOTION	RECOGNITION	GROWTH	SECURITY	LIKING & RESPECT	WORTH-WHILE	ACCOMP LISH
Churchill et al 1979	1	4	7	2	6	5	n/a	3
Ford et al 1981	1	2	5	4	6	n/a	n/a	3
Ingram and Bellenger 1983	1	2	5	4	7	6	3	n/a
Cron, Dubinsky Michaels 1988	1	5	4	n/a	n/a	6	3	2

These studies form the basis of most of the information in this section. All of the samples involve employee sales forces. Churchill et al (1979) and Ingram and Bellenger (1983) measured the valence for a 10% increase in the rewards specified. The exceptions are recognition and promotion. Ford et al (1981) and Cron et al (1988) measured the valence for an increase in the rewards with no percentage specified. Valence is a term arising from the use of an Expectancy theory framework and in all cases valence is operationalized as anticipated satisfaction from receiving the reward.

Before each reward is examined a few points should be made about the studies in table 4. First, pay is the number one reward in all of the studies. This can be seen as confirmation of the common view that salespeople are motivated by money and money alone. However, an alternative explanation is that it is unlikely that any employee is going to rank pay lower than number one.

Second, the rewards included are both intrinsic and extrinsic. Ranking these rewards assumes they are mutually exclusive. However, this

is not necessarily the case. Receiving an increase in pay may also provide feelings of accomplishment. The intrinsic, or high-order, rewards rank very high in all studies. It is difficult to judge how much of the value for the intrinsic rewards applies to the extrinsic (e.g. promotion and recognition) rewards.

Third, comparisons among studies is difficult because the rankings tend to measure attitudes toward the existing reward practices in the companies studied. Also, the rewards ranked represent an incomplete list. Noticeably absent are contests.

1. Contests This reward is the subject of a great deal of controversy in the sales literature. On one hand, it is highly recommended as a means of achieving short-term, specific sales objectives (Calvin 1984) and generating fun and excitement (Stanton and Buskirk 1969). On the other, it is highly criticized as being childish, unfair, an encouragement to cheat, and destructive to morale (Karp 1970; and Abratt and Smythe 1989).

Haring and Morris (1968) and Smythe and Abratt (1989) surveyed sales managers with respect to their opinions regarding sales contests. The findings confirm that sales managers use and believe in contests. Wildt, Parker, and Harris (1981), in a review of the literature on sales contests, noted that the only evidence we have that sales contests are effective comes from surveys of sales executives who indicate that, when used properly, sales contests improve the performance of most salespeople. There is even less substantiation of the negative effects of sales contests. These authors (p. 60) conclude that "we know 1) sales contests are widely used and have a variety of specific objectives, 2) considerable dollar resources are devoted to sales contests, and 3) there is much speculation as to their impact but little documented evidence is available concerning the effectiveness."

Only two studies were located which examined contests. Berry and Abrahamsen (1981) included contests in a list of motivating factors rated as high, medium or low motivators in a sample of manufacturers' representatives and reported that contests are low motivators. Oliver (1974) studied life insurance salespeople and found that membership in clubs and winning a convention trip were the only components positively correlated with performance. The compensation and intrinsic components identified were not associated with higher performance. Thus, the widespread view of contests as effective rewards receives mixed empirical support.

2. Recognition Sales textbooks point out that salespeople tend to be highly motivated by recognition (Turner 1973). Surveys of sales managers have consistently found that recognition is widely used and viewed as effective (Abratt and Smythe 1989; Haring and Morris 1968). Along with contests, recognition is the most frequently recommended non-monetary incentive.

Recognition is normally included in other types of non-monetary incentives. For example, part of the "prize" in a contest is the recognition that comes along with winning. Sales contests are usually organized and promoted to capitalize on the recognition opportunities. Turner (1973) points out that most successful programs combine honour awards with trips, cash or merchandise. For this reason it is difficult to separate these rewards to determine their effectiveness. What is the most effective part of the contests, is it the recognition or the prize? Also, is the prize needed or is the recognition enough?

Further, special clubs are frequently used as a means of recognizing top performers. While these clubs generally involve special business cards and stationary, use of a company car, and dinners with top executives, they

can also be viewed as an attempt at job enrichment. Depending on how seriously the input is viewed by executives, the club could be seen by the salesperson as a chance to have input into the direction of the company.

While the sales literature is highly supportive of recognition as a motivator the research has indicated the opposite. Recognition ranked very low in all of the studies cited in table 4 (p. 19), and was indicated as a low motivator by manufacturers' representatives in Berry and Abrahamsen's (1981) study.

We can speculate on a number of reasons for these low rankings. First, it is possible that salespeople want recognition but they do not want to say they want it. Second, recognition may produce feelings of accomplishment, worthwhileness and growth. These higher-order rewards are generally ranked above recognition, but it could be argued that the true ranking for recognition is the ranking received by the intrinsic rewards it helps produce. Finally, there are many different kinds of recognition, both formal and informal. The rankings consider only the formal recognition programs in existence at the companies in the studies. The results may reflect dissatisfaction with these particular programs.

As with contests we have conflicting information. Sales managers use recognition and feel it is effective, and studies of salespeople find low valences. Common sense tells us that receiving recognition should provide opportunities to receive intrinsic rewards but no research could be located which dealt with this question.

3. Promotion This reward is only available in the employee sales force. Promotion can take many forms such as changes in territory, title, training responsibilities, and movement out of sales into management. Promotion is generally ranked quite high in the studies described in table 4

(page 19). The disadvantage of promotion is that at some point some salespeople realize they are not going to be promoted and thus the reward is no longer motivating. This is seen in the finding that younger, shorter tenured salespeople have the highest valences for promotion (Churchill et al 1979; Ford et al 1981; Ingram and Bellenger 1983; and Cron et al 1988).

A salesperson who desires a promotion is likely to be motivated by rewards which indicate he is on the right track. For example, the opportunity to train a new salesperson may provide the chance for the salesperson to demonstrate managerial skills. Informal recognition, especially from higher levels of management, may also be highly valued. Thus, the promotion itself is an effective reward and suggests the incentives which may be used to motivate the young salesperson.

5. Training Training is not commonly viewed as a reward, mainly because the focus of the literature is normally on the employee salesperson. However, Berry and Abrahamsen (1981) found that product training is a high motivator and sales training is a medium motivator for manufacturers' agents. These two types of training rate higher than either contests or recognition in this study. While no reasons are given for this finding we can speculate that the independent salesperson has no other sources of training, does not feel the company owes it to him, and thus sees it as a reward which is valuable. Mahajan et al (1984) suggest that training is necessary for manufacturers' agents because these salespeople desire a minimum amount of direction.

While no studies could be located which examined the issue, it is reasonable to predict that if personal growth and development is a salient need, training directed toward personal development will be viewed as a reward by the employee salesperson as well.

6. Job Enrichment Job enrichment generally involves changing one or more of the following characteristics of the job; 1) task variety; 2) task identity; 3) task significance; 4) task autonomy; and 5) task feedback (Szilagyi 1981). There are two problems in implementing this strategy in a sales situation. First, the sales job is already quite high on the dimensions outlined except for task variety. The job is autonomous, the outcomes are easy to identify and determine the significance of, and there is usually a lot of feedback. Second, the sales position can be very difficult to enrich, especially when dealing with an independent sales force.

The empirical evidence for job enrichment is mixed. Futrell (1979) and Pruden, Cunningham and English (1972) found support for job enrichment as a motivating factor, while Williamson (1982, p. 112) concluded from his study of three industrial sales forces that job enrichment is not useful in improving sales performance noting that "there appear to be few ways that a given sales job can be significantly enriched, since the specific nature of the selling task appears to 'lock' the selling position into a fairly rigid degree of 'enrichment' which is possible." This issue is unlikely to be settled until a longitudinal study is performed measuring motivation before and after a job enrichment effort.

This review indicates that we have surprisingly little information about the effectiveness of the various rewards. Research tends to indicate that promotion is effective but the evidence often conflicts with conventional wisdom with respect to contests and recognition. Conflicts are also found among studies using very similar methodologies. This could result from comparing research studying salespeople involved in different types of sales or operating in different types of organizations. These factors are possible confounding variables when comparing studies. Much of

the research examines the question of whether there are any differences in the rewards valued based on personal or organizational characteristics in an attempt to control for these possible confounds.

The Effect of Personal and Organizational Factors

Salespeople vary with respect to personal and organizational characteristics, and these differences may affect the rewards which are valued and effective. This section examines the existing research to determine the effect of: 1) personal characteristics; 2) organizational characteristics; and 3) career stages; on valences for non-monetary incentives.

Personal Characteristics

A few studies have examined personal characteristics with respect to their effect on rewards valued (table 5). In general the results are not very informative, producing many inconsistencies. These are the same studies examined in table 4 (page 19) and thus suffer from the same limitations.

Table 5 - Personal Characteristics and Valence for Rewards

PAY	MARITAL STATUS	FAMILY SIZE	INCOME	AGE	EDUC-ATION	PSYCH VARIABLES*
Churchill et al 1979	Married	NO	n/a	NO	n/a	n/a
Ford et al 1981	NO	NO	n/a	NO	NO	NO
Ingram and Bellenger 1983	NO	NO	LOW	NO	NO	NO
Dubinsky & Ingram 1989	NO	NO	NO	NO	n/a	n/a
Oliver 1977	n/a	n/a	LOW	YOUNG	n/a	n/a

Continued on next page

Table 5 - Continued

JOB SECURITY						
Churchill et al 1979	NO	NO	n/a	NO	NO	n/a
Ford et al 1981	NO	NO	NO	NO	NO	NO
Ingram & Bellenger 1983	NO	NO	NO	OLDER	LOW	LOW SELF ESTEEM
RECOGNITION						
Churchill et al 1979	NO	SMALL	n/a	NO	NO	n/a
Ford et al 1981	NO	NO	NO	NO	NO	NO
Ingram & Bellenger 1983	NO	NO	HIGH	NO	NO	NO
Dubinsky & Ingram 1989	NO	NO	NO	NO	n/a	n/a
PROMOTION						
Churchill et al 1979	NO	SMALL	n/a	YOUNG	NO	n/a
Ford et al 1981	NO	NO	NO	YOUNG	NO	NO
Ingram & Bellenger 1983	NO	NO	NO	YOUNG	NO	NO
Dubinsky & Ingram 1989	NO	NO	NO	YOUNG	n/a	n/a
GROWTH AND ACCOMPLISHMENT						
Churchill et al 1979	NO	SMALL	n/a	YOUNG	NO	n/a
Ford et al 1981	NO	NO	HIGH	YOUNG	HIGH	NO
Ingram & Bellenger 1983	NO	NO	NO	NO	NO	NO

NOTE: *Psychological variables measured are need for achievement, need for self actualization, and general self-esteem (Ford et al 1981) and specific self-esteem (Ingram and Bellenger, 1983).

**Ford et al (1981) found no relationship between valence for rewards and employment status of spouse and home ownership. Sex was only related to personal growth with women valuing this reward highly than men.

The only consistent result is that younger salespeople valued promotion more highly than did older salespeople. This result is very

reasonable. Older salespeople may realize they are not going to get a promotion or may be satisfied with their position.

In two studies younger salespeople had higher valences for growth and accomplishment. Other personal characteristics which are related to valence for these higher order rewards were education, income (Ford et al 1981) and small family size (Churchill et al 1979). Ingram and Bellenger (1983) found no relationship between the personal characteristics and valences for the higher-order rewards.

The psychological variables included in these studies (need for achievement, need for self-actualization, general and specific self-esteem) do not seem to be useful predictors for any of the rewards. Only one significant relationship was reported. Ingram and Bellenger (1983) found that low self-esteem was related to the valence for job security.

Sex differences are reported in two studies. Ford, Churchill, and Walker (1981) reported that women value worthwhile accomplishment more than did men. No difference was reported for the rewards of pay, job security, recognition, promotion, and personal growth. In contrast, Busch and Bush (1978) reported that women placed less value on promotion and more value on satisfying customers than did men in their sample.

Organizational Characteristics

Organizational characteristics can be divided into three categories: 1) basis of reward; 2) occupational and compensation structure; and 3) job and leadership factors.

1. Basis of Reward Futrell (1975) found that reward systems which are based on performance, as opposed to tenure, produced higher performance and higher value for the rewards of pay and promotion. Salespeople who received

feedback reported higher measures of intrinsic motivation (Futrell 1979), and higher satisfaction with pay and promotion (Teas and Horrell 1981). Ingram and Bellenger (1983) reported that promotion and recognition are valued less when they are seen as commonplace. Finally, Williamson and Berl (1983) found that the salesperson's perception of the fairness of a company's reward system was more motivationally important than the level of satisfaction which the reward generated for the salesperson.

2. Occupational and Compensation Structure Relatively few studies made comparisons of rewards based on the method of compensation. Studies using this variable reported that commission salespeople have higher valences for personal growth (Ingram and Bellenger 1983) and recognition (Dubinsky and Ingram 1989) than do salaried salespeople. No differences are cited for any of the other rewards. These findings are counter to the conventional wisdom in sales management that commission salespeople are motivated mostly by money.

Occupational structure, employee vs independent, has many implications for rewards, few of which have received research attention. Promotion is, by definition, not available for an independent sales force and job enrichment is not easy to accomplish in the independent setting. Other items, such as training and marketing support, may be viewed as rewards by independents but not the employee.

Berry and Abrahamsen's (1981) examination of manufacturers' representatives is the only study of an independent sales force which could be located. The research involved two studies on a sample of members of the National Association of Manufacturers' Agents. In the first study respondents were asked to give their reaction to twenty motivational factors. The high motivators were: product quality, consumer advertising,

product training, commission rate, introduction of new products, and attitude of the principal. Low motivators included: contests, mutually established production quotas, warnings to improve, overage splitting and recognition. The findings indicate that traditional motivational techniques, such as contests, recognition and financial incentives, may not be as effective for independents as a good marketing support program.

In the second study a different sample was surveyed regarding their needs according to Maslow's hierarchy. The majority of the sample (54%) were categorized as high-actualizers. The authors (p. 213) concluded that "given the salesmen's apparent high need for a sense of accomplishment and respect, it appears as though the desire for solid support in the form of quality products, reputable companies, as well as product training, etc. goes beyond mere dollars and cents motivation."

These studies point to both similarities and differences between independents and employees. Both appear to highly value the high-order or intrinsic rewards. The difference is in the way the reward is achieved. The employee seems to want a promotion and the independent may want support to help him build his company.

2. Job Characteristics Tyagi (1982, 1983, and 1985) studied organizational variables and their relation to reward valences. He separated rewards into intrinsic and extrinsic categories and performed regression analysis with either motivation or valence for rewards as the criterion variable. Results are shown in table 6 (p. 31).

A major finding of these studies is that the organizational variables are related to intrinsic valence and motivation. Futrell (1979), in a similar finding, reported that the more a salesperson feels he has control over his job and the more he is allowed to be creative and develop his own ideas, the

more satisfied he is in the autonomy and self-actualization need areas. While many areas of the organizational structure are somewhat out of control of management (Walker et al 1975) areas such as feedback may be effective for motivating salespeople.

Table 6 - Relationship Between Organizational Climate and Valence for Rewards

ORGANIZATIONAL CLIMATE VARIABLE	INTRINSIC			EXTRINSIC		
	1982	1983	1985	1982	1983	1985
Job Challenge & Variety*	(+)	(+)	(+)	(+)	(+)	(+)
Job Importance**	(+)	n/a	(+)	(+)	n/a	(+)
Task Conflict	NS	n/a	n/a	(-)	n/a	n/a
Role Overload	NS	n/a	n/a	NS	n/a	n/a
Organization Identification	(+)	(+)	n/a	NS	NS	n/a
Job Autonomy	n/a	NS	(+)	n/a	(+)	(+)
Perceived Inequity	n/a	NS	n/a	n/a	(-)	n/a
Task Identity	n/a	n/a	NS	n/a	n/a	NS
Job Feedback	n/a	n/a	(+)	n/a	n/a	(+)
% of Variation Explained - R^2	.297	.22	.48	.42	.42	.18

(+) indicates positive relationship, (-) indicates a negative relationship, and NS indicates no significant relationship.

The 1985 study used intrinsic and extrinsic motivation rather than merely valence for rewards.

* 1985 study measured task significance.
**1985 study measured job skill and variety.

The most important organizational variables appear to be job challenge and variety, job importance and job autonomy. These factors are consistently related to high valences. However, these studies do not provide any indication of cause and effect. For example, does a job rich in challenge and variety increase the valence for rewards or does the existence of some reward increase the salesperson's perception of challenge and variety?

There are two major implications of the findings with regard to organization variables. First, reward valences may differ across organizations. The same salesperson in one organization may value reward X and in another organization he many value Y due to differences in the organizational variables. Therefore, it is important for a company to survey its own sales force to determine the effect of the organizational variables.

Second, job characteristics and design factors are related to the valence for rewards. Research establishing a causal relationship between these variables would be useful for determining whether job enrichment, when available, is a valid strategy. While the organizational variables appear to be quite important, it must be kept in mind that they account for less than half of the variance in all studies (Tyagi 1982, 1983, and 1985) and less than one-quarter in some (Tyagi 1982, 1983).

3. Career Stages Tenure is commonly used as an indication of career stages and has produced some conflicting results as shown in table 7.

Table 7 - Tenure and Valence for Rewards

STUDY	PAY	PROMOTION	RECOGNITION	SECURITY	ACCOMP-LISHMENT	GROWTH
Churchill et al 1979	LONG	SHORT	NO	NO	NO	SHORT
Ford et al 1981	NO	NO	NO	NO	NO	SHORT
Ingram and Bellenger 1983	NO	SHORT	NO	OLDER	LONG	NO
Dubinsky and Ingram 1989	NO	NO	NO	n/a	n/a	n/a

Churchill et al (1981) also measured sales experience and found that more than five years experience is related to high valence for job security and less than five years experience is related to valence for promotion. Ingram and Bellenger (1983) measured vocational maturity and found no relationship.

Shorter tenure is associated with higher valences for growth and promotion. This is similar to the result for age and we would expect these variables to be highly correlated. Longer tenure is associated with higher valence for accomplishment and pay in one study (Churchill et al, 1979). This counter-intuitive result has not been replicated.

Cron et al (1988) broadened the scope of the research beyond the relationship between tenure and rewards to include career stages. Career stages have only received limited attention in the sales literature, but have been shown to have a fundamental effect on how salespeople view their jobs and work environments. Career stage is a more specific measure than tenure encompassing career goals and expectations (Cron et al 1988).

The career stages examined are: 1) exploration stage - salespeople are younger, concerned with finding an occupation they can live with, have low organizational commitment and an high incidence of job switching; 2) establishment stage - salespeople seek stability in their career and thus professional success and promotions are very important; 3) maintenance stage - salespeople are concerned with maintaining their current position and performance levels, there is less job changing and less desire for a promotion; and 4) disengagement stage - has the lowest performance because of psychological disengagement from the job.

Cron et al (1988) hypothesized that salespeople in the establishment and exploration stages would value the higher-order rewards more highly than other salespeople. This was not supported. However, the hypothesis that establishment stage salespeople have higher valences for promotion than salespeople in the other stages was supported. Finally, salespeople in the maintenance stage were hypothesized to have higher valences for low-order rewards, with the exception of promotion, than salespeople in the other three

stages. Only partial support for this hypothesis was reported. While lower valences for pay in the disengagement stage than in the maintenance stage exist, valences were not lower in the other two stages. This is contrary to the Churchill et al (1981) finding that long-tenured salespeople have higher pay valences.

Research on career stages suggests that different motivational strategies are needed at the various career stages. Further research on career stages is warranted as only a limited number of hypotheses are tested in the Cron et al (1988) study.

The research examining the personal and organizational characteristics indicate that the structure of the sales force, age, career stage, and possibly some job characteristics must be considered when designing an incentive program. It is clear that all salespeople are not created equal and the individual differences must be taken into account.

Summary

It is apparent from this review that salespeople are motivated by the same high-order or intrinsic rewards as everyone else. Both theory (c.f. Herzberg 1968 and Maslow 1954) and research (c.f. Oliver 1974 and Churchill et al 1979) suggest that merely providing more money is not going to be enough to produce the extra effort. To be effective, the non-monetary incentives must meet some of the higher order needs.

Although our knowledge regarding the effectiveness of the various incentives is limited we can conclude that promotion is effective for young employee salespeople (Churchill et al 1979; Ingram and Bellenger 1983). The evidence is conflicting regarding job enrichment (Futrell 1979; and Williamson 1982). Research indicates this reward should be effective but implementation

in the sales setting may be difficult. Recognition is felt to be effective by sales managers but consistently ranked very low in studies of salespeople. Contests and training have received very limited research attention.

This review also indicates that many questions regarding the use of non-monetary rewards remain unanswered. Some these questions are:

1. What is the relationship between the non-monetary rewards and the higher-order or intrinsic rewards? For example, does winning a contest provide feelings of worthwhile accomplishment? We know that salespeople value the intrinsic rewards (Berry and Abrahamsen 1981; Churchill et al 1979; Ingram and Bellenger 1983; and Ford et al 1981), but we do not know the best method to provide these rewards.

2. Why does recognition always rate low in studies (Churchill et al 1979) and yet still be viewed as being highly effective by sales managers (Smythe and Abratt 1989)?

3. Is the independent salesperson different from the employee? Berry and Abrahamsen's (1981) study pointed to some differences which need to be explored further. Do independents value the same rewards as employee salespeople? Are all independent salespeople the same or are there segments within this type of sales force? Are there organizational variables which effect the rewards valued by independent salespeople?

This research is directed to the last question and examines the differences between employee and independent sales forces with respect to the perceived motivational effectiveness of non-monetary rewards. The following chapter provides operational definitions of key terms and develops hypotheses for testing.

CHAPTER 3

HYPOTHESIS DEVELOPMENT

Independent salespeople and employees probably have different goals and objectives for their careers and therefore it is reasonable to believe that they will be motivated by different rewards.

Dimensions of Non-monetary Rewards

Non-monetary rewards are defined as rewards over and above the base compensation package. Although the rewards may have a monetary value they are referred to here as non-monetary rewards. A key aspect is that the rewards are given at the discretion of the company and are not tied to any contractual agreement or terms of employment.

A great number of very different types of rewards are included under the term "non-monetary rewards" (see table 1, page 1). This creates problems when we try to make generalizations about non-monetary rewards because the term is applied to a variety of programs. In fact, one of the positive aspects of these rewards is their flexibility (Abratt and Smythe 1989). For example, recognition is itself generally considered to be a non-monetary reward but contests and conventions contain elements of recognition when the winners are announced and presented with prizes. Therefore, in order to be able to determine the best type of reward it is necessary to examine the dimensions of non-monetary rewards separately.

Each of the rewards can be thought of as including one or more of the following dimensions:

1. Recognition - Involves public acknowledgement of some sort. The acknowledgement can be written (e.g. publishing a name in a newsletter or sending a congratulatory letter to a salesperson) or verbal (making a presentation in front of a group of people or a personal telephone call).

2. Competition - This dimension refers to the basis upon which the reward is given. Examples of competition are very little or none (such as giving an award based on years of service), competing against yourself (such as giving an award for meeting a goal or improving on performance), or intense competition where only the top performers receive a prize.

3. Prize - The prize given may or may not have a monetary value. The reward can be a piece of merchandise or a promotion to a management position. The prize dimension can be thought of as being made up of three distinct types of prizes. First, the prize may have a monetary value. The value can be very small, such as a plaque, or very large, such as a trip or a car. Second, the prize can be some form of job enrichment. A promotion would fall into this category, as would a "President's Council" or other advisory group where salespeople are asked for their input on product and marketing decisions. Finally, the prize can be some form of sales support. This prize involves items which make the salesperson's job easier, such as training and marketing support.

4. Social - Non-monetary reward programs can involve a high degree of social contact with management and with other salespeople (e.g. conventions) or very little (e.g. contests where the prize is delivered by a third party).

Each of these dimensions contains a motivational component and the level of motivational effectiveness will likely vary among salespeople. These dimensions are studied in this research. The following presents the research design, research questions and hypothesis development.

Research Design

The following outlines the unit and industry of study, and defines some key terms.

Unit of Study

The salesperson is the unit of study for this research, and is defined as a person primarily involved in a selling function. Studies which survey the opinions of sales managers reveal just that--the opinions of sales managers. Sales managers may or may not be accurate in their perceptions of the rewards valued by the sales force. Of course, the same can be said of the opinions of salespeople. It is significant if the perceptions of what is motivating differs between salespeople and sales managers and therefore the study of salespeople's perceptions is appropriate.

Occupational Structure

The term occupational structure is used in this study to distinguish between a salesperson who is an employee of a company and one who works as an independent. An employee is a salesperson who can only sell for one company. The employee may or may not be remunerated on a salary basis. Thus, the compensation plan is not the deciding factor. An independent works under contract and is self-employed. He may or may not sell exclusively for one company but has the option to do so if he wishes. An example of an independent is the manufacturers' representative.

Industry Studied

The life insurance industry was chosen for this research for a number of reasons:

1. The researcher worked in the industry for a number of years and is familiar with the rewards, jargon, and problems of the industry.

2. Life insurance is a very difficult sale involving the creative sale of an intangible. Non-monetary incentives are very common in this

industry and therefore, life insurance salespeople are familiar with a broad range of these rewards.

3. Virtually all life insurance sales representatives are paid on a commission basis. This means that the compensation plan, a possible confounding variable, can be held constant.

4. Both occupational structures (employee and independent) are common in the industry. Both the employee and the independent perform the same job. This means that the effect of occupational structure can be examined while holding the type of sale, another possible confounding variable, constant.

Research Questions

Empirical research on salespeople has generally focused on the employee sales force (c.f. Ford et al 1979; Ingram and Bellenger 1981). The independent salesperson has been largely ignored and therefore we have very little information regarding any differences between these two common forms of sales force organization.

With respect to non-monetary rewards we need to know whether non-monetary rewards, in general, are more motivational for one group than the other and which of the specific dimensions are the most motivational for each group. Therefore, this research seeks to answer the following questions:

1. Does occupational structure (employee vs independent) affect the perceived motivational effectiveness of non-monetary incentives to salespeople?

2. Does occupational structure affect the dimensions of non-monetary rewards which are perceived by salespeople to be motivating?

Finally, there is no reason to believe that all independent salespeople are alike and all employee salespeople are alike anymore than there is reason to believe that all salespeople are alike. Therefore, the final research question is:

3. Do different segments of independent salespeople and employee salespeople perceive different dimensions of non-monetary rewards to be motivating?

Hypotheses

Because of the common use of non-monetary incentives to motivate sales people and the general belief by sales managers that these programs are effective (Haring and Morris 1968; and Abratt and Smythe 1989) it is expected that both types of salespeople will perceive some motivational effectiveness in non-monetary rewards in general. Therefore:

H1: Both types of salespeople feel that non-monetary incentives have some perceived motivational effectiveness.

One of the fundamental differences between independents and employees is that the independent is in business for himself. The independent wants to build his business and therefore should be motivated by rewards which help with this objective. Therefore:

H2a) Independents are more likely than employees to perceive that sales support has motivational effectiveness.

Employees, on the other hand, have an investment in their company and can be expected to be motivated by rewards involving the job enrichment dimension. An independent is less likely to be motivated by this dimension because he probably represents a number of companies and is more interested in his or her own business rather the business of the companies he represents. Therefore:

H2b) Independents are less likely than employees to perceive that job enrichment has motivational effectiveness.

Recognition is frequently mentioned by sales managers as an effective reward (Haring and Morris 1968; Abratt and Smythe 1989) although research on salespeople generally indicates it is a low motivator (Churchill et al, 1979; Ford et al, 1981; and Ingram and Bellenger, 1988). There is no reason to believe that independents and employees will differ in their reaction to recognition. Therefore:

H2c) The recognition dimension has low perceived motivational effectiveness for both independents and employees.

There is also no reason to believe that independents and employees have different views on the competition dimension of rewards. Therefore:

H2d) There is no difference between independents and employees with respect to the perceived motivational effectiveness of the competition dimension.

Independents often work in isolation and may not even have any staff. Therefore, the social contact involved in many of the rewards may be more important to the independent than the employee who sees a number of people every day at the office. Therefore:

H2e) Independents are more likely than employees to perceive that the social dimension is motivating.

Past research involving employee sales forces has found that age and tenure are important discriminating variables in determining the value of various rewards (c.f. Ford et al 1979, Ingram and Bellenger 1981). One of the few things agreed upon in the literature is that young employee salespeople tend to value a promotion very highly and older or longer tenured employee salespeople do not. These two groups can be thought of as distinct segments in the employee sales force. The independent sales force is also likely to contain some segments. The following segments in the life insurance industry are expected:

1. Among Independents

AGENCY BUILDERS - These salespeople will have employees and other salespeople working for them, hold industry designations (such as MDRT and CLU), have long tenure in the industry, sell lines other than life insurance, have an office away from home, and have relatively high incomes.

LONERS - These salespeople work alone, either from an office or from their home. They have long tenure, sell only life insurance, and have lower incomes than the agency builders.

YOUNG INDEPENDENTS - This is the smallest segment and represents salespeople who work for an agency builder. They have short tenure, sell only life insurance, and have the lowest incomes of all the independents.

2. Among Employees:

PROMOTION ORIENTED - This type of salesperson took a selling job to get a promotion to a management position in the company. They have higher formal education than the other segments and have been selling life insurance for less than 5 years. They have achieved, or are working on, industry designations.

CAREER SALESPEOPLE - These salespeople have longer tenure than the promotion-oriented salesperson and have a low desire for a promotion to a management position in the company

It is likely that these segments will have differences among them with respect to the perceived motivational effectiveness of the dimensions of non-monetary rewards. Hypotheses regarding these differences are presented below.

Promotion is a reward which is not available to independents but is one which research suggests is highly valued by young employees (c.f.

Churchill et al 1979; Ingram and Bellenger 1983). It is reasonable to believe that an employee who desires a promotion will be motivated by rewards involving job enrichment. Therefore:

> **H3a) Promotion-oriented employees are more likely to perceive that the job enrichment dimension has motivational effectiveness than do all other segments.**

The sales support dimension is most likely to appeal to the independent who is attempting to build a business. This segment is represented in the agency builders. On the other hand, employees are likely to feel that sales support is owed to them rather than a reward. Therefore:

> **H3b) Agency builders are more likely to perceive that the sales support dimension has motivational effectiveness than do all other segments.**

Career salespeople among the employees; and Loners among the independents; are likely to have a number of aspects in common. Both have relatively high incomes and have no other objective than to sell insurance. They have been selling for a number of years and are unlikely to be motivated by job enrichment or sales support. The most motivating dimension for them is probably the competition dimension, which can put some interest back into what can become a very routine and boring job. Therefore:

> **H3c) Loners and Career Salespeople are more likely to perceive that the competition dimension has motivational effectiveness than do all other segments.**

Career Salespeople, Loners and Young Independents are the groups which have few career goals outside of selling. For example, the Agency Builders are seeking to build a business and the Promotion Oriented salespeople are trying to be promoted into management. We can expect that the prize dimension will be more motivating for the former groups. Therefore:

> **H3d) Loners, Career Salespeople and Young Independents are more likely to perceive that the prize dimension has motivational effectiveness than do all other segments.**

Loners, by definition, work by themselves and do not have much contact with other salespeople. Therefore, this group may be more likely to value incentives which provide social contact with other salespeople and head office representatives than do the other segments which have social contact on a day to day basis. Therefore:

H3e) Loners are more likely to perceive that the social dimension has motivational effectiveness than do all other segments.

Finally, income is likely to have an influence on the perceived motivational effectiveness of sales incentives, particularly with respect to the competition element. Salespeople who are very successful will enjoy the competition element of incentives perhaps because they have a good chance of winning. Because all life insurance salespeople are remunerated on a commission basis, income can be used as a proxy for sales success. Therefore:

H3f) Salespeople with high incomes are more likely to perceive that the competition dimension has motivational effectiveness than salespeople with low incomes.

The next chapter details the methodology used to collect the data and test the hypotheses developed above.

CHAPTER 4

RESEARCH METHODOLOGY

This research was conducted by means of a mail survey of a random sample of licensed life insurance salespeople in B. C. The following presents the sampling frame, survey method, and questionnaire design.

Sampling Frame

The sampling frame includes all licensed life insurance representatives in British Columbia from a list obtained from the Insurance Council of British Columbia. A random sample of 800 names was drawn.

The benefit of using all licensed salespeople in the province is that biases due to the specific companies involved are reduced. The selected sample represents approximately 40 different life insurance companies and no one company accounts for more than 10% of the sample. This means that the sample has been exposed to a variety of different incentives.

The disadvantage to this sampling frame is that there is no way to identify active from inactive salespeople in the sample selection. Many salespeople maintain an valid licence even though they no longer sell life insurance. Also, some people hold a licence for purely administrative reasons and do not actively sell. Twenty responses or telephone calls (2.5% of the sample) were received indicating this was the case.

Survey Method

A mail survey is chosen because of the nature of questionnaire. The instrument requires a certain amount of thought on the part of the respondent and a mail survey allows the respondent to complete the

questionnaire at a time when he has time to think about the responses. This creates greater flexibility for the respondent.

Three separate mailings were undertaken as follows:

First Mailing - On April 17, 1991 the first package was sent. The package contained a covering letter on Simon Fraser University letterhead (see appendix A), a business reply return envelope, and a sequentially numbered questionnaire. The cover letter explained the purpose of the survey, asked for the salesperson's participation, offered a summary of the results and an incentive. The incentive involved a draw for a computer pocket address and appointment record. The letter was signed by the researcher and included the researcher's life insurance industry designation (Fellow of the Life Management Institute or FLMI) in the signature. This indicates to the salespeople that the person conducting the study has worked in the industry.

Postcard Follow-up - One week later, April 24, 1991, a postcard (see appendix B) was sent to all members of the sample. The postcard was designed to serve as a reminder to complete the questionnaire.

Final Mailing - The last mailing was sent on May 7, 1991 to all non-responders. This mailing involved 495 packages which contained a cover letter (see appendix C), a business reply return envelope, and a questionnaire. The cover letter again offered the opportunity to enter the draw and emphasized the importance of their responses to the survey.

Questionnaire Design

The questionnaire contains four sections. Each of these sections is dealt with below.

Section One is designed to serve three main purposes. First, it is recognized that the research assumes that the salespeople value having the

incentives under study offered to them. Because of this bias, section one is designed to provide those who do not find these incentives motivating the opportunity to voice this opinion. If such an opportunity is not provided it is likely that respondents with this type of attitude will not complete the survey at all.

Second, the remainder of the questionnaire is quite difficult to complete. A great deal of thought is required and therefore, an easy question is required at the start of the instrument to get the respondents interested in the task. For this reason, a 4-point scale is employed. Finally, section one is used to test hypotheses H1 and H2. The questions asked in section one are shown in figure 1 below.

Figure 1 - Section One Questions

Life insurance companies provide a number of programs which are thought to motivate their salespeople. Below is a list of some of these programs. The list represents only a few of these types of programs and is not intended to be complete.

Please indicate the degree to which each motivates you to perform better in your selling activities. Indicate whether you feel each has high, medium, low or no motivating ability for you by circling the appropriate number.

	No Motivation	Low Motivation	Medium Motivation	High Motivation
1. Periodic sales performance reports showing your performance against your peers	0	1	2	3
2. Training on advanced sales techniques	0	1	2	3
3. A 3 month contest with prizes awarded for sales achievement	0	1	2	3
4. Solicitation of your recommendations for product or marketing plans	0	1	2	3
5. Recognition in the form of awards and publicity for outstanding performance	0	1	2	3
6. Mutually established production goals	0	1	2	3
7. Product training	0	1	2	3
8. Commission rates which increase as you produce more	0	1	2	3
9. Conventions where attendance is based on production	0	1	2	3
10. Providing customized brochures for use in a mail campaign	0	1	2	3

The items included in this question are incentives which are commonly offered in the life insurance industry and are also very similar to those studied by Berry and Abrahamsen (1981) in their survey of manufacturers'

representatives. This allows for some comparison of the results to assess generalizability.

Section Two contains the conjoint analysis question. The results of this question are the basis for the testing of the remainder of the hypotheses. Conjoint analysis is chosen because of the ability to provide information about the parts of the incentive from a respondent's evaluation of the whole. This is desirable because of the expected difficulty for respondents of evaluating the dimensions of the incentives in isolation. The paragraph method of presentation is used because the questionnaire is being administered by mail. This method is the easiest for the respondent to understand in a self-administered setting. The paragraph method also provides the most realistic and complete description of the stimulus. (Green and Srinivasan, 1978). The use of a mail survey also suggests the use of a rating task as opposed to a ranking task. Ranking is difficult to do with large numbers of stimuli in a self-administered setting.

The conjoint design consists of three features with four levels of each feature. Using an orthogonal design this results in 16 packages for the respondents to analyze. The features included are: recognition, reward, and qualification basis (or how the winners are decided). Through the literature review and discussions with industry representatives (Pepper 1991; Bowers 1991; Mannion 1991; Johnson 1991; Farrish 1991; and Hodsman, 1991) it was determined that these features are present in almost all incentives. The other major dimension, the social dimension, is not included as a feature because it is difficult to include in all incentives and the inclusion of another feature would make the respondent task too difficult.

The levels of the features are determined based on industry practice (Pepper 1991; Bowers 1991; Johnson 1991; Hodsman 1991; Farrish 1991; and Mannion,

1991). The levels are also chosen to represent a wide range of incentives and allow for testing of the hypotheses. The levels of the features are:

1. Recognition

a) If you win, your name and accomplishment are published in the company newsletter which is read by other agents.

b) If you win, you receive a telephone call from a head office representative congratulating you.

c) If you win, a presentation is made to you at a private dinner attended by you and your guest and two head office representatives.

d) If you win, a presentation is made to you at a banquet attended by the company's top agents.

Each of these levels represents a different type of recognition. Level a) involves high recognition with no social aspect. Level b) represents almost no recognition and no recognition from peers. Levels c) and d) have higher social aspects and represent high levels of recognition. It could be argued that c) and d) also provide a reward e.g. a free dinner. Recognition is often difficult to separate from some type of reward e.g is receiving a plaque for some accomplishment the reward of a plaque or recognition. In the levels presented above the potential "reward" portion of the recognition is not emphasized in order to focus on the recognition aspect. Also, pretesting and industry interviews (Pepper 1991; Bowers 1991; Farrish 1991; and Mannion, 1991) indicate that these are common methods of recognition used in the industry and the salespeople tend to view them as such.

2. Reward

a) If you win you receive a 5 day trip for two to Hawaii, including air fare and accommodation.

b) If you win you receive a 5 day trip for two to Hawaii, to attend the company convention with other agents and their guests.

c) If you win you receive a seat on the President's Council which involves meeting with the President and the Vice-President of Marketing to discuss product and marketing issues.

d) If you win you receive 2000 copies of a custom designed brochure produced and paid for by the company and bearing your name and address for use in a mail campaign.

Levels a) and b) are very similar except that b) involves a much higher social element. Thus, these two alternatives can be used to represent the social dimension. Level c) represents a job enrichment strategy by providing the salesperson the opportunity to give input to the company. Finally, level d) represents sales support by providing the salesperson with something which can be used to increase sales. All of these items are used in the life insurance industry.

3. Qualification Basis

a) You win if you produce 10% more premium this year than last year.

b) You win if you are one of the top 20 agents, based on premium produced for the year, in the company in Western Canada.

c) You win if you produce more than $10,000 in annual premium in 3 months.

d) An entry is placed in a draw for every application submitted in a 3 month period and you win if your name is one of the first 20 names drawn.

Level a) represents competition against yourself and is a) relatively low level of production improvement. Level b) is the highest level of competition, involving direct competition against other salespeople. This would be the hardest level to attain. Level c) is a moderate level of production which would not be difficult to attain. The time period is much

shorter than the other levels. Finally, level d) represents luck rather than competition. Again, these are methods of determining winners which are used in the industry. Also, the term qualification is one which is common in the life insurance industry and therefore is familiar to the salespeople (Pepper 1991; Bowers 1991; Johnson 1991; and Mannion, 1991). Figure 2 presents an example of the respondent task in this section of the questionnaire.

Figure 2 - Example of Conjoint Analysis Question

Most life insurance companies feel that incentives, over and above commission, help to provide motivation for you as an agent. We would like to know how you feel about these incentives and which ones you feel are the most motivating.

Please rate each of the following on a scale from 1 to 10 in terms of how well you feel the incentive would increase your motivation to sell. A rating of 1 indicates that you feel the incentive provides very low or no motivation for you, 2 indicates you feel the incentive provides just a little motivation and so on. If you think the incentive provides a great deal but not the maximum amount of motivation you would circle 9. Circle only one number for each incentive. Please Note: some of the incentives are similar but each has a unique aspect. It is important for us to have your opinion on each one.

	Low Motivation									High Motivation
1. If you produce 10% more premium this year than last year you win a 5 day trip for two to Hawaii, including airfare and accommodation. In addition, your name and accomplishment would be published in the company newsletter which is read by other agents.	1	2	3	4	5	6	7	8	9	10

Section Three involves a rating of a holdout sample of the packages outlined in the section Two. The task is to distribute 100 points among the four incentive packages to represent the relative motivational effectiveness of the packages. Figure 3 presents the respondent task in this question. This section is used for analysis in part Two of this research

Figure 3 - Section Three Question

Please indicate how motivating each of the following incentives is to you by assigning points to each one. You have 100 points in total to distribute among the four incentives. The number of points you assign indicates how motivating you feel the incentive is. For example, if you feel that all incentives are equally motivating you would give each one 25 points. However, if you feel that one incentive is 7 times as motivating as all the others you would give that incentive 70 points and the others 10. Use any combination of points as long as the total is 100.

		POINTS
1.	If you produce 10% more premium this year than last year you win a seat on the President's Council which involves meeting with the President and the Vice-President of Marketing to discuss product and marketing issues. In addition, a presentation would be made to you at a private dinner attended by you and your guest and two head office representatives.	_____
2.	If you are one of the top 20 agents, based on premium produced for the year, in the company in Western Canada, you win a 5 day trip for two to Hawaii, including airfare and accommodation, to attend the company convention with other agents and their guests. In addition, you would receive a telephone call from a head office representative congratulating you.	_____
3.	An entry is placed in a draw for every application submitted in a 3 month period and if your name is one of the first 20 names drawn you win 2000 copies of a custom designed brochure produced and paid for by the company and bearing your name and address for use in a mail campaign. In addition, a presentation is made to you at a banquet attended by the company's top agents.	_____
4.	If you produce more than $10,000 in annual premium in a 3 month period you win a 5 day trip for two to Hawaii, including airfare and accommodation. In addition, your name and accomplishment are published in the company newsletter which is read by other agents.	_____

Section Four involves the collection of classification data on the salespeople. Areas covered are: age, income, formal education, industry education, types of products sold, desire for a promotion, years of service and working conditions.

The questionnaire (see appendix D) is only five pages long and includes ample space for the respondent to provide additional comments if desired. Findings of the survey are presented in the next chapter.

CHAPTER 5

RESULTS

The following presents the response rate, an analysis of non-response bias, details of cases excluded from the analysis, the method of analysis, descriptive information on the sample and the results of hypothesis testing.

Response Rate

Forty-six questionnaires (5.75% of the sample) were returned undeliverable, 20 respondents indicated they had retired, left the business, or for some reason were not actively selling life insurance, and 402 questionnaires were received for an initial response rate of 55.45%. Two of the questionnaires were not complete for a usable response of 400 questionnaires or a response rate of 55.17%. This rate is considered to be satisfactory given the nature of the sample. In addition, close to 40% of respondents took the time to write comments on their questionnaires indicating that this is an area of great interest, and strong opinions, to life insurance salespeople.

Non-Response Bias

Non-response bias is not considered to be a major concern due to the response rate. However, because the questionnaire assumes that salespeople like and support sales incentives it is important to assess non-response bias. It is reasonable to expect that salespeople who do not like sales incentives would be less likely to complete the questionnaire. Non-response bias is examined in three areas.

First, 96 questionnaires (24% of the respondents) were received in response to the last mailing. A stepwise discriminant analysis dividing the sample into late and non-late responders was performed. The resulting

function does not classify well with the percent of cases correctly classified at 66.55% and the chance proportional criterion at 64.9%. A rule of thumb is to add 25% to the chance criterion to account for the upward bias created by using the same cases for developing the function and for classification (Hair, Anderson and Tatham 1987, p. 90). This gives a chance criterion of 81.2% and thus we can conclude that late responders are not significantly different from the remainder of the responses. Details of the discriminant analysis are included in Appendix E.

Second, almost 40% of the respondents made comments on the questionnaires. Twenty-two percent of these comments can be classified as being negative toward sales incentives. This indicates that some people who do not support or like these incentives completed the questionnaire, and although this group does not represent a large proportion of the sample, it is significant that these opinions were expressed. Sales incentives are very widely used and the number of negative responses to a questionnaire which did not really invite such responses indicates that further research is needed in this area.

Finally, the survey instrument was designed to measure the motivational effectiveness of incentives and an incentive was offered for responding. This could potentially create a bias. The majority (83.7%) of respondents entered the draw. Late responders were less likely to enter the draw (t-test p=0.000) than the remainder of the sample. However, this could be due to late responders believing that the draw had already taken place rather than a lack of interest on their part. Thus, we can conclude that the incentive for participating did not create a bias in the responses.

Reduction of Data

The sample frame includes all licensed life insurance salespeople in British Columbia and, as mentioned earlier, includes some respondents who are not appropriate for the sample. Three groups are of particular concern. First, 29 branch managers responded, probably in order to receive a summary of the results. These respondents are identified by their response to section four, question 15 and are excluded from the analysis because selling is not their primary focus.

The second group includes stockbrokers who also hold a life insurance licence. A respondent is identified as a stockbroker if stocks are indicated as a product sold in response to section four, question 7. This group (44 cases) is excluded because they sell very little insurance.

Finally, seven cases are excluded because their responses exhibited no variability. These subjects gave the same response to every question indicating that they did not put much thought into the responses. The number of responses remaining after the exclusion of these groups is 320.

Descriptive Information

The sample draws from close to 40 different companies and appears to represent a good cross section of salespeople. The sample is primarily male (82.2%) and has very few respondents under age 25 (3.1%). This is not surprising as men out number women in the industry and it is very difficult for young people to succeed in the industry. Some descriptive information on the sample is presented in appendix F.

Method of Analysis

Univariate and multivariate statistics are used where appropriate throughout the analysis. Analysis is performed using the Statistical

Package for the Social Sciences (SPSSx). The majority of testing is conducted using ANOVA. Planned contrasts, based on the hypotheses, are conducted when univariate F-tests are significant.

The conjoint analysis questions are analyzed using the Bretton and Clark Conjoint Analyzer (1988). Utility functions are estimated using the part worth model. This is the most common conjoint analysis model and the one which is most appropriate for qualitative features (Bretton and Clark 1988, p. 46). The program estimates the part worths via dummy variable regression (ordinary least squares) employing effects coding. The output of the program is interval scaled part worths and an intercept. If we assume that the respondents all view the measurement scale in the same manner then we can view the intercept as a measure of the overall motivational effectiveness of the incentives.

The relative importance of each feature is found by examining the range of the part worths for the levels of the feature. The larger the spread between the highest and lowest part worth, the more important the feature is in the utility function. Continuing with the assumption that all respondents view the scale in the same manner the intercept can be added to the individual part worths to allow for comparisons between groups with respect to the magnitude of the part worths. A table of variables is presented in Appendix G.

Table 8 (p. 57) presents the part worths for each level of each variable.

Table 8 - Conjoint Analysis Part Worths

CONJOINT ANALYSIS - MEAN PART WORTHS AND RANGE OF PART WORTHS			
RECOGNITION DIMENSION	**SAMPLE (N=320)**	**INDEPENDENTS (N=122)**	**EMPLOYEES (N=185)**
Range of Part Worths	1.627	1.606	1.630
		Mean Part Worths	
1. Name in Newsletter	0.380	0.383	0.374
2. Private Dinner	-0.391	-0.357	-0.401
3. Banquet Presentation	0.363	0.383	0.350
4. Receive Phone Call	-0.352	-0.408	-0.323
COMPETITION DIMENSION			
Range of Part Worths	1.986	1.957	2.007
		Mean Part Worths	
1. Ten Percent Increase	0.570	0.566	0.574
2. Top 20 Agents	-0.163	-0.188	-0.158
3. More than $10,000	0.308	0.365	0.276
4. Enter Name in Draw	-0.715	-0.743	-0.692
PRIZE DIMENSION			
Range of Part Worths	3.255	3.081	3.380
		Mean Part Worths	
1. Attend Convention	0.865	0.747	0.951
2. Go on Trip	0.911	0.834	0.969
3. Receive Brochures	-0.835	-0.739	-0.896
4. President's Council	-.0941	-0.842	-1.024

Findings and Hypothesis Testing

Throughout this section specific hypotheses are tested and other findings are reported.

Hypothesis H1: Both types of salespeople (career and independent) feel that non-monetary incentives have some motivational effectiveness.

This hypothesis is tested in two ways. First, responses to the questions in section one allow for a response of "no motivation" to the various non-monetary incentives presented. The scale ranges from 0 to 4 with 0 representing no motivation and 4 representing high motivation.

Table 9 shows the percentage of all respondents who selected either low or no motivation for each of the questions as well as the mean response.

Table 9 - Percentage Reporting No Motivation

SALES INCENTIVE	% REPORT LOW OR NO MOTIVATION	MEAN (Maximum score is 3)
Commission Bonuses	11.1%	2.443
Sales Training	11.4%	2.400
Product Training	22.2%	2.159
Public Recognition	30.2%	1.902
Input to Marketing	31.0%	1.889
Production Goals	34.5%	1.757
Conventions	35.8%	1.835
Contest	37.3%	1.709
Performance Reports	40.5%	1.595
Customized Brochures	45.7%	1.587

T-tests of the hypothesis that the mean is greater than or equal to 1 are significant at p=0.001 for all variables. Only sales training, recognition, product training, and commission produce significant results (p=.05) for the hypothesis test that the mean is greater than 2. These results indicate that the salespeople, both independent and career, find some motivational value in the sales incentives examined in this question, although the values are not that high.

A further test of this hypothesis is available from the conjoint analysis. If we assume that all respondents view the 10 point scale used in the conjoint analysis questions in the same manner then we can examine the value of the intercept calculated as an indication of the general motivational effectiveness of the packages presented. The scale used was anchored at 1 - low motivation and 10 - high motivation. The mean value of the intercept is 5.485 with a standard deviation of 1.696. This mean is greater than or equal to 5 (t=5.176, p=0.0001).

Thus, the general indication is that salespeople find the sales incentives to be motivating, but the support is not over whelming. However,

as previously mentioned, this research is somewhat biased toward those who find incentives motivating and therefore, both of these tests should be viewed with caution. The high percentages who feel that some of the incentives have no motivational effectiveness and the number of respondents who made negative comments regarding incentives (8.4%) indicates that further research in this area is required.

Hypotheses H2a through H2e deal with differences between independents and employees. The following outlines some differences between these groups.

Independents versus Employees

Respondents are classified as either independents or employees based on the company listed as the primary carrier, the number of companies they represent and the percentage of the total business given to the primary carrier. Appendix H contains details of the segmentation process and results of a discriminant analysis. The division results in 127 respondents classified as independent and 189 as employee salespeople. Independents sell for more companies than employees and give a lower percentage of their total business to that company. Table 10 outlines other differences.

Table 10 - Differences Between Independent and Employee Salespeople

VARIABLE	INDEPENDENT MEAN	EMPLOYEE MEAN	P-PROB
Age	4.9764	4.3333	0.0346
Years Selling	8.0157	5.9096	0.0000
Sell General Ins.	0.1496	0.0476	0.0017
Number of co-workers	1.9843	2.4921	0.0000
Percentage of Income from Life Insurance	2.7934	3.6480	0.0000
Total Income	3.9333	2.9887	0.0000

It is interesting to note (table 11 below) that employee salespeople feel that the incentives under study have greater motivational effectiveness do than the independent salespeople.

Table 11 - Differences Between Independent and Employee - Conjoint Analysis

	MEAN	N	F-RATIO	F-PROB
Conjoint Analysis Intercept			6.7227	.0100
Independents	5.1781	127		
Employees	5.6802	189		

While there are no studies which could be located involving a comparison of independent and employee sales forces, Berry and Abrahamsen (1981) found that independent manufacturers' representatives feel that contests and recognition are low motivators. Therefore, the finding is not unexpected.

This finding is confirmed when we examine the responses to section one, on the scale of 0 to 4 with 0 being no motivation and 4 being high motivation, presented in table 12 below.

Table 12 - Differences Between Independents and Employees

VARIABLE	MEAN RESPONSE (Maximum 3) Employees	Independents	F-PROB
Reports	1.75	1.36	.0005
Contest	1.79	1.56	.0422
Recognition	2.02	1.71	.0053
Goals	1.88	1.57	.0040
Conventions	1.95	1.64	.0096
Commission	2.45	2.44	.6571
Advice	1.90	1.89	.8919
Sales Train	2.40	2.39	.8985
Product Train	2.16	2.17	.9579
Brochures	1.59	1.59	.9502

We can see from this table that the incentives receiving the highest scores from both groups of salespeople are increases in commission rates with higher production, and sales and product training. Employees give significantly higher scores than independents to recognition, reports

ranking salespeople against each other, mutually established goals, and conventions.

Table 12 also indicates that both employee and independent salespeople feel that training, both sales and product, is highly motivating. Berry and Abrahamsen (1981) found this same result in an independent sales force but no study could be located which examines this incentive with an employee sales force. However, given past findings that the higher-order rewards (such as feelings of worthwhile accomplishment and respect) are very important to both types of sales forces (Berry and Abrahamsen 1981; and Churchill et al 1979) it is not surprising that training is seen as motivating. If training increases feelings of self worth then it is an effective motivator. Of course, training may be effective merely because it makes the job easier to perform.

The results of hypothesis tests relating to differences between independents and employees are presented below.

Hypothesis H2a: Independents are more likely than employees to perceive sales support as having motivational effectiveness.

Sales support in this research is represented by the provision of customized brochures for use in a mail campaign. This hypothesis is not supported by the responses to the conjoint analysis questions or the question regarding brochures in section One. In both cases, the mean response between the two groups are not significantly different as shown in table 13 below.

Table 13 - Tests for Hypothesis H2a

	MEAN	N	F-RATIO	F-PROB
Motivation of Receiving Brochures (0 - none, 3 - high)			5.8865	.9502
Independents	1.5873	126		
Employees	1.5946	185		

The opportunity to receive brochures is one of the lowest rated prizes for all respondents (see table 12, p.60) and the results of this hypothesis may be different if an alternate form of sales support was tested. An example would be co-op advertising which was requested frequently in the comments made by respondents.

Hypothesis H2b: Independents are less likely than employees to perceive that the job enrichment has motivational effectiveness.

Job enrichment is represented by the opportunity to join the President's Council. Both conjoint analysis part worths and responses to section one indicate that there is no difference between these two groups.

Table 14 - Tests for Hypothesis H2b

	MEAN	N	F-RATIO	F-PROB
Motivation of Receiving Meeting with Executives (0-none, 3-high)			.0185	.8919
Independents	1.8889	126		
Employees	1.9032	186		
Conjoint Part Worth for Receiving Meeting with Executives (plus intercept)			1.5675	.2115
Independents	4.3366	127		
Employees	4.6561	189		

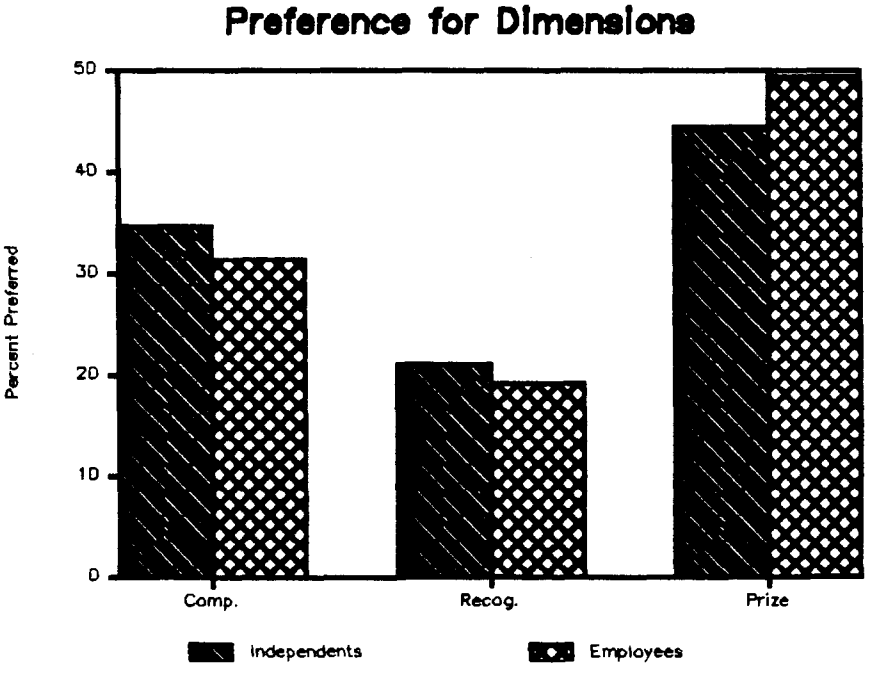
Again, this is a weak representation of job enrichment and responses may reflect dissatisfaction with current programs being offered which may not be taken seriously by the salespeople or the companies offering them. This representation was chosen because it is common in the life insurance

industry and therefore it was felt that all salespeople would be able to evaluate it.

Hypothesis H2c: The recognition dimension has low perceived motivational effectiveness for both independents and employees.

As can be seen in table 12 (p. 60), employees reported a higher degree of perceived motivation from recognition in response to the section one question. Recognition ranks fourth, in terms of the mean response, out of the ten incentives evaluated. Another measure of the importance of the recognition dimension results from conjoint analysis. The importance of the dimension is taken as the range of values for the four levels in this dimension. Figure 4 graphs the distribution of preferences for the dimensions.

Figure 4 - Preference for Dimensions



This finding for recognition is also confirmed by responses to section one where recognition received a mean response of 1.9 out of a maximum score

of 3. This result is consistent with past studies (c.f. Churchill et al 1979) where recognition has been ranked very low.

A T-test for the difference of means on this variables indicates that there is no difference between the two groups (p=0.264). This is contradictory to the results from the section one question regarding recognition reported above. The two questions are measuring somewhat different things and the conjoint analysis is limited to the alternative presented while the question in Section One is more general. This may account for the inconsistency.

This figure also demonstrates that for both groups prize is the most important dimension and recognition the least important. Of course, this result is greatly affected by the particular levels chosen. For example, the inclusion of a very undesirable alternative will increase the range and thus inflate the apparent importance of the dimension. It can be argued that the largest range in the levels occurs in the prize dimension with there being a tremendous gap between receiving a trip to Hawaii and receiving some brochures. However, there would also seem to a be big gap between receiving an award at a banquet and receiving a telephone call.

Figure 4 also shows that the competition element is quite important in deciding the motivational effectiveness of the incentives examined. The process theories of motivation suggest that the method of giving the reward, i.e. competition dimension or basis of giving the reward, is important and this is somewhat confirmed by this study.

Hypothesis H2d: There is no difference between independents and employees with respect to the perceived motivational effectiveness of the competition dimension.

ANOVA results indicate that the importance of the competition dimension calculated from the conjoint part worths does not vary between independent and employee salespeople (see table 15) supporting the hypothesis.

Table 15 - Tests for Hypothesis H2d

	MEAN	N	F-RATIO	F-PROB
Range of part worths for Competition Dimension			.0817	.7752
Independents	1.9567	127		
Employees	2.0066	189		

Hypothesis H2e: Independents are more likely than employees to perceive that the social dimension has motivational effectiveness.

The importance of the social dimension is measured by the difference between the conjoint analysis part worths for winning a convention and for winning a trip. The only difference between these two prizes is that with a convention the prize involves interacting with head office people and other salespeople. In table 16 a negative value indicates that a trip is preferred over a convention.

Table 16 - Tests for Hypothesis H2e

	MEAN	N	F-RATIO	F-PROB
Part Worth of Convention minus part worth of Trip			-1.965	0.052
Independents	-5.2647	127		
Employees	-5.6987	189		

These results indicate that there is a difference between the groups, however, the group which prefers to have social interactions is the employees. Although the opposite of what is hypothesized, this finding is not that surprising. Employees have chosen an environment which involves a great deal more social contact with other salespeople than independents and the data suggest that they value this social contact more.

The remaining hypotheses are based on differences within the groups of independents and career salespeople. In other words, these hypotheses assume that not all independents and employees are the same. Therefore, before the results of these hypotheses can be tested it is necessary to divide the sample into the relevant groups.

Segmentation Into Groups

The process used to identify the groups is outlined in Appendix I. A discriminant analysis performed on the resulting five groups classifies with a hit ratio of 58.76% versus a proportional chance criterion of 28.3%. Adding 25% to the chance criterion we have 35.36% indicating that the function discriminates quite well. Details of the discriminant analysis are included in appendix I.

The resulting groups are as follows:

1. **Agency Builders** (n=74) - These salespeople have other salespeople under contract and have salaried employees working for them. They are all independent salespeople. The salespeople are older, have been selling life insurance for an average of 8.7 years, and are likely to have designations such as MDRT, CLU, and CHFC. They hold contracts with an average of 6 companies and give only slightly over 60% of their business to their primary carrier. This is also the group most likely to sell general insurance and mutual funds in addition to life insurance and report the highest incomes.

2. **Young Independents** (n=19) - This group is, as expected, very small. These salespeople are younger than the agency builders and have been selling insurance for less than 2 years. They represent an average of 3 companies and are also likely to sell general insurance in addition to life products.

Education levels are higher in this group than among other groups of independents but income is generally low.

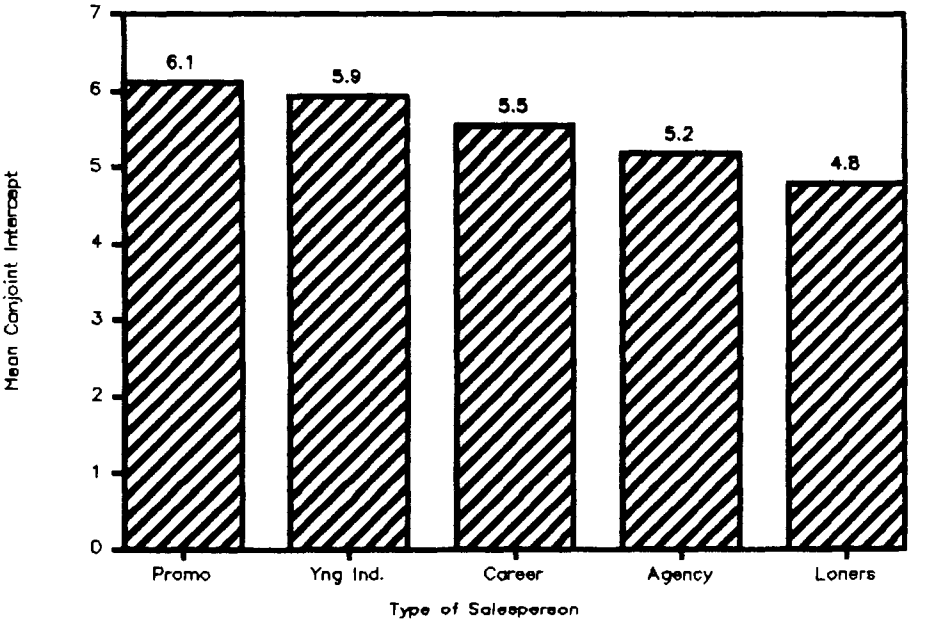
3. **Loners** (n=34) - This last group of independents is the oldest of all the groups and has been selling insurance for a long time period (an average of 10 years). These salespeople have professional designations such as MDRT, and CLU but are not likely to hold the CHFC (financial planning) designation. They represent a large number of companies (average of 5) and give close to 60% of their business to their primary carrier. They sell mutual funds but not general insurance. The group has high incomes, low education, and the lowest number of co-workers of all the groups.

4. **Promotion Oriented Career Salespeople** (n=50) - These salespeople are the youngest of all the groups (generally under 35) and have been selling insurance for an average of 3.5 years. They are less likely to hold professional designations, probably due to their short tenure in the industry. They represent one company and give virtually all of their business to that company. The group reports the highest number of co-workers of any of the groups and has low incomes and high levels of education. This group relies most heavily on life insurance as a source of income of all the groups.

5. **Career Salespeople** (n=129) - The largest of the five groups, these salespeople have been selling insurance for an average of 6.8 years, hold professional designations, and represent an average of 2.3 companies. Unlike the independents, the primary carrier is given close to 95% of life insurance business. The group reports higher levels of income than the promotion-oriented career salespeople. They also rely on life insurance for the majority of their income. These salespeople have been with their current company approximately 3.5 years and have little desire for a promotion.

These groups are used as the basis of testing the following hypotheses. Because of the very small number of Young Independents, results of hypotheses involving this group must be viewed with caution. It is interesting to note that each of these groups perceives the overall motivational effectiveness of these incentives differently. Figure 5 shows differences in the means of the intercept from the conjoint analysis among groups. ANOVA on this variable is significant at p=.0023

Figure 5 - Differences in Perceived Motivational Effectiveness Among Groups



This result is related to the effect of income reported later in this section. Income is found to be related to the perceived motivational effectiveness of the incentives and the young independents and promotion oriented salespeople are the groups with the lowest incomes. However, the results remain significant (p=.005) with income used as a covariate.

Hypothesis H3a: Promotion-oriented employees are more likely to perceive that the job enrichment dimension has motivational effectiveness than do all other segments.

Responses to the question in section one regarding "solicitation of your recommendations for product or marketing plans" indicate that there is a weak relationship in the hypothesized direction as shown in table 17 below. Promotion-oriented employees have the highest mean response to this item of any of the groups. The same relationship exists when we examine the conjoint analysis part worths for the President's Council.

Table 17 - Tests for Hypothesis H3a

	MEAN	N	F-RATIO	F-PROB
Solicitation of advice (0-no motivation, 3-high)			1.483	0.142
Promotion Oriented	**2.0800**	**50**		
Agency Builders	1.9315	73		
Young Independents	1.8947	19		
Loners	1.7941	34		
Career Agents	1.8382	136		
Part Worth of Meet with Executives (plus intercept)			1.648	0.103
Promotion Oriented	**5.0450**	**50**		
Agency Builders	4.3041	73		
Young Independents	4.9737	19		
Loners	4.0515	34		
Career Agents	5.0450	136		
Conjoint Analysis Intercept			4.2445	0.0055
Promotion Oriented	**6.1037**	**50**		
Agency Builders	5.1715	74		
Young Independents	5.9211	19		
Loners	4.7776	34		
Career Agents	5.5279	139		

Therefore, we can conclude that the hypothesis receives weak support. It is interesting to note, in the last section of the table above, that those in the promotion oriented group generally perceive that the incentives have higher motivational effectiveness than the other groups. As the promotion-oriented group are younger than the other groups it is possible that this finding is related to their age or experience in the industry. However,

results are still significant when the number of years selling is used as a covariate in the analysis at p=0.012.

Hypothesis H3b: Agency Builders are more likely to perceive that the sales support dimension has motivational effectiveness than do all other segments.

As reported previously (table 12, p.60), there is no difference between the employees and independents on this variable and there is also no support for this hypothesis as shown in table 18 below.

Table 18 - Tests for Hypothesis H3b

	MEAN	N	F-RATIO	F-PROB
Motivation of Receiving Brochures (0 - none, 3 - high)			0.459	0.647
Agency Builders	1.5753	73		
Young Independents	1.6842	19		
Loners	1.5588	34		
Promotion Oriented	1.8200	50		
Career Agents	1.5111	135		
Conjoint Part Worth for Receiving Brochures (plus intercept)			0.775	0.440
Agency Builders	4.4797	74		
Young Independents	5.1184	19		
Loners	3.9706	34		
Promotion Oriented	5.1000	50		
Career Agents	4.6709	139		

Again, this could be because of a poor choice of item to represent sales support. This group was the group most likely to make comments on the questionnaire (50% made comments) and most comments indicated that they are interested in incentives which can help them build their business. For example:

> **"My strong personal preference in motivators are tools to assist me in building my business. For example, a set sales goal achieved earns a mail out program, or as in the case of one fund group, an NEC lap top computer. In short, I don't need a tan, I need to increase my client base."**

Hypothesis H3c: Loners and Career salespeople are more likely to perceive that the competition dimension has motivational effectiveness than do all other segments.

ANOVA results indicate that the importance of the competition dimension calculated from the conjoint part worths for these two groups is not significantly different from the other groups as shown in table 19 below. Therefore, this hypothesis is not supported.

Table 19 - Tests for Hypothesis H3c

	MEAN	N	F-RATIO	P-PROB
Range of part worths for Competition dimension			1.104	0.272
Agency Builders	2.0912	74		
Young Independents	1.2237	19		
Loners	2.0735	34		
Promotion Oriented	2.0850	50		
Career Agents	1.9784	139		

Hypothesis H3d: Loners, Career salespeople and Young Independents are more likely to perceive that the prize dimension has motivational effectiveness than do all other segments.

This hypothesis is tested by examining the range of part worths for the levels of the prize dimension. The ANOVA with the appropriate contrasts in marginally significant but opposite to the direction hypothesized.

Table 20 - Tests for Hypothesis H3d

	MEAN	N	F-RATIO	P-PROB
Range of part worths for Prize dimension			-1.607	0.111
Agency Builders	3.2838	74		
Young Independents	2.8684	19		
Loners	2.7574	34		
Promotion Oriented	3.5600	50		
Career Agents	3.3147	139		

Hypothesis H3e: Loners are more likely to perceive that the social dimension has motivational effectiveness than do all other segments.

Due to the findings regarding the social dimension reported earlier it is unlikely that this hypothesis will be supported. The hypothesis is measured using the difference between the part worth for convention and the part worth for the trip. The Loners have a significantly different response (see table 21 below) however, it is opposite to the hypothesized direction. Loners place less value on the opportunity to be with other salespeople than the other groups. This is consistent with the findings reported above.

Table 21 - Test for Hypothesis H3e

	MEAN	N	F-RATIO	F-PROB
Part Worth of Convention minus part worth of Trip			**1.597**	**0.118**
Agency Builders	-5.1343	74		
Young Independents	-5.9868	19		
Loners	-5.1452	34		
Promotion Oriented	-6.2737	50		
Career Agents	-5.4919	139		

Hypothesis H3f: Salespeople with high incomes are more likely to perceive that the competition dimension has motivational effectiveness than salespeople with low incomes.

This hypothesis is tested by examining the range of part worths for the competition dimension. Table 22 shows ANOVA results for both the amount of income derived from the sale of life insurance (life income) and the total income (including all sources).

In general, the higher the income, the more importance is placed on the competition dimension. The differences with respect to the levels of the competition dimension tested is that low income salespeople prefer the competition alternative where winners are decided based on entries placed in a draw for each sale made (F-test p=.0000) and prizes are awarded for a 10% increase in production (F-test p=0.0128). This is not surprising as a less successful salesperson has a greater chance of winning a prize under this

type of competition than one where he or she must be one of top 20 salespeople. On the other hand, higher income salespeople prefer the alternative of being in the top 20 salespeople much more than the low income salespeople (F-test p=.0908).

Table 22 - ANOVA for Competition Dimension on Income

Range of Part Worths for Competition	MEAN	N	F-RATIO	F-PROB
LIFE INCOME:			3.8180	.0048
Less than $30,000	1.4143	35		
$30,000 - 50,000	1.7390	68		
$50,001 - 70,000	1.9167	81		
$70,001 - 90,000	2.2500	59		
Over $90,000	2.4393	70		
TOTAL INCOME:			4.3483	.0138
Less than $50,000	1.7256	123		
$50,001 - 100,000	2.1410	94		
Over $100,000	2.3384	82		

Finally, although no hypotheses are developed regarding differences between the sexes, one interesting result is that an ANOVA on the range of part worths for the recognition dimension indicates that the women feel that recognition is more important than do the men. The women in the sample tend to be younger and have lower incomes than the men which may explain some differences between the groups. However, no relationship was found between income and the perceived motivational effectiveness of recognition and thus, income cannot explain this finding.

Table 23 - Sex Differences

	MEAN	N	F-RATIO	F-PROB
Range of Recognition Part Worths:			2.6085	.1073
Men	1.5798	263		
Women	1.8465	57		
Recognition - Section 1 (Maximum score 3):			3.2509	.0723
Men	1.8571	259		
Women	2.1071	56		

This finding is contrary to the findings of Ford, Churchill and Walker (1981) that women have lower valences for recognition than men.

In summary, sales people are motivated by sales incentives but do differ in the degree of motivation based on a number of factors. Clearly, independent salespeople find these incentives less motivating than employee salespeople. While there are some similarities between the two groups, the independents and employees do have some differences in the incentives they perceive to be motivating. Of the groups identified, the promotion-oriented salespeople appear to have the most unique perceptions of the perceived motivational effectiveness of the incentives as opposed to the other groups. This group generally finds the incentives very motivating. Finally, training appears to be perceived to be highly motivational by all salespeople. Table 24 summarizes the results of hypotheses tests.

Table 24 - Summary of Findings

HYPOTHESIS	RESULT
H1: Both types of salespeople feel that non-monetary incentives have some motivational effectiveness.	Support, emp. feel are more motivating
H2a: Independents are more likely to perceive sales support as having motivational effectiveness.	Not Supported
H2b: Independents are less likely to perceive job enrichment as having motivational effectiveness.	Not Support
H2c: The recognition dimension has low perceived motivational effectiveness for both independents and employees.	Conflicting
H2d: There is no difference between independents and employees with respect to the perceive motivational effectiveness of the competition dimension.	Supported
H2e: Independents are more likely to perceive the social dimension has motivational effectiveness.	Opposite Direction
H3a: Promotion-Oriented employees are more likely to perceive that the job enrichment dimension has motivational effectiveness than do all other segments.	Weak Support
H3b: Agency builders are more likely to perceive that the sales support dimension has motivational effectiveness than do all other segments.	Not Support
H3c: Loners and Career salespeople are more likely to perceive that the competition dimension has motivational effectiveness than all other segments.	Not Support
H3d: Loners, Career salespeople and Young Independents are more likely to perceive the prize dimension has motivational effectiveness than all other segments.	Weak Support
H3e: Loners are more likely to perceive the social dimension has motivational effectiveness than do all other segments.	Opposite Direction
H3f: Salespeople with high incomes are more likely to perceive that the competition dimension has motivational effectiveness than salespeople with low incomes.	Supported

The next chapter presents limitations of the research, discussion of the findings, and managerial implications.

CHAPTER 6

DISCUSSION AND CONCLUSIONS

Discussion

Non-monetary incentives are widely used in many different industries to motivate sales people. In spite of this wide use we know very little about the motivational effectiveness of these incentives. This study attempts to shed some light on this subject and to highlight differences between independent and employee sales forces with respect to non-monetary incentives. The study makes a contribution to the literature in four areas.

First, the research confirms that the non-monetary incentives have some motivational effectiveness, although perhaps not as much as is commonly believed. Some commonly held beliefs are not supported by this research. For example, recognition is held to be very important to salespeople but the results of this study, and other studies (Churchill et al 1979; Ingram and Bellenger 1983; Ford et al 1981; and Cron et al 1988), suggest otherwise. Of the three dimensions tested in the conjoint analysis format, recognition is shown to be the least important. This finding suggests that perhaps we should not rely on "conventional wisdom" with respect to non-monetary rewards and that further study of this area is needed.

Second, the study demonstrates that there are differences between independent salespeople and employees with respect to the perceived motivational effectiveness of non-monetary incentives. Employees find the incentives in general to be much more motivating than do independents. The differences between these two types of sales forces has received limited empirical attention (Mahajan et al 1984) and it seems likely that these two types of sales forces will differ on other variables in addition to the ones

examined here. In order to learn more about the best way to manage an independent sales force or a hybrid sales force we must conduct more research of this nature.

Third, the research suggests that it is useful to think of incentives as being composed of the four dimensions presented. Differences in terms of the perceived motivational effectiveness of the dimensions are found and it is easy to conceive of the incentives as being composed of these dimensions. This adds some definition to a somewhat ill-defined area. The term non-monetary incentives encompasses a great variety of different incentives. By thinking of the incentives as being composed of the dimensions identified here it is easier to compare different incentives. Using this analysis, a manager can survey the sales force, determine which dimensions are most important, and then emphasize these dimensions in future incentive designs. More research needs to be conducted into this subject as this is the first study, as far as is known, which examines non-monetary incentives in this manner. Further study should focus on the effectiveness of the dimensions and differences among types of sales forces. Determining the specific needs met by each of the dimensions would also be very useful.

Finally, the groups identified among the salespeople in this research were formed based on the goals of the salespeople. The assumption is that salespeople with different goals will be motivated by different incentives. Some differences are found, especially with respect to the promotion-oriented salespeople. It is likely that the usefulness of this type of classification can be improved by asking the respondents what their goals are rather than assuming them. This would make classification easier and could be combined with a career stage approach similar to that used by Cron et al (1988).

A question which this research did not address, but one which is very important, is whether these incentives are worth the money spent on them. If training is so highly motivating do we really need contests and recognition programs? The issue of incentives is very important to salespeople in the life insurance industry as demonstrated by the response rate and volume of comments made on the questionnaires. Many negative comments regarding incentives were made, most of which indicate the salespeople feel the incentives are unprofessional. If this opinion is widely held in other industries it could be that management's assumptions about the effectiveness of non-monetary incentives in general are as incorrect as some of the specific assumptions, e.g. regarding recognition. This is an important result which needs to be investigated further. The feelings uncovered in this study may be specific to the industry studied and therefore, examination of other industries is warranted.

Limitations

Three main limitations of this study can be identified. First, the choice of the life insurance industry has many benefits, but also some drawbacks in terms of generalizability of results. All life insurance sales people are remunerated on a commission basis and thus the effect of salary versus commission cannot be assessed. Past studies (Ingram and Bellenger 1983) have reported differences in reward valences between commissioned and salaried salespeople. This is an important difference in salespeople and one which should be explored.

The life insurance industry is heavily regulated and the sale deals with a sensitive area for the consumer. Further, the industry is not held in the highest of esteem (Pineo and Porter 1967) making presenting a

trustworthy and professional image very important to the success of a salesperson. This fact, coupled with the recent regulatory attention paid to the types of incentives examined here in the closely related mutual fund industry, serves to make life insurance salespeople sensitive to the public view of these incentives. It is likely that some of the negative comments received regarding the incentives would not be forthcoming from a sales force in another industry. It should be noted, however, that many of the findings of this study are consistent with those found in studies of other industries (c. f. Berry and Abrahamsen, 1981)

Feelings about particular incentives may be affected by the salesperson's experience with these incentives. The sampling of salespeople from over 40 different companies may alleviate this problem somewhat, however, the choice of only one industry could lead to bias if the industry as a whole has done a poor job of implementing one type of incentive. Companies in an industry tend to copy each other to a certain extent and therefore the choice of industry may have an effect on the results. Replication with other types of sales forces would lessen this problem.

The term non-monetary incentives covers a vast range of very different items. This research examines only a sampling of these incentives and therefore only gauges the perceived motivational effectiveness of the particular incentives studied. It could be that other incentives, not included in this study, would prove to be more motivational. This limitation is particularly apparent in the choice of the alternative to represent sales support. Receiving brochures is not seen as highly motivating by the respondents and many suggested that co-op advertising would be a better choice. Therefore, while the results of the study do not support sales support, except in the form of training, the comments made on

the questionnaires suggest that other types of sales support would be more motivating. Further study into this area is required.

Related to this issue is the choice of the alternatives used in the conjoint analysis. The importance of the dimensions is greatly effected by the choice of alternatives and replication using other alternatives would lend credibility to the findings. Further, it would be very interesting to assess training in the conjoint analysis format. It is possible that training would be less popular when a production goal or "price" is attached to it. Examination of this issue is important due to the strong support shown for training in this study.

Finally, while clear differences were found between independents and employees, the differences among the five groups identified are less conclusive. This is partly due to the small size of the young independents group. It is possible that the use of a career stages methodology similar to Cron et al (1988) and asking the salespeople's goals directly would produce more significant results.

Managerial Implications

The results of this part of the research have a number of implications for management.

1. Employees and independents appear to differ in terms of the perceived motivational effectiveness of the incentives in this study. The employees find these incentives more motivating than do the independents. This suggests that different incentive techniques need to be used depending on the type of sales force. This point is especially important as hybrid sales forces become more common (Mahajan et al 1984).

2. While most of the incentives have some motivational effectiveness, the incentive which is indicated as being the most motivational is training. This is especially important for the management of independent sales forces where the provision of training is less common.

3. Life Insurance companies in particular frequently publish lists of salespeople and their production. This practice is common in other sales settings as well. The results of this study indicate that sales people in general find this practice to be of very low motivational effectiveness. The continuance of this practice is questionable.

4. Another common practice in the life insurance industry is the use of "President's Councils". This study found that the opportunity to meet with executives is not highly valued. While being on a President's Council usually also entails special letterhead and business cards which may be motivating, the practice is not highly motivating to the salespeople in this sample.

5. Recognition is once again shown to be of relatively low motivational value to salespeople, although it did rate higher with employees than with independents. This is a replication of a finding of a number of studies (c.f. Churchill et al 1979) involving a variety of different sales forces. These repeated findings suggest that sales managers may put more faith in the motivational value of recognition than is warranted.

6. The competition dimension, or the basis on which the reward is given, is an important aspect of the incentive program. The clearest distinction among salespeople is based on income. Low income and high income salespeople are motivated by very different alternatives of the competition dimension. This should kept in mind when designing an incentive program. For example, if you are trying to motivate the average salesperson to

perform better, the prize should be awarded based on a percentage increase over last years production or an entry in a draw. Alternatively, if you are trying to motivate the top performers, set a challenging production goal or award a prize to the top salespeople only.

7. The easiest group to motivate is that made up of young, promotion-oriented salespeople. This group of salespeople views the incentives as very motivating, more so than all of the other groups of salespeople identified.

8. Not all salespeople are the same. As previous research has indicated (c.f. Cron et al 1988) salespeople are motivated by different things and it is important to recognize these differences. This research suggests that when designing a motivational program it is important to keep in mind the type of salesperson involved and the goals of that particular salesperson. Surveying the sales force to determine their goals would be very useful.

Conclusion

This study indicates that there are differences between independent and employee salespeople with require further examination. Also, it appears that our knowledge of the motivational effectiveness of non-monetary incentives could be improved and some directions for future research into this important area of sales management are suggested.

Part One of this study was analyzed using conjoint analysis. This method is widely used in marketing for the analysis of multi-attribute decisions. In Part Two, the conjoint analysis results reported in Part One are compared with results gathered and processed via the Analytic Hierarchy Process.

PART TWO

THE ANALYTIC HIERARCHY PROCESS AND CONJOINT ANALYSIS: A COMPARISON

CHAPTER 7

INTRODUCTION

The Analytic Hierarchy Process (AHP) developed by Saaty (1980) is a compositional approach to modeling multi-attribute decisions. The procedure has received wide application in decision analysis problems in a number of different fields (Zahedi 1986) due to its flexibility, use of a ratio scale, and ability to improve as well as model judgement. However, in spite of the wide spread use, a great deal of controversy exists regarding the validity of the method. For example, Dyer (1990) feels that the rankings produced by the method are completely arbitrary. This controversy has produced a number of suggested modifications to the approach which are intended to improve the validity of the results. Because of the newness of the technique and the recency of the suggested modifications, there has not been a great deal of empirical testing of the validity of the technique. Therefore, this research seeks to empirically test the predictive validity of the AHP to determine if the criticisms are warranted and if one of the suggested modifications is an improvement.

In order to perform such a test a benchmark is needed for comparison. In this case, conjoint analysis is chosen. Conjoint analysis is also a method for evaluating multi-attribute decisions but it uses a decompositional approach. Conjoint analysis has received extremely wide commercial and academic application in the field of marketing (Cattin and Wittnik, 1986) and is generally viewed as a method possessing validity (Bateson, Reibstien and Boulding 1987). Further, the comparison between conjoint analysis and AHP is interesting because if the methods perform equally well it may be argued that the AHP has some significant advantages over conjoint analysis and should be used in its place. As noted by

Wind and Saaty (1980, p. 657):

> "In some cases both AHP and conjoint analysis can be used, and it is desirable to compare the results of the two approaches in areas which conceptually, at least, can be measured by either approach. . . . The conceptual advantage of the AHP approach and the experience gained with it to date suggest that further experimentation with this approach should lead to the establishment of an important addition to the arsenal of marketing models and measurement methods."

The following chapter presents a review of the literature regarding conjoint analysis and in particular, the AHP. Subsequent chapters develop hypotheses for testing, present the research methodology, the results of the experiment and finally, a discussion of the implications of the results. Throughout this paper some mathematical proofs are presented. In other cases, the reader is referred to the appropriate source for the relevant proof.

CHAPTER 8

LITERATURE REVIEW

The following presents the basic features of each of the techniques, outlines the differences between them and presents the controversy regarding the AHP. Table 25 summarizes the criterion and alternatives of the criterion used in this study and is presented in order to clarify the presentation below. The combinations of one alternative from each criterion are referred to as a package.

Table 25 - Criterion and Alternatives

CRITERION	ALTERNATIVES
RECOGNITION	1. Name and accomplishment are published in the co. newsletter. 2. Receive a telephone call from a head office representative congratulating you. 3. A presentation is made at a private dinner attended by the agent and his or her guest. 4. A presentation is made a banquet attended by the co. top agents.
PRIZE	1. A 5-day trip for two to Hawaii, including air fare and accommodation. 2. A 5-day trip for two to Hawaii, including air fare and accom-modation, to attend the company convention with other agents and their guests. 3. A seat on the President's Council which involves meeting with the President and the Vice-President of Marketing to discuss product and marketing issues. 4. Receive 2000 copies of a custom designed brochure produced and paid for by the company and bearing your name and address for use in a mail campaign.
COMPETITION	1. Produce 10% more premium this year than last year. 2. Are one of the top 20 agents, based on premium produced for the year, in the company in Western Canada. 3. Produce more than $10,000 in annual premium in 3 months 4. An entry is placed in a draw for every application submitted in a 3 month period and you win if your name is one of the first 20 names drawn.

These are the same criterion and alternatives reported in Part One of this research and are used as examples where appropriate in this literature review. Conjoint analysis is reviewed first, followed by the AHP.

Conjoint Analysis

Green and Srinivasan (1990, p. 4) state that "conjoint analysis is any decompositional method that estimates the structure of a consumer's preferences, given his or her overall evaluations of a set of alternatives that are pre-specified in terms of alternatives of attributes." The method assumes that any set of objects or concepts can be evaluated as a bundle of attributes and attempts to determine the contributions of variables (and each alternative of the variables) to the choice order over combinations of the variables (Hair et al, 1987).

There are a number of different mathematical models used in conjoint analysis. These include the vector model, usually represented by a linear function, the ideal point model, usually represented by a quadratic function, and the part-worth model (Green and Srinivasan 1978). The part-worth model is appropriate when the attributes are qualitative, as is the case in this research. The part-worth main effects model used in this research is represented as: $V_j = \sum v_{ik} x_{ik}$ where V_j is the respondent's evaluation of alternative j, v_{ik} is the part-worth of the level k of attribute i, and x_{ik} is a zero-one dummy variable representing level k of attribute i that corresponds to alternative j (Bretton and Clark 1987). The equation is estimated via a least squares procedure. The importance of each criterion is represented by the range of the part worths for the alternatives of that criterion. The larger the range is the greater is the assumed importance. This is a weakness of conjoint analysis in that the alternatives must be chosen very carefully to ensure that the importances are reflected accurately.

While there are many methods of implementing conjoint analysis, the respondent task is usually either a rating or ranking of a set of realistic choice alternatives. The respondent is not asked to explicitly rate or rank each criterion or alternative of each criterion, only the combinations of the variables.

An example of the conjoint analysis task in this research is presented in Part One, figure 2, page 51.

Conjoint analysis has received wide commercial acceptance (Cattin and Wittnik 1986). This commercial use is not an indication of the reliability and validity of the method. Bateson, Reibstien and Boulding (1987) examined over 30 studies which reported on the reliability and validity of the method. The major focus of these studies was in comparing different methods of conjoint analysis but the authors concluded that the procedure is generally satisfactory. The AHP, on the other hand, has not received wide use in marketing. Rather its major application is in the decision analysis area. The next section outlines Conventional AHP and the differences between it and conjoint analysis.

The Analytic Hierarchy Process (AHP)

Saaty (1990, p. 259) views the AHP as a theory of measurement which:

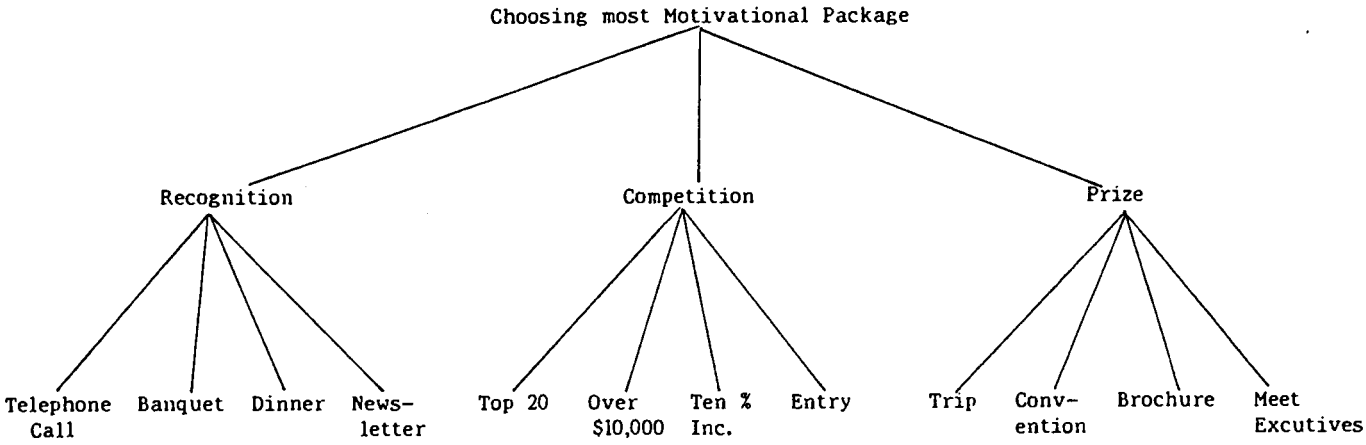
> "when applied in decision making assists one to describe the general decision operation by decomposing a complex problem into a multialternative hierarchic structure of objectives, criteria, subcriteria and alternatives."

Historically, the AHP has been applied to the problem of multi-attribute decision making of an economic and strategic nature and its principal application is in decisions in which subjective criterion play an important role (Schoner and Wedley, 1989). Therefore, it would appear to be applicable to the problem at hand.

Implementation of the AHP involves three steps. First, the problem must be decomposed into a hierarchy of criterion and alternatives. In this case, the criterion and alternatives are as outlined in table 25 (p. 82). Second, paired comparisons of the items on a hierarchical alternative are performed with respect to their relative impact or contribution toward those items on the immediately higher alternative. Finally, the resulting priorities are synthesized into values that reflect the overall importance of each alternative (Schoner and Wedley, 1989).

The decomposition requires a breakdown of the decision into a hierarchy of interrelated decision elements. Figure 6 shows the problem under study.

Figure 6 - Hierarchical Representation



The comparative judgements produce a matrix of pair wise comparisons of the elements of one alternative as to their relative importance with respect to an element in the next higher alternative. These matrices are thought to be on a ratio scale (Saaty 1980). Figure 7 presents the type of question used in this research to develop the matrices. The questions shown are typical of the AHP.

Figure 7 - AHP Evaluation of Alternatives Respondent Task

RECOGNITION (Please read the alternatives and answer the questions below)
The alternatives to be compared for recognition are:

a) If you win, your name and accomplishment are published in the company newsletter which is read by other agents.
b) If you win, you receive a telephone call from a head office representative congratulating you.
c) If you win, a presentation is made to you at a private dinner attended by you and your guest and two head office representatives.
d) If you win, a presentation is made to you at a banquet attended by the company's top agents.

		write letter	circle number									
1.	Of a and b I feel that ____ is:		1	2	3	4	5	6	7	8	9	times more motivating.
2.	Of a and c I feel that ____ is:		1	2	3	4	5	6	7	8	9	times more motivating.
3.	Of a and d I feel that ____ is:		1	2	3	4	5	6	7	8	9	times more motivating.
4.	Of b and c I feel that ____ is:		1	2	3	4	5	6	7	8	9	times more motivating.
5.	Of b and d I feel that ____ is:		1	2	3	4	5	6	7	8	9	times more motivating.
6.	Of c and d I feel that ____ is:		1	2	3	4	5	6	7	8	9	times more motivating.

The normal scale used is a nine point scale. The criterion are evaluated in a similar manner. Figure 8 shows the type of question used for Conventional AHP.

Figure 8 - Conventional AHP Criterion Evaluation Task

The parts to be considered are:

a) Recognition
b) Reward
c) Qualification basis (how winners are decided)

		write letter	circle number								
1.	Of a and b I feel that ____ is:		1	2	3	4	5	6	7	8	9 times more motivating.
2.	Of a and c I feel that ____ is:		1	2	3	4	5	6	7	8	9 times more motivating.
3.	Of b and c I feel that ____ is:		1	2	3	4	5	6	7	8	9 times more motivating.

The synthesis of these priorities is the step which has produced the most controversy in the AHP. This controversy is presented later in the paper. The following section presents only "Conventional AHP".

The synthesis of local priorities into global priorities is performed via an eigenvector method. The local priorities are aggregated to obtain a vector of composite weights of elements at the lowest alternative of the hierarchy. The example in table 26, taken from Schoner (1991) is presented as a demonstration of the method of synthesis of priorities in traditional AHP. For a technical explanation the reader is referred to Saaty (1980).

Table 26 - Synthesis of Priorities Example

Alternatives A and B are compared on criterion C_1 and C_2, where the two criterion are considered equally important. Thus, the priorities attached to C_1 and C_2 are 1/2. The priorities attached to the alternatives are:

	C_1	C_2
A	1/4	3/4
B	3/4	1/4

These local priorities are synthesized by multiplying the priority for each of A and B by the priority for C_1 and C_2 respectively. The global priorities are thus:

$W_A = 1/4 \times 1/2 + 3/4 \times 1/2 = 0.5$

W_B is the same in this case because the priorities for each are the same.

In reality, judgements involving subjectivity are generally inconsistent. In these instances an eigenvector method is used to yield normalized priorities (Schoner and Wedley 1989). One major benefit of the AHP is that an inconsistency ratio can be calculated and highly inconsistent responses revised or deleted from the analysis. In this way the AHP can be used to improve judgement, rather than merely model it as is the case with conjoint analysis.

Differences Between The AHP and Conjoint Analysis

From the above discussion we can see that each method provides a measure of the importance of the criterion (criterion weights in the case of the AHP and the range of part worths for conjoint analysis) and the importance of each alternative (local priorities for AHP and part worths for conjoint analysis). This information is obtained in a very different manner with the major differences being:

1. Conjoint analysis is decompositional and the AHP is compositional. This produces different respondent tasks. In the AHP the respondent must evaluate each alternative against other alternatives in terms of which is more important and by how much. This is a ratio-scaled judgement. In conjoint analysis the task is to rank or rate a complete product or package and is thus an ordinal or interval type of measurement.
2. The number of judgements required is greater in the AHP. For example, in this research, with 3 criteria and 4 alternatives under each criterion an orthogonal design requires only 16 judgements for conjoint compared to 21 for the AHP.
3. The ability to calculate a consistency ratio in the AHP has led to the method being used to improve judgement rather than merely imitate the process. This is a significant feature of the AHP and probably accounts for its use in the decision analysis field as opposed to conjoint analysis' use in modeling consumer judgements.

Conjoint analysis does not have an equivalent measure when the alternatives are qualitative.

4. The methods vary in the manner in which attribute importance is determined. Conjoint analysis examines the range of the part worths or utilities between the highest and lowest rated alternative of the attribute (Green and Srinivasan 1978). This method can be very sensitive to the particular alternatives which are included. In Conventional AHP the meaning of the relative importance of the attributes is subject to debate but the proposed modifications do provide a precise meaning of relative importance which is less dependent upon the specific alternatives of the criterion included.

If the modifications to AHP prove to be equal to conjoint analysis in terms of reliability and validity, the ability to determine the consistency of judgements and have more precise indications of the importance of attributes are significant advantages which must be traded off against the difficulty of the respondent task. The relative performance of each method is an empirical question which is partially addressed in this research. However, as previously mentioned, the AHP is a relatively new methodology and is the subject of a great deal of controversy with respect to its validity. The next section presents the controversy surrounding the AHP and some of the suggestions for modifications.

Criticisms of the AHP

Harker and Vargas (1987) note that the AHP has been criticized in four areas. These areas are: 1) lack of an axiomatic foundation; 2) ambiguity of the questions that the decision maker must answer; 3) the scale used to measure the intensity of preference; and 4) rank reversal. The last criticism is the most important in this research and is viewed as the most controversial criticism (Dyer, 1990). Therefore, analysis of the first three points are not presented here.

The issue of rank reversal refers to the phenomena of reversal of results upon introduction of another alternative to the decision set. The first example of this phenomena is presented by Belton and Gear (1983) where reversal of the rank of the alternatives is produced upon the introduction of a copy of one of the alternatives. Continuing with the example presented in table 26 from Schoner (1991):

Table 27 - Rank Reversal Example

Suppose that a third alternative C is added to the choice set. The Criterion are still valued equally with the local priorities for C_1 and C_2 of 1/2. The local priorities for the alternatives
are:

	C_1	C_2
A	1/6	3/5
B	3/6	1/5
C	2/6	1/5

The synthesized priorities then become:
W_A = 1/2 x 1/6 + 1/2 x 3/5 = 23/60
W_B = 1/2 x 3/6 + 1/2 x 1/5 = 21/60
W_C = 1/2 x 2/6 + 1/2 x 1/5 = 16/60
Recall that without alternative C we were indifferent between A and B (i.e. W_A and W_B were equal). We added alternative C, which is clearly dominated by B and did not change the criterion importances and find that A is now preferred to B.

It is clear from this example that rank reversals occur even if the addition is not a direct copy and it is equally clear that even if actual reversals do not result, a shifting in the priorities will take place (Schoner 1991). Supporters of the AHP argue that this is a natural phenomena which the AHP uncovers (Saaty 1990; Harker and Vargas 1990) while others feel that this phenomena represents a fundamental problem with the procedure. In fact, Dyer (1990) states that "rank reversal is a symptom of a much more profound problem with the AHP: the rankings provided by the methodology are arbitrary". Finally, others (Schoner, Wedley and Choo, 1991a) feel that this is a problem which can be overcome with modifications to the procedure. The next sections briefly examine the legitimacy of rank reversal, followed by an exposition of some of the proposed modifications and the justifications for these modifications.

The Legitimacy of Rank Reversal

Harker and Vargas (1987) feel that the rank reversal which results in the example above is due to a misuse of the theory rather a fault in the theory itself. They feel that this example violates the important assumption underlying the use of the Principle of Hierarchic Composition that the weights of the criterion are independent from the alternatives considered. They suggest that in this situation we have a system with feedback and the super matrix approach must be used (Harker and Vargas 1987, p 1397). However, many feel that this principle is always violated (Schoner and Wedley 1989; Dyer 1990). Some of the common justifications for rank reversal are presented below followed a mathematical example demonstrating the position that the criterion and alternatives are never independent in Conventional AHP.

Saaty (1990) suggests that there is a need for rank reversal and that it is wrong to consider all such reversals as bad. Schoner (1991) agrees that there may be some situations where rank reversals are justified, such as when the new alternative adds information, but points out that a characteristic of this type of reversal is that it does not "revert to the original ranking if the new alternative is withdrawn". This would seem to be the case in a limited number of situations.

For example, this characteristic is not present in the situation involving the addition of a copy. Harker and Vargas (1990) argue that the addition of a copy or near copy adds information regarding scarcity. If a copy is added the qualities of the alternative are no longer scarce and therefore, less valuable and thus, the rank reversal is understandable and even justified. Schoner (1991) argues that if scarcity is a relevant criterion it should be included as such rather than relying on the addition of another alternative to bring it to light. Also, except

for some luxury goods, abundant supply may lower the price one is willing to pay for a good but does not necessarily change preference.

Saaty (1990) notes that the work of Kahneman and Tversky (1981) shows that rank reversals are a part of life and therefore a theory should be able to account for them. However, Schoner (1991) points out that Kahneman and Tversky's work is motivated by discovering how human intuition can systematically lead a decision maker astray and in no way indicates that these systematic biases are good. Rather they are pitfalls which must be guarded against.

Saaty (1987) also advises that copies should not be allowed in the analysis and suggests that alternatives which score within 10 percent of another alternative not be allowed. This seems like an odd criterion if, as Dyer (1990) points out, we are comparing cars and a BMW and a Mercedes happen to score within 10 percent of one another. It seems strange to have to exclude such a comparison of two very different items. Further, while excluding copies will solve the problem of rank reversal it does not address the problem of the shift in priorities. Many believe that rank reversal is merely a symptom of a deeper problem in the AHP (Dyer 1990; Schoner and Wedley 1989; and Schoner, Wedley and Choo 1991a, 1991b). This fundamental problem is presented in the next section.

Shifts in Priorities

Much of the literature has focused on the issue of rank reversal but Schoner and Wedley (1989, p. 469) show that "it is not necessary to add new options to the choice set to show that criterion weights within the AHP depend on the magnitude of the options." Schoner, Wedley and Choo (1991b) hold that shifts in priorities (and thus the possibility of rank reversals) occur because of the way in which ratio scales are combined in Conventional AHP. The authors feel that problems occur in two areas: 1) the specification of a ratio scale for composite

priorities imposes restrictions on the specification of criterion priorities; and 2) the process of normalization of local priorities, which is a permissible transformation, causes a shift in priorities of the composite scale without the addition of an alternative. The mathematical proof given by the authors is as follows:

> Let $z_j = (Z_{1j}, Z_{2j}, \ldots Z_{mj})$ represent an objective measurement of m alternatives with respect to criterion j;
>
> Let $t_j,(z_j) = (T_{1j},T_{2j}, \ldots T_{mj})$ represent a ratio scaled value function of the m alternatives with respect to criterion j;
>
> Let $q = (q_1, q_2, \ldots q_n)$ represent a vector of scaling factors which reduce the individual value functions to the same units; and
>
> Let $w = (w_1, w_2, \ldots w_m)$ represent the vector of ratio scaled composite priorities of the alternatives.
>
> Thus, $w_i = q_1T_{i1} + q_2T_{i2} + \ldots + q_nT_{in}$ and the vectors t_j, which are the eigenvectors of the matrices of paired comparisons, and the vector w are all unique up to a proportional transformation. Conventionally, these vectors are normalized to sum to one.
>
> If we define $w_{.j} = (w_{1j}, w_{2j}, \ldots, w_{mj})$ as the vector of normalized local priorities under criterion j, we have $w_{.j} = k_jt_j$ where k_j a scalar derived as $= (\sum_{i=1}^{m} T_{ij})^{-1}$
>
> Substituting these normalized priorities in the equation for w_i we get $w_i^* = q_1(k_1T_{i1}) + (q_2(k_2T_{i2}) + \ldots + q_n(k_nT_{in})$. The only difference between w_i and w_i^* is the normalization of the local priorities to one which is a permissible transformation and if there has been no damage done to the composite priorities the two should be proportional. However, the only way the two will be proportional is if $k_1=k_2=\ldots=k_n$. The composite priorities are no longer legitimately scaled even if no rank reversal has taken place.

The general conclusion from this is that a linear composite of ratio scales is not necessarily a ratio scale. Further, the normalization constant is a function of the relative values of the alternatives included. Unless by chance the normalization constants are equal, the criterion are never independent of the alternatives. This last point implies that a new normalization of local priorities must be undertaken each time an alternative is added or deleted and therefore, there will always be a shift in the priorities and possibly a rank reversal. This

view supports Dyer's (1990) position that the rankings produced by AHP are arbitrary and that criterion and alternatives are never independent. A number of solutions to this problem have been suggested, a few of which are reviewed below.

Suggested Modifications to the AHP

Among the modifications which have been suggested are: the super matrix approach, referenced AHP, the Belton and Gear method, and the Linking Pin Approach. Other modifications have been suggested which rely more on utility theory (Dyer, 1990) and these are not reviewed here.

The Super Matrix Approach Harker and Vargas (1987) suggest the use of a system with feedback whenever the assumption that the weights of the criterion are independent from the alternatives is violated. This method involves the use of a super matrix. For a discussion of the operation of the super matrix the reader is referred to Harker and Vargas (1987). The super matrix is generally viewed as producing correct results but the method has the significant drawback of requiring a large number of complex comparisons to be made, resulting in a tedious and extremely difficult task for the decision maker (Dyer, 1990, Schoner and Wedley, 1990). Thus, the method is not a satisfactory solution.

Referenced AHP Referenced AHP grows partly out of a problem with the ambiguity of the questions asked in Conventional AHP. Conventional AHP asks the decision maker to evaluate the criterion used with the question: Which is more important, criterion 1 or criterion 2 and by how much? This type of question is problematic for two reasons. First, in some cases the question is rather ambiguous (Dyer, 1990). In this research for example, the question becomes: Which is more motivating, recognition or the prize and by how much? Many, myself included, find this a very difficult question to answer. What is the basis of comparison?

Second, as demonstrated by Schoner, Wedley and Choo (1991b) above, if the composite priorities are calculated based on this type of question the problem of shifts in the priorities occurs. These authors show that to correct the problem demonstrated in the example above it is necessary to simultaneously transform criterion weights whenever normalizing local priority vectors. Details of the calculations needed are included in Schoner, Wedley and Choo (1991b). The resulting transformation requires the relative importance of two criterion to reflect the average of the measurements of the values of the alternatives on the criterion, adjusted for any scale factors. Thus, the appropriate question for the decision maker to be asked is: which is more important, the average of the alternatives of criterion 1 or the average of the alternatives of criterion 2 and by how much.

This solution suffers from much the same problem as the super matrix approach in that the question is very difficult for the respondent. In many cases "the average" is hard to conceptualize. For example, in the research in this study, pretesting indicated that respondents had a great deal of difficulty conceptualizing the average of the recognition alternatives, etc. This would seem to be the case for most types of problems.

Another undesirable feature of referenced AHP is that if an alterative is added or deleted the decision maker must reassess the values of the criterion because the average will change. The Belton and Gear method and Linking Pin method presented below do not require this re-evaluation unless specific alternatives are deleted.

<u>Belton and Gear (Normalization to Maximum Entry)</u> The Belton and Gear method (1983, 1985) requires the decision maker to evaluate the criterion based on an evaluation of the most preferred of the alternatives. For example, if alternative 1A is the most preferred alternative under criterion 1 and alternative 2B is the most preferred alternative under criterion 2 then the decision maker is

asked: Which is most important, alternative 1A or alternative 2B and by how much? Local priorities are normalized so the that the most preferred alternative has a value of one and the composite priorities are the local priorities summed and then normalized to one. Details of the calculations are included in Schoner, Wedley and Choo (1991a) where the authors also demonstrate that this procedure can be performed using minimum entry, or evaluating the least preferred alternative. Both of these methods have the property of not resulting in shifts in priorities and do not produce rank reversals if alternatives are added or deleted as long as the minimum or maximum alternatives remain in the choice set.

Further, the decision maker's task seems much more reasonable and concrete. The task is not easy, but at least is much clearer. However, one problem with these methods is that they must be performed in an interactive setting. A pre-printed questionnaire can not be used (except with very elaborate instructions) as you must know which alternatives are the most or least preferred. This cannot be known before the alternatives are evaluated and therefore would at least require a two step surveying process. This is not a problem for most applications of the AHP as the procedure is generally performed interactively. However, the requirement limits the applicability of the method.

Linking Pin AHP This method has been put forward by Schoner, Wedley and Choo (1991a) as a method of solving the rank reversal problem which is much easier to implement than any of the other alternatives. The mathematics of Linking Pin AHP are basically the same as for the Belton and Gear method but an alternative is chosen at random to represent the criterion. For example, suppose under criterion 1 that alternative 1C is chosen as the "Linking Pin". All of the other alternatives under criterion 1 are viewed as being measured with alternative 1C as the base unit. Criterion importances are then derived by estimating the relative importance with respect to these Linking Pin alternatives.

Figure 9 provides an example of the type of criterion evaluation question used in Linking Pin AHP using the research conducted in this paper as an example.

Figure 9 - Linking Pin Criterion Evaluation Question

The alternatives to be considered are:

a) If you win, a presentation is made to you at a banquet attended by the company's top agents

b) If you win, you receive a 5 day trip for two to Hawaii, including airfare and accomodation, to attend the company convention with other agents and their guests.

c) You win if you produce 10% more premium this year than you did last year.

		write letter	circle number								
1.	Of a and b I feel that ____ is:		1	2	3	4	5	6	7	8	9 times more motivating.
2.	Of a and c I feel that ____ is:		1	2	3	4	5	6	7	8	9 times more motivating.
3.	Of b and c I feel that ____ is:		1	2	3	4	5	6	7	8	9 times more motivating.

It is clear that the question to be asked in this case is concrete and answerable, and that the addition and deletion of alternatives does not require a recalculation of criterion weights as long as the Linking Pin alternatives are not deleted. Further, this method can be used in a self-administered setting. It is simply more flexible than the Belton and Gear method. Therefore, mathematically it appears that Linking Pin AHP should perform better than Conventional AHP. This becomes an empirical question which this research is designed to examine. This research uses Linking Pin AHP and Conventional AHP as well as conjoint analysis for the same task. The methods are then compared with respect to their performance in terms of predictive validity. The next chapter develops specific hypotheses for testing, outlines the methodology for the study, and presents the results.

CHAPTER 9

HYPOTHESES, METHODOLOGY AND RESULTS

Three different methods of modeling multi-attribute decisions were presented in the previous section. These methods approach the same question with different procedures but if all are valid methods, the results should be the same. However, the literature presented above suggests that there may be some differences in performance and therefore the following hypotheses were tested.

First, conjoint analysis is expected to be an easier respondent task due to the smaller number of decisions and the evaluation of the complete package rather than parts. The difficulty of the AHP task is likely to manifest itself in incomplete questionnaires (Dillman 1978).

H4a: Conjoint analysis will produce a higher usable response rate than either method of the AHP.

Second, both conjoint analysis and Linking Pin AHP are expected to exhibit higher measures of predictive validity than Conventional AHP for the reasons previously outlined.

H4b: Conjoint analysis and Linking Pin AHP have higher predictive validity than Conventional AHP.

Finally, there is no reason to expect conjoint analysis to outperform linking pin AHP in terms of predictive validity.

H4c: Conjoint analysis and Linking Pin AHP perform equally in terms of predictive validity.

Most of the methodology, in terms of survey methods, was presented in Part One (p.43). The methodology specific to this portion of the research is presented below.

Methodology

The AHP questionnaires are the same as specified in the previous section except that Section 2 is replaced with relevant method of AHP. The two AHP

versions of the questionnaire are presented in Appendix J. Samples are drawn from the same list and the same cover letter and incentives are used. Subjects are randomly assigned to each of the three conditions with 800 receiving the conjoint analysis questionnaire, 600 receiving the Conventional AHP questionnaire and 600 the Linking Pin AHP instrument. The final mailing is not conducted for the AHP versions and therefore, responses to the conjoint questionnaire received after this last mailing are not included in the analysis presented below.

Results

The results of testing each of the three hypotheses is presented below followed by a summary of the results and a discussion of the managerial implications of the findings.

H4a: Conjoint analysis will produce a higher usable response rate than either method of the AHP.

Table 28 illustrates the difference in the response rates among the three versions of the instrument after adjusting for questionnaires which were returned undeliverable or subjects indicated they had left the industry or did not sell.

Table 28 Comparison of Response Rates

SURVEY METHOD	INITIAL RESPONSE RATE	UNUSABLE CASES	FINAL RESPONSE RATE
CONJOINT	42.20%	9 CASES	40.97% (304)
CONVENTIONAL	46.83%	48 CASES	38.38% (199)
LINKING PIN	42.48%	44 CASES	34.79% (218)

It is apparent that the AHP enjoys a somewhat higher initial response rate than the conjoint version. This is probably due to the wordiness of the conjoint version. The AHP questionnaire, while actually requiring more responses, looks like it is much easier to complete. However, this benefit is greatly reduced when the number of incomplete questionnaires is examined. There are very few unusable

surveys from the conjoint sample. Of the nine cases, 2 are incomplete questionnaires and 7 are omitted because of a lack of variability in the responses. For both of the AHP instruments, large percentages are unusable. The problems in these unusable surveys range from failing to complete all of the questions to skipping most of the section completely. Pretests indicated that the AHP versions were a much more difficult task for the respondents and therefore this result is not surprising. However, t-tests on the differences in the response rates are not significant at $p=0.05$. The Linking Pin and conjoint analysis response rates are significantly different at $p=0.081$.

Therefore, the useable response rates are relatively similar and the researcher must decide which is more acceptable, a lower initial response rate, or a higher percentage of unusable responses. It can be argued that the latter is a much bigger problem as it indicates that the task is very difficult.

H4b: Conjoint analysis and Linking Pin AHP have higher predictive validity than Conventional AHP.

H4c: Conjoint analysis and Linking Pin AHP perform equally in terms of predictive validity.

Predictive validity is a type of criterion validity where the objective is to measure the degree of correspondence between the test and the criterion (Carmines and Zeller 1979) and is usually measured with correlation. The predictive validity of the three measures in this study is tested by comparing the calculated value placed on a hold-out package of incentives as computed from either the AHP weights or the conjoint part worths with the actual value assigned to the package in a constant sum task. Section 3 of the questionnaire asks the respondents to allot 100 points over 4 packages of incentives. This provides an evaluation of four incentive packages on a ratio scale. Four methods are then used to determine

how well the conjoint or AHP method predicts the value of the incentive packages. The four methods used are:

1. **Mean Average Error** (MAE) - Calculated as the summed difference between the predicted value and the actual value averaged over the four packages. For example, if we call the predicted values P_x and the actual values A_x then the MAE over the four packages is calculated as:

$$MAE = (\sum_{i=1}^{4} |P_x - A_x|)/4$$

2. **Mean Average Proportion Error** (MAPE) - Calculated as the difference between the predicted value and the actual value divided by the actual value and averaged. The formula is: $MAPE = [\sum_{i=1}^{4} ((|P_x - A_x|)/A_x)]/4$ This measure gives more weight to an error on a package which is highly valued than to an error on a package which is not highly valued. The rationale is that an error in predicting the outcome of a highly valued alternative is much more costly than an error on an unpreferred alternative.

3. **Mean Weighted Proportion Error** (MWPE) - Calculated as the difference between the predicted and the actual value multiplied by the actual value. The calculation is:

$$MWPE = [\sum_{i=1}^{4} ((|P_x - A_x|) * A_x)]/4.$$

The rationale is similar to that for MAPE but the effect is more exaggerated.

4. **Correlation** - Calculated as the Pearson Product Movement correlation between the actual value and the predicted value. Fisher - Z transformation is used in order to test the differences among the independent samples (Levy 1968).

The AHP weights are, by definition, constrained to be positive and the results of the constant sum question are also positive values. Conjoint analysis part worths, on the other hand, sum to zero and therefore contain negative values. In order to be able to make the comparison, the conjoint part worths are

standardized to range between 0 and 1. Appendix K presents the standardization method used.

The four measures are analyzed using ANOVA. First, an overall ANOVA is performed followed by contrasts with each pair. The contrasts involve comparing the Linking Pin AHP plus the Conjoint Analysis against the Conventional AHP, the two AHP methods against the Conjoint Analysis, and finally, the Conventional AHP and the Conjoint Analysis against the Linking Pin AHP. Table 29 presents the results for MAE measurement method.

Table 29 - ANOVA on MAE Predictive Validity Measure

Method	MEAN AVERAGE ERROR Mean Score
Conjoint	.1158
Linking Pin	.1141
Conventional	.1345
Overall ANOVA Significant at P=0.0014	
Contrast Analysis	**P-Value**
Conjoint and Linking Pin with Conventional	0.000
Linking Pin and Conventional with Conjoint	0.041
Conjoint and Conventional with Linking Pin	0.086

Thus, the MAE analysis indicates that Conventional AHP has the largest errors between the predicted and the actual values of the packages. The Linking Pin and the Conjoint have very similar values which a t-test reveals to be not significantly different (p=0.775). T-tests also reveal that the conjoint mean is significantly different from the Conventional mean (p=0.002) as is the Linking Pin (p=0.002).

Table 30 ANOVA on MAPE Predictive Validity Measure

Method	MEAN AVERAGE PROPORTION ERROR Mean Score
Conjoint	.7003
Linking Pin	.6676
Conventional	.7401

Table 30 - Continued

Overall ANOVA Not Significant at P=.7072	
Contrast Analysis	**P-Value**
Conjoint and Linking Pin with Conventional	0.337
Linking Pin and Conventional with Conjoint	0.961
Conjoint and Conventional with Linking Pin	0.483

Thus, the MAPE results indicate that no one method performs better than another. T-Tests comparing each of the methods are also not significant.

Table 31 - ANOVA on MWPE Predictive Validity Measure

MEAN WEIGHTED PROPORTION ERROR	
Method	**Mean Score**
Conjoint	.0960
Linking Pin	.0356
Conventional	.0417
Overall ANOVA Significant at P=0.0000	
Contrast Analysis	**P-Value**
Conjoint and Linking Pin with Conventional	0.000
Linking Pin and Conventional with Conjoint	0.000
Conjoint and Conventional with Linking Pin	0.000

The Linking Pin method performs the best on this measure, while the conjoint performs the worst. T-Tests indicate that comparisons of each pair of means are significantly different.

Table 32 - ANOVA on Correlation Predictive Validity Measure

CORRELATION - FISHER'S Z	
Method	**Mean Score**
Conjoint	.6144
Linking Pin	.5315
Conventional	.3483
Overall ANOVA Significant at P=0.0000	
Contrast Analysis	**P-Value**
Conjoint and Linking Pin with Conventional	0.000
Linking Pin and Conventional with Conjoint	0.000
Conjoint and Conventional with Linking Pin	0.273

In this case a higher score is better, indicating a stronger correlation between predicted values and actual values. A T-test indicates that the Linking Pin and Conjoint scores are not significantly different (P=0.122), but that the Linking Pin and Conjoint means are significantly different from the Conventional result (p=0.000 and p=0.001 respectively).

Summary of Results

Table 33 summarizes the results of the hypotheses tests.

Table 33 - Hypothesis Summary Table

H4a: Conjoint Analysis produces a higher Usable response rate.		Support
H4b: Linking pin and conjoint outperform Conventional AHP in terms of predictive validity.	MAE MAPE MWPE CORRELATION	Support No Support Support Support
H4c: Linking pin and conjoint perform equally well in terms of predictive validity.	MAE MAPE MWPE CORRELATION	Support Support No Support Support

Thus, AHP in general appears to be a much more difficult respondent task given the higher number of unusable responses resulting from this method. Further, hypotheses regarding the predictive validity of each of the methods are generally supported. Conventional AHP has the lowest validity of all the methods and Linking Pin AHP and Conjoint Analysis are fairly equal. These results have some implications for management and suggests many avenues for future research which are presented in the last chapter.

CHAPTER 10

DISCUSSION AND MANAGERIAL IMPLICATIONS

It is clear from the three measures which produced differences between the methods that the Linking Pin AHP has higher predictive validity than the Conventional AHP. This is empirical evidence that Linking Pin AHP is superior to Conventional AHP and that Conventional AHP does not have high validity in this type of problem.

Further, in most cases, and significantly on the correlation analysis, the Linking Pin AHP performs as well as the Conjoint analysis. This is a positive piece of evidence for the future of Linking Pin AHP. However, given the high number of unusable questionnaires and the inherent difficulty of the task for the respondents the researcher must decide whether AHP is really suitable in a self-administered setting. Conjoint analysis appears to be a superior method for this task.

However, there is a problem inherent in conjoint analysis which AHP does not have. This is the problem that the importance of the criterion in conjoint analysis is highly dependent upon the specific alternatives included. It can be argued that this is not the case for AHP. If AHP produces results which are different than the conjoint analysis results with respect to the relative importance of the criterion then there will be important implications for the continued use of conjoint analysis. The likely result will be a trade-off between the difficulty of the task in AHP and the validity of the results. The question which needs to be answered is whether the benefits of Linking Pin AHP over Conjoint Analysis are enough to overcome the difficulty of the respondent task. This may be the case in an interactive setting.

The good performance of Linking Pin AHP suggests that this method needs to be examined more closely. A question which comes to mind with respect to its use

lies in the selection of the Linking Pin. There appears to be no mathematical reason for results to be different with different linking pins but it would seem to be a different psychological task to compare the most preferred alternative on one criterion with the least preferred on another. The question is whether we can really choose the linking pins in a arbitrary manner. Is the method of minimum or maximum entry preferable? This is an empirical question which needs to be examined.

Another interesting problem when using AHP is that of aggregation. With conjoint analysis we can aggregate the responses of like groups into market segments. In fact, this is one of the primary uses of conjoint analysis. This can be done by assuming that the scale of measurement used means the same thing to all respondents. With AHP measurement we cannot make such an assumption because the output is ratio scaled with the zero point defined by the individual decision maker. In order to aggregate data it is necessary to assume that all decision makers use the same ratio scale in making judgements. This is a tenuous assumption at best. Research into aggregation issues is necessary to determine if market segmentation can be performed with the AHP.

In conclusion, this research represents a strong performance for Linking Pin AHP. The type of problem examined is not one typical of the AHP and the self-administered setting is not the ideal. The fact that Linking Pin AHP is equal to Conjoint Analysis under these circumstances suggests that the method is valid and further research should be undertaken to determine the circumstances when the method performs the best.

APPENDIX A

COVERING LETTER AND RETURN ENVELOPE - FIRST MAILING

SIMON FRASER UNIVERSITY

FACULTY OF BUSINESS ADMINISTRATION

BURNABY, BRITISH COLUMBIA V5A 1S6
Telephone: (604) 291-3708
Fax: (604) 291-4920

«DATA A:list3.doc»

April 17, 1991

«name»
«address1»
«address2»
Victoria, B.C. «code»

Dear «dear»:

Life insurance companies spend a great deal of money providing incentives designed to motivate their agents. Unfortunately, you, the agent, are very seldom asked what types of incentives you want. The purpose of this study, being conducted for an MBA thesis, is to do just that--find out what kinds of incentives agents want.

The questionnaire is quite short (only 5 pages), but because we know that your time is valuable, we are offering you a reward for completing the survey. A draw will be held 3 weeks from today for a 64K computerized Rolodex pocket data directory. To participate, complete the entry form at the bottom of this page and include it in the enclosed return envelope with your questionnaire. You are one of small group of agents who have been selected to provide your feelings on this subject and it is important each questionnaire be completed and returned. If you would like a summary of the results please write "summary of results requested" on the back of your return envelope.

I would be pleased to answer any questions you may have about this study. Please feel free to write or call collect. The phone number is (604) 942-6973. Thank you for your assistance.

Sincerely,

Cynthia Hadley, FLMI
Simon Fraser University

PLEASE ENTER MY NAME IN THE DRAW FOR THE POCKET ROLODEX

Name _____

Telephone number _____

ENCLOSE THIS FORM WITH YOUR COMPLETED QUESTIONNAIRE IN
THE ENCLOSED RETURN ENVELOPE

Business
Reply Mail
No postage stamp
necessary if
mailed in Canada
Postage will be paid by:

Incentive Study
c/o Faculty of Business Administration
Simon Fraser University
Burnaby, B.C.
V5A 9Z9

APPENDIX B

REMINDER POSTCARD

Incentive Survey
c/o Faculty Of Business Administration
Simon Fraser University
Burnaby, B.C. V5A 1S6

Last week a questionnaire seeking your opinion about incentives offered to life insurance agents was mailed to you.

If you have already completed and returned it to us please accept our sincere thanks. If not, please do so today. Because it has been sent to only a small, but representative sample, of life insurance agents in B.C. it is extremely important that yours be included in the study if the results are to accurately represent the opinions of life insurance agents.

If by some chance you did not receive the questionnaire, or it got misplaced, please call me right now collect at (604) 942-6973 and I will get another in the mail to you today.

Sincerely.

Cynthia Hadley FLMI
Simon Fraser University

APPENDIX C

FINAL COVERING LETTER

SIMON FRASER UNIVERSITY

FACULTY OF BUSINESS ADMINISTRATION

BURNABY, BRITISH COLUMBIA V5A 1S6
Telephone: (604) 291-3708
Fax: (604) 291-4920

May 7, 1991

«name»
«address1»
«address2»
«city», B.C. «code»

Dear «dear»:

I am writing to you about our study of incentives for life insurance representatives. We have not yet received your completed survey.

The large number of questionnaires returned to date is very encouraging. But whether we will be able to accurately describe how all life insurance representatives feel depends upon you and others who have not responded. This is because our past experiences suggest that those of you who have not yet sent in your questionnaire may hold quite different preferences and opinions than those who have. It is for this reason that I am encouraging you to complete and mail the enclosed questionnaire as quickly as possible.

I would be pleased to answer any questions you may have about this study. Please feel free to write or call collect (604) 942-6973. If I am not there please leave a message and I will get back to you right away. Remember, if you would like a summary of the results please write "summary of results requested" on the back of your return envelope. The results should be available early in the fall.

Thank you for your assistance.

Sincerely,

Cynthia Hadley, FLMI
Simon Fraser University

P.S.: It is not too late to get your name in the draw.

PLEASE ENTER MY NAME IN THE DRAW FOR THE POCKET ROLODEX

Name _____

Telephone Number _____

ENCLOSE THIS FORM WITH YOUR COMPLETE QUESTIONNAIRE IN
THE ENCLOSED RETURN ENVELOPE

APPENDIX D

QUESTIONNAIRE

2337

INCENTIVE STUDY

This is a province-wide survey of life insurance representatives and their feelings about incentives. Its purpose is to find out what you want in terms of motivation programs and how life insurance companies can design better programs. Your views are important in this study.

All information will be held in **STRICT CONFIDENCE**. The identification number on this page is for mailing purposes only. This is so that we may check your name off of the mailing list when your questionnaire is returned.

Please answer all of the questions. It will take approximately 20 minutes to complete the questionnaire--some take more, some take less. There are no right or wrong answers. We are only interested in your opinions and feelings. If you wish to comment on any of the questions or qualify any of your answers, please feel free to use the space in the margins. Your comments will be read with interest.

Should you have any problems or questions, please call the researcher, Cynthia Hadley, collect at (604) 942-6973.

Thank you for your help.

Incentive Study
c/o Faculty of Business Administration
Simon Fraser University
Burnaby, B.C. V5A 1S6

START HERE

SECTION I

Life insurance companies provide a number of programs which are thought to motivate their salespeople. Below is a list of some of these programs. The list represents only a few of these types of programs and is not intended to be complete.

Please indicate the degree to which each motivates you to perform better in your selling activities. Indicate whether you feel each has high, medium, low or no motivating ability for you by circling the appropriate number.

	No Motivation	Low Motivation	Medium Motivation	High Motivation
1. Periodic sales performance reports showing your performance against your peers	0	1	2	3
2. Training on advanced sales techniques	0	1	2	3
3. A 3 month contest with prizes awarded for sales achievement	0	1	2	3
4. Solicitation of your recommendations for product or marketing plans	0	1	2	3
5. Recognition in the form of awards and publicity for outstanding performance	0	1	2	3
6. Mutually established production goals	0	1	2	3
7. Product training	0	1	2	3
8. Commission rates which increase as you produce more	0	1	2	3
9. Conventions where attendance is based on production	0	1	2	3
10. Providing customized brochures for use in a mail campaign	0	1	2	3

SECTION II

Most life insurance companies feel that incentives, over and above commission, help to provide motivation for you as an agent. We would like to know how you feel about these incentives and which ones you feel are the most motivating.

Please rate each of the following on a scale from 1 to 10 in terms of how well you feel the incentive would increase your motivation to sell. A rating of 1 indicates that you feel the incentive provides very low or no motivation for you, 2 indicates you feel the incentive provides just a little motivation and so on. If you think the incentive provides a great deal but not the maximum amount of motivation you would circle 9. Circle only one number for each incentive. Please Note: some of the incentives are similar but each has a unique aspect. It is important for us to have your opinion on each one.

	Low Motivation									High Motivation
1. If you produce 10% more premium this year than last year you win a 5 day trip for two to Hawaii, including airfare and accommodation. In addition, your name and accomplishment would be published in the company newsletter which is read by other agents.	1	2	3	4	5	6	7	8	9	10
2. If you are one of the top 20 agents, based on premium produced for the year, in the company in Western Canada, you win 2000 copies of a custom designed brochure produced and paid for by the company and bearing your name and address for use in a mail campaign. In addition, a presentation would be made to you at a banquet attended by the company's top agents.	1	2	3	4	5	6	7	8	9	10
3. If you produce more than $10,000 in annual premium in a 3 month period you win a 5 day trip for two to Hawaii, including airfare and accommodation, to attend the company convention with other agents and their guests. In addition, your name and accomplishment would be published in the company newsletter which is read by other agents.	1	2	3	4	5	6	7	8	9	10
4. If you are one of the top 20 agents, based on premium produced for the year, in the company in Western Canada, you win a 5 day trip for two to Hawaii, including airfare and accommodation, to attend the company convention with other agents and their guests. In addition, a presentation would be made to you at a private dinner attended by you and your guest and two head office representatives.	1	2	3	4	5	6	7	8	9	10
5. If you produce 10% more premium this year than last year you win a seat on the President's Council which involves meeting with the President and the Vice-President of Marketing to discuss product and marketing issues. In addition, you would receive a telephone call from a head office representative congratulating you.	1	2	3	4	5	6	7	8	9	10
6. If you produce more than $10,000 in annual premium in a 3 month period you win a seat on the President's Council which involves meeting with the President and the Vice-President of Marketing to discuss product and marketing issues. In addition, a presentation would be made to you at a private dinner attended by you and your guest and two head office representatives.	1	2	3	4	5	6	7	8	9	10
7. An entry is placed in a draw for every application submitted in a 3 month period and if your name is one of the first 20 names drawn you win a 5 day trip for two to Hawaii, including airfare and accommodation, to attend the company convention with other agents and their guests. In addition you would receive a telephone call from a head office representative congratulating you.	1	2	3	4	5	6	7	8	9	10

	Low Motivation									High Motivation
8. An entry is placed in a draw for every application submitted in a 3 month period and if your name is one of the first 20 names drawn you win a 5 day trip for two to Hawaii, including airfare and accommodation. In addition, a presentation would be made to you at a private dinner attended by you and your guest and two head office representatives.	1	2	3	4	5	6	7	8	9	10
9. If you produce more than $10,000 in annual premium in a 3 month period you win 2000 copies of a custom designed brochure, produced and paid for by the company and bearing your name and address for use in a mail campaign. In addition, you would receive a telephone call from a head office representative congratulating you.	1	2	3	4	5	6	7	8	9	10
10. An entry is placed in a draw for every application submitted in a 3 month period and if your name is one of the first 20 names drawn you win a seat on the President's Council which involves meeting with the President and the Vice-President of Marketing to discuss product and marketing issues. In addition, a presentation would be made to you at a banquet attended by the company's top agents.	1	2	3	4	5	6	7	8	9	10
11. If you are one of the top 20 agents, based on premium produced for the year, in the company in Western Canada, you win a 5 day trip for two to Hawaii, including airfare and accommodation. In addition, you would receive a telephone call from a head office representative congratulating you.	1	2	3	4	5	6	7	8	9	10
12. If you produce 10% more premium this year than last year you win a 5 day trip for two to Hawaii, including airfare and accommodation to attend the company convention with other agents and their guests. In addition, a presentation would be made to you at a banquet attended by the company's top agents.	1	2	3	4	5	6	7	8	9	10
13. If you produce 10% more premium this year than last year you win 2000 copies of a custom designed brochure produced and paid for by the company and bearing your name and address for use in a mail campaign. In addition, a presentation would be made to you at a private dinner attended by you and your guest and two head office representatives.	1	2	3	4	5	6	7	8	9	10
14. An entry is placed in a draw for every application submitted in a 3 month period and if your name is one of the first 20 names drawn you win 2000 copies of a custom designed brochure produced and paid for by the company and bearing your name and address for use in a mail campaign. In addition, your name and accomplishment would be published in the company newsletter which is read by other agents.	1	2	3	4	5	6	7	8	9	10
15. If you are one of the top 20 agents, based on premium produced for the year, in the company in Western Canada, you win a seat on the President's Council which involves meeting with the President and the Vice-President of Marketing to discuss product and marketing issues. In addition, your name and accomplishment would be published in the company newsletter which is read by other agents.	1	2	3	4	5	6	7	8	9	10
16. If you produce more than $10,000 in annual premium in a 3 month period you win a 5 day trip for two to Hawaii, including airfare and accommodation. In addition, a presentation would be made to you at a banquet attended by the company's top agents.	1	2	3	4	5	6	7	8	9	10

SECTION III

Please indicate how motivating each of the following incentives is to you by assigning points to each one. You have 100 points in total to distribute among the four incentives. The number of points you assign indicates how motivating you feel the incentive is. For example, if you feel that all incentives are equally motivating you would give each one 25 points. However, if you feel that one incentive is 7 times as motivating as all the others you would give that incentive 70 points and the others 10. Use any combination of points as long as the total is 100.

		POINTS
1.	If you produce 10% more premium this year than last year you win a seat on the President's Council which involves meeting with the President and the Vice-President of Marketing to discuss product and marketing issues. In addition, a presentation would be made to you at a private dinner attended by you and your guest and two head office representatives.	_____
2.	If you are one of the top 20 agents, based on premium produced for the year, in the company in Western Canada, you win a 5 day trip for two to Hawaii, including airfare and accommodation, to attend the company convention with other agents and their guests. In addition, you would receive a telephone call from a head office representative congratulating you.	_____
3.	An entry is placed in a draw for every application submitted in a 3 month period and if your name is one of the first 20 names drawn you win 2000 copies of a custom designed brochure produced and paid for by the company and bearing your name and address for use in a mail campaign. In addition, a presentation is made to you at a banquet attended by the company's top agents.	_____
4.	If you produce more than $10,000 in annual premium in a 3 month period you win a 5 day trip for two to Hawaii, including airfare and accommodation. In addition, your name and accomplishment are published in the company newsletter which is read by other agents.	_____
	TOTAL	100 POINTS

SECTION IV

Finally, we would like to obtain some information about you and your work environment.

1. I am: ____MALE _____FEMALE, _____and I am YEARS OLD

2. I have been selling life insurance for _____YEARS.

3. I have the following, if any, industry designations, for example, MDRT, CLU, CHFC
(Please specify)_____

4. I hold contracts to sell individual life insurance with approximately_____different companies.

5. The name of my primary carrier is _____

6. My primary carrier gets approximately _____ percent of my individual life business.

7. I sell the following, if any, products in addition to life insurance, for example: mutual funds, general insurance
(please specify) _____

8. How many co-workers (eg. other salespeople, support staff, accountants, other professionals) are there in your primary office ? (Please circle the number corresponding to the appropriate category)
   1 0 - 2
   2 3 - 6
   3 MORE THAN 6

9. I have _____ (specify number) SALARIED EMPLOYEES working for me in my insurance related business (i.e. not only in your life insurance operation).

10. I have _____ (specify number) COMMISSIONED AGENTS working under contract to me to sell life insurance.

11. My highest level of education is: (please circle the appropriate number)
   1 GRADE/ ELEMENTARY SCHOOL
   2 HIGH SCHOOL
   3 COLLEGE/TECHNICAL/VOCATIONAL SCHOOL
   4 UNIVERSITY GRADUATE

12. My estimated income from the sale of individual life insurance and annuities in 1990 is (Circle number).
   1 LESS THAN $10,000
   2 $10,001 to $30,000
   3 $30,001 to $50,000
   4 $50,001 to $70,000
   5 $70,001 to $90,000
   6 OVER $90,000

13. My income from the sale of individual life insurance and annuities represents approximately _____percent of my total income.

ANSWER QUESTIONS 14 AND 15 ONLY IF YOU ARE A CAREER AGENT.

14. Please indicate how important it is to you to receive a promotion to a management position within your company (Circle the appropriate number).
   1 VERY IMPORTANT
   2 SOMEWHAT IMPORTANT
   3 NEITHER IMPORTANT NOR UNIMPORTANT
   4 SOMEWHAT UNIMPORTANT
   5 VERY UNIMPORTANT

15. I have been with my present company for _____ YEARS and my current TITLE is _____

APPENDIX E

NONRESPONDENT DISCRIMINANT ANALYSIS

SUMMARY TABLE

STEP	ACTION ENTERED	ACTION REMOVED	VARS IN	WILKS' LAMBDA	SIG.	LABEL	
1	ZPERINC		1	.98367	.0301	ZSCORE:	% of Total Income
2	ZXNEWS		2	.96875	.0108	ZSCORE:	news + intercept
3	ZVAR18		3	.95504	.0045	ZSCORE:	commission
4	ZXEXEC		4	.94314	.0023	ZSCORE:	exec + intercept
5	ZVAR14		5	.93357	.0018	ZSCORE:	advice
6	ZVAR16		6	.92678	.0015	ZSCORE:	goals
7	ZCOMMENT		7	.92160	.0017	ZSCORE:	made comments on survey
8	ZCITY		8	.91638	.0018	ZSCORE:	city of residence
9	ZXTENPER		9	.91194	.0021	ZSCORE:	temper + intercept
10	ZXTRIP		10	.90820	.0020	ZSCORE:	trip + intercept
11	ZCOMP		11	.89984	.0018	ZSCORE:	range of part worths for compet
12	ZXENTRY		12	.89462	.0019	ZSCORE:	entry + intercept
13	ZVAR12		13	.89084	.0019	ZSCORE:	sqlestrain
14	ZMORT		14	.88534	.0021	ZSCORE:	MORT
15	ZSEX		15	.88209	.0025	ZSCORE:	sex
16	ZOTHDES		16	.87654	.0029	ZSCORE:	other designation

CLASSIFICATION FUNCTION COEFFICIENTS
(FISHER'S LINEAR DISCRIMINANT FUNCTIONS)

LATE =	0	1
ZSEX	0.5198171E-02	-0.1634300
ZMORT	0.6811643E-01	-0.8911275E-01
ZOTHDES	0.2536252E-02	-0.1642368
ZPERINC	0.3883223	0.2712724E-01
ZXTENPER	-0.2208976	1.025902
ZXENTRY	0.1312626E-01	-0.5801690
ZXNEWS	-0.6548521E-01	0.5585465
ZXTRIP	0.2455246E-01	-0.4605156
ZXEXEC	0.1275886	-0.8287332
ZVAR12	0.6539780E-02	0.2122931
ZVAR14	-0.7987761E-01	0.2521526
ZVAR16	0.3338476E-02	-0.3091514
ZVAR18	0.1417959	-0.1340639
ZCOMP	0.8845037E-01	-0.4905878
ZCITY	0.6096006E-01	-0.1304645
ZCOMMENT	0.2726081E-01	-0.2093518
(CONSTANT)	-0.7661828	-0.9257798

TEST OF EQUALITY OF GROUP COVARIANCE MATRICES USING BOX'S M

THE RANKS AND NATURAL LOGARITHMS OF DETERMINANTS PRINTED ARE THOSE OF THE GROUP COVARIANCE MATRICES.

GROUP LABEL	RANK	LOG DETERMINANT
0	16	-7.573818
1	16	-8.880095
POOLED WITHIN-GROUPS COVARIANCE MATRIX	16	-7.112492

BOX'S M	APPROXIMATE F	DEGREES OF FREEDOM		SIGNIFICANCE
203.85	1.3597	136,	47080.5	0.0034

CANONICAL DISCRIMINANT FUNCTIONS

FUNCTION	EIGENVALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENT	CANONICAL CORRELATION	AFTER FUNCTION	WILKS' LAMBDA	CHI-SQUARED	D.F.	SIGNIFICANCE
1*	0.13828	100.00	100.00	0.3485173	0	0.8786357	38.001	16	0.0029

* MARKS THE 1 CANONICAL DISCRIMINANT FUNCTIONS REMAINING IN THE ANALYSIS.

STANDARDIZED CANONICAL DISCRIMINANT FUNCTION COEFFICIENTS

	FUNC 1
ZSEX	0.19016
ZMORT	0.19044
ZOTHDES	0.18465
ZPERINC	0.35441
ZXTENPER	-1.38317
ZXENTRY	0.87746
ZXNEWS	-0.89142
ZXTRIP	0.54087
ZXEXEC	0.84524
ZVAR12	-0.23975
ZVAR14	-0.37865
ZVAR16	0.35403
ZVAR18	0.28401
ZCOMP	0.84210
ZCITY	0.21572
ZCOMMENT	0.26572

STRUCTURE MATRIX:

POOLED WITHIN-GROUPS CORRELATIONS BETWEEN DISCRIMINATING VARIABLES
AND CANONICAL DISCRIMINANT FUNCTIONS
(VARIABLES ORDERED BY SIZE OF CORRELATION WITHIN FUNCTION)

	FUNC 1
ZPERINC	0.34658
ZSEX	0.26772
ZKNEWS	-0.25861
ZCOMMENT	0.23458
ZXTEMPER	-0.23049
ZRECOG	-0.21738
ZVAR18	0.21316
ZXBROCH	-0.20717
ZMORT	0.19433
ZVAR16	0.18988
ZCITY	0.18720
ZXBAN	-0.18610
ZVAR14	-0.17946
ZVAR12	-0.17599
ZVAR20	-0.14662
ZOTHDES	0.13936
ZXTRIP	-0.13197
ZINTERCE	-0.12563
ZXCONVEN	-0.12534
ZXTENTHO	-0.12178
ZCLU	0.11999
ZVAR11	0.09573
ZVAR17	-0.08347
ZVAR13	-0.07051
ZXEXEC	0.06706
ZXTOP20	-0.06099
ZCOMPNUM	0.05795
ZCOMP	-0.04801
ZXENTRY	-0.04572
ZVAR15	0.04524
ZTOTINC	0.03620
ZMUTUAL	0.02560
ZPRIZE	0.02406
ZXDIN	-0.02044
ZXTELE	-0.01571
ZCHFC	-0.01511
ZVAR19	0.01147
ZYEARSEL	0.00995
ZAGE	0.00123

CLASSIFICATION RESULTS -

ACTUAL GROUP		NO. OF CASES	PREDICTED GROUP MEMBERSHIP 0	1
GROUP	0	229	156 68.1%	73 31.9%
GROUP	1	67	26 38.8%	41 61.2%

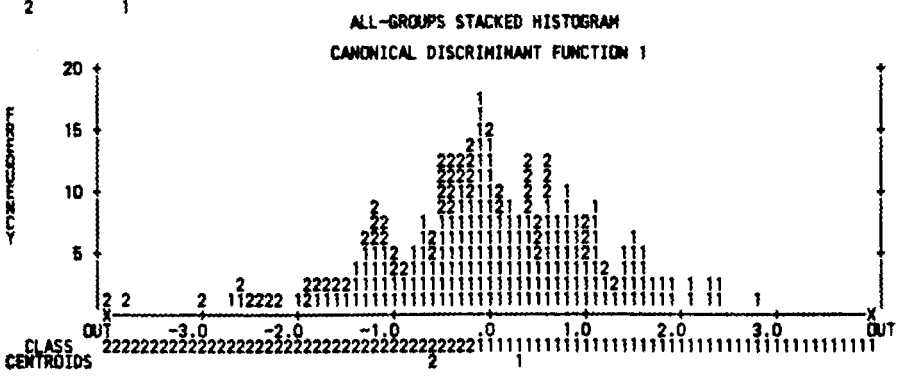
PERCENT OF "GROUPED" CASES CORRECTLY CLASSIFIED: 66.55%

CLASSIFICATION PROCESSING SUMMARY

320 CASES WERE PROCESSED.
0 CASES WERE EXCLUDED FOR MISSING OR OUT-OF-RANGE GROUP CODES.
24 CASES HAD AT LEAST ONE MISSING DISCRIMINATING VARIABLE.
296 CASES WERE USED FOR PRINTED OUTPUT.

SYMBOLS USED IN PLOTS

SYMBOL	GROUP	LABEL
1	0	
2	1	



APPENDIX F

DESCRIPTIVE INFORMATION

Variable	Category	Percent	Number
SEX:	female	17.8%	(57)
	male	82.2%	(263)
AGE:	under age 35	28.4%	(69)
	aged 36 to 45	32.1%	(78)
	over age 45	39.5%	(96)
EDUCATION:	High School	33.7%	(108)
	College/Vocational	36.2%	(116)
	University	30.1%	(96)
INCOME:	$30,000 or less	32.9%	(103)
	$30,001 to 50,000	25.9%	(81)
	$50,001 to 70,000	18.8%	(59)
	over $70,000	22.4%	(70)
PERCENTAGE OF INCOME DERIVED FROM LIFE SALES:			
	Less than 25%	10.9%	(33)
	26 to 50%	13.2%	(40)
	51 to 75%	10.3%	(31)
	76 to 100%	65.6%	(198)
NUMBER OF COMPANIES REPRESENTED:			
	One	36.8%	(116)
	Two to Five	39.0%	(123)
	More than Five	24.1%	(76)
PERCENTAGE OF BUSINESS GIVEN TO PRIMARY CARRIER:			
	Less than 50%	13.6%	(43)
	51 to 75%	11.7%	(37)
	76 to 99%	40.5%	(128)
	100%	34.2%	(108)
PROFESSIONAL DESIGNATIONS:			
	MDRT	19.1%	(61)
	CLU	16.6%	(53)
	CHFC	10.9%	(35)
OTHER PRODUCTS SOLD:			
	MUTUAL FUNDS	34.4%	(110)
	GENERAL INSURANCE	8.7%	(28)

APPENDIX F - CONTINUED

COMPANIES REPRESENTED IN THE SAMPLE (Named as Primary Carrier):

AMERICAN LIFE	2.5%	(8)
AMERICAN INCOME	0.6	(2)
CANADA LIFE	6.0	(19)
CITADEL	0.3	(1)
COLONIA	0.3	(1)
COMBINED	0.6	(2)
COMMERCIAL UNION	1.9	(6)
CONFEDERATION	1.6	(5)
COOPERATORS	1.9	(6)
CROWN LIFE	4.4	(14)
EMPIRE LIFE	3.1	(10)
EQUITABLE	1.0	(3)
GERLING GLOBAL	0.3	(1)
GREAT WEST	3.8	(12)
IMPERIAL LIFE	3.5	(11)
INDEPENDENT ORDER OF FORESTERS	0.3	(1)
KNIGHTS OF COLUMBUS	0.6	(2)
LONDON LIFE	9.8	(31)
MANUFACTURERS	5.1	(16)
MARITIME LIFE	0.3	(1)
METROPOLITAN	3.5	(11)
MUTUAL	8.6	(27)
NATIONAL	1.6	(5)
NEW YORK LIFE	1.9	(6)
NN LIFE	2.2	(7)
NORTH AMERICAN	3.2	(10)
NORTH WEST LIFE	2.2	(7)
PAUL REVERE	0.3	(1)
PENN LIFE	0.6	(2)
PRUDENTIAL	3.2	(10)
SEABOARD	7.9	(25)
SOVEREIGN	1.9	(6)
STANDARD LIFE	1.0	(3)
SUN LIFE	6.7	(21)
TRANSAMERICA	4.1	(13)
WAWANESA LIFE	0.6	(2)
ZURICH LIFE	1.9	(6)
MISSING		(6)

APPENDIX G

TABLE OF VARIABLES

NAME	DESCRIPTION	VALUES
RESPON	Respondent I.D. Number	R1-R402
SPONSOR	Company sponsoring licence (Insurance Coucil)	1-50
PRIMCARR	Company indicated as primary carrier (Section IV - Ques 6)	1-50
CITY	City of Residence (Address Label)	0 not lowermainland 1 lowermainland
ENTER	Entered draw	0 did not enter 1 entered draw
SEX	(Section IV, Q. 1)	0 Female 1 Male
AGE	(Section IV, Q. 2)	1 < 25 2 26-35 3 36-45 4 46-55 5 over 55
YEARSELL	Number of Years Selling Insurance (Sec. IV, Q. 2)	1-50
MDRT	Has MDRT designation (Section IV, Q. 3)	0 No 1 Yes
CLU	Has CLU designation (Section IV, Q. 3)	0 No 1 Yes
CHFC	Has CHFC designation (Section IV, Q. 3)	0 No 1 Yes
OTHDES	Other designation (Section IV, Q. 3)	0 No 1 Yes
COMPNUM	Number of companies have contracts with (Section IV, Q. 4)	1-99
PERBUS	Percentage of business given to primary carrier (Section IV, Q. 6)	1-100
Sell in Addition to Life Insurance:		
STOCKS	Sell stocks (Section IV, Q. 7)	0 No 1 Yes
GENINS	Sell General Insurance (Section IV, Q. 7)	0 No 1 Yes
MUTUAL	Sell Mutual Funds (Section IV, Q. 7)	0 No 1 Yes
OTHERBUS	Annuities, real estate etc. (Section IV, Q. 7)	0 No 1 Yes

COWORK	Number of coworkers (Section IV, Q. 8)	1 0-2 2 3-6 3 more than 6
EMPLOY	Have salaried employees (Section IV, Q. 9)	0 no employee 1 one employee 2 two or more
AGENTS	Have agents under contract (Section IV, Q. 10)	0 no agents 1 has agents
EDUC	Highest level of education (Section IV, Q. 11)	1 grade/elementary 2 high school 3 col./vocational 4. university
INCOME	Estimated income for sale of life insurance (Section IV, Q. 12)	1 < 10,000 2 10,001-30,000 3 30,001-50,000 4 50,001-70,000 5 70,001-90,000 6 over 90,001
PERINC	Life Insurance income as a percentage of total income (Section IV, Q. 13)	1-100
TOTINC	Total income calculated from PERINC and INCOME	1 < 25,000 2 25,001-50,000 3 50,001-75,000 4 75,001-100,000 5 100,001-125,000 6 over 125,001
PROMO	Desire for a promotion (Sec. IV, Q. 14)	1 Very Important 2 Important 3 Neither 4 Unimportant 5 Very Unimportant
YEARCAR	Years with current company (Sec. IV, Q. 15)	1-99
TITLE	Current title with company	0 salesperson 1 manager
COMMENT	Made comments on questionnaire	
LATE	Time response received	0 early 1 late
TYPE2	Classification of Agent	1 Agency Builder 2 Young Ind. 3 Loner 4 Promotion 5 Career

Degree to which each motivates you to perform better (Section I):

VAR11	Sales performance reports	0 No Motivation 1 Low Motivation 2 Medium Motiv. 3 High Motivation
VAR12	Sales training	"
VAR13	3 month contest	"
VAR14	Solicitation of Advice	"
VAR15	Recognition	"
VAR16	Mutual established production goals	"
VAR17	Product Training	"
VAR18	Commission rates which increase with production	"
VAR19	Conventions	"
VAR20	Customized brochures	"

Conjoint Analysis Variables:

INTERCEP	Intercept computed by Bretton Clark Program
TENPER	Part worth for competition alternative: produce 10% more than last year.
TOP20	Part worth for competition alternative: win if one of top 20 agents in western Canada.
TENTHOU	Part worth for competition alternative: produce 10,000 in premium in 3 month period.
ENTRY	Part worth for competition alternative: Entry in draw for each application.
NEWS	Part worth for recognition alternative: Name in newsletter
DIN	Part worth for recognition alternative: Private dinner with company representative.
BAN	Part worth for recognition alternative: Presentation at banquet
TELE	Part worth for recognition alternative: Telephone call from Head Office.
CONVENT	Part worth for prize alternative: Convention in Hawaii
TRIP	Part worth for prize alternative: Trip to Hawaii
BROCH	Part worth for prize alternative: customized brochures
EXEC	Part worth for prize alternative: President's Council
SOCIAL	Part worth for CONVENT minus part worth for TRIP

APPENDIX H

DIVISION OF SAMPLE INTO EMPLOYEE AND INDEPENDENTS

Salespeople are first classified as either independent or employee based upon the company they listed as their primary carrier as follows:

Indepedent	Employee
North West Life	London Life
Seaboard Life	Mutual Life
NN Life	Knights of Columbus
Transamerica Life	Independent Order of Foresters
Zurich Life	Prudential of America
Royal Life	Imperial Life
Maritime Life	Metropolitan Life
Penn Life	
Colonia Life	

These companies are known to operate under the particular form of sales force attributed to them.

The remainder of the sample is classified according the the percentage of business they report giving their primary carrier and the number of companies they report having contracts with. If the percentage of business given to the primary carrier is less than or 80% and the number of companies represented is greater than 5 then the salesperson is classified as independent. Otherwise, the salesperson is classified as an employee agent. This process is necessary because some companies which operate primarily as employee companies allow their agents to broker a small percentage of their business. This is true of even the strictest companies (e.g. London Life, Farrish, 1991 and Hodsman, 1991). The reason this is allowed is that often situations arise where the company the salesperson is an employee of does not have a product which is suitable for the client. The company would rather see the agent retain the client and broker the business than lose the client to another salesperson.

SUMMARY TABLE

STEP	ACTION ENTERED	ACTION REMOVED	VARS IN	WILKS' LAMBDA	SIG.	LABEL
1	ZCOMPNUM		1	.60324	.0000	ZSCORE: Number of Companies Sell For
2	ZPERINC		2	.54406	.0000	ZSCORE: % of Total Income
3	ZCLU		3	.52797	.0000	ZSCORE: CLU
4	ZOTHDES		4	.52492	.0000	ZSCORE: other designation
5	ZMUTUAL		5	.52182	.0000	ZSCORE: sells mutual funds
6	ZCOMP		6	.51903	.0000	ZSCORE: range of part worths for compet
7	ZVAR20		7	.51599	.0000	ZSCORE: brochures
8	ZVAR13		8	.51305	.0000	ZSCORE: contest
9	ZPRIZE		9	.50962	.0000	ZSCORE: range of part worths for prize
10	ZVAR16		10	.50674	.0000	ZSCORE: goals
11	ZCHFC		11	.50446	.0000	ZSCORE: CHFC or CFP
12	ZXENTRY		12	.50242	.0000	ZSCORE: entry + intercept
13	ZXTENTHO		13	.49802	.0000	ZSCORE: tenthou + intercept
14	ZVAR19		14	.49588	.0000	ZSCORE: conventions

CLASSIFICATION FUNCTION COEFFICIENTS
(FISHER'S LINEAR DISCRIMINANT FUNCTIONS)

TYPEI2 = 1 2

ZCLU	-0.3364444	0.1109948
ZCHFC	-0.1464280	0.9744135E-01
ZOTHDES	-0.1898128	0.3899808E-01
ZCOMPNUM	1.723069	-0.8117483
ZPERINC	-0.3259307	0.7837490
ZXTENTHO	0.4079754	-0.2262827
ZXENTRY	-0.5567655	0.1388751
ZVAR13	0.4288209	-0.7884183E-02
ZVAR16	-0.2293081	0.2058645E-01
ZVAR19	-0.1850824	0.8287848E-01
ZVAR20	-0.1164310	0.1643200
ZPRIZE	-0.2489320	0.6533415E-01
ZCOMP	-0.3869386	0.1888491
ZMUTUAL	-0.1433328	0.1000288
(CONSTANT)	-1.544992	-1.060521

CANONICAL DISCRIMINANT FUNCTIONS

FUNCTION	EIGENVALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENT	CANONICAL CORRELATION	AFTER FUNCTION	WILKS' LAMBDA	CHI-SQUARED	D.F.	SIGNIFICANCE
1*	1.01861	100.00	100.00	0.7100129	0	0.4958817	194.99	14	0.0000

* MARKS THE 1 CANONICAL DISCRIMINANT FUNCTIONS REMAINING IN THE ANALYSIS.

URE MATRIX:

D WITHIN-GROUPS CORRELATIONS BETWEEN DISCRIMINATING VARIABLES AND CANONICAL DISCRIMINANT FUNCTIONS
RIABLES ORDERED BY SIZE OF CORRELATION WITHIN FUNCTION)

	FUNC 1
ZCOMPNUM	-0.80435
ZPERINC	0.42087
ZTOTINC	-0.23993
ZAGE	-0.21225
ZVAR11	0.19986
ZYEARSEL	-0.19040
ZVAR18	0.17316
ZXTRIP	0.17130
ZXCONVEN	0.15396
ZVAR15	0.14472
ZINTERCE	0.14221
ZXTELE	0.13888
ZXTENPER	0.13876
ZVAR19	0.13862
ZXDIN	0.13508
ZXENTRY	0.13218
ZXBAN	0.12444
ZXNEWS	0.12250
ZXTOP20	0.12080
ZMORT	-0.12066
ZVAR13	0.11880
ZXTENTHO	0.11247
ZXEXEC	0.09154
ZPRIZE	0.08866
ZMUTUAL	0.05131
ZVAR14	0.04938
ZCLU	-0.04134
ZVAR12	0.03730
ZXBROCH	0.03487
ZCOMP	0.03415
ZOTHDES	0.03351
ZVAR18	0.02722
ZSEX	0.00992
ZVAR20	-0.00755
ZCHFC	0.00493
ZVAR17	0.00387
ZRECOG	-0.00192

CANONICAL DISCRIMINANT FUNCTIONS EVALUATED AT GROUP MEANS (GROUP CENTROIDS)

GROUP	FUNC 1
1	-1.22878
2	0.82157

TEST OF EQUALITY OF GROUP COVARIANCE MATRICES USING BOX'S M

THE RANKS AND NATURAL LOGARITHMS OF DETERMINANTS PRINTED ARE THOSE OF THE GROUP COVARIANCE MATRICES.

GROUP LABEL	RANK	LOG DETERMINANT
1	14	-4.464082
2	14	-5.545072
POOLED WITHIN-GROUPS COVARIANCE MATRIX	14	-4.465241

BOX'S M	APPROXIMATE F	DEGREES OF FREEDOM	SIGNIFICANCE
184.52	1.6624	105, 188177.9	0.0000

CLASSIFICATION RESULTS -

ACTUAL GROUP	NO. OF CASES	PREDICTED GROUP MEMBERSHIP 1	2
GROUP 1	118	101 85.6%	17 14.4%
GROUP 2	175	27 15.4%	148 84.6%
UNGROUPED CASES	1	0 0.0%	1 100.0%

PERCENT OF "GROUPED" CASES CORRECTLY CLASSIFIED: 84.98%

CLASSIFICATION PROCESSING SUMMARY

320 CASES WERE PROCESSED.
0 CASES WERE EXCLUDED FOR MISSING OR OUT-OF-RANGE GROUP CODES.
26 CASES HAD AT LEAST ONE MISSING DISCRIMINATING VARIABLE.
294 CASES WERE USED FOR PRINTED OUTPUT.

proportionate chance criterion 51.6%

APPENDIX I

SEGMENTATION INTO GROUPS

Respondents are segmented into groups as follows:

1. Agency Builders - if classified as independent, indicated title is manager, indicate have agents under contract, or have employees.

2. Young Independents - if are not classified as an agency builder and have been selling insurance for less than 5 years.

3. Loners - the remainder of the independents are classified as loners.

4. Promotion-Oriented Employees - if the respondent is classified as an employee salesperson and indicates that a promotion is important or very important.

5. Career Salespeople - the remainder of the respondents classified as employees.

RESULTS OF DISCRIMINANT ANALYSIS

SUMMARY TABLE

STEP	ACTION ENTERED	ACTION REMOVED	VARS IN	WILKS' LAMBDA	SIG.	LABEL	
1	ZCOMPNUM		1	.54376	.0000	ZSCORE:	Number of Companies Sell For
2	ZYEARSEL		2	.45086	.0000	ZSCORE:	Years Selling Life
3	ZPERINC		3	.40486	.0000	ZSCORE:	% of Total Income
4	ZTOTINC			.37101	.0000	ZSCORE:	Total Income
5	ZCLU			.35585	.0000	ZSCORE:	CLU
6	ZXBAN		6	.34448	.0000	ZSCORE:	ban + intercept
7	ZVAR13		7	.33618	.0000	ZSCORE:	contest
8	ZMUTUAL		8	.32886	.0000	ZSCORE:	sells mututal funds
9	ZXTRIP		9	.32274	.0000	ZSCORE:	trip + intercept
10	ZXCONVEN		10	.31695	.0000	ZSCORE:	convent + intercept
11	ZVAR12		11	.31080	.0000	ZSCORE:	salestrain
12	ZVAR14		12	.30523	.0000	ZSCORE:	advice
13	ZMORT		13	.29973	.0000	ZSCORE:	MORT
14	ZVAR18		14	.29499	.0000	ZSCORE:	commission
15	ZXBROCH		15	.29023	.0000	ZSCORE:	broch + intercept

CLASSIFICATION FUNCTION COEFFICIENTS
(FISHER'S LINEAR DISCRIMINANT FUNCTIONS)

TYPEI2 =	1	2	3	4	5
ZYEARSEL	0.3341791	-1.488394	1.611366	-0.7467835	0.2797258
ZMORT	-0.8858740E-01	0.3786913E-01	0.5863869E-01	-0.1802476	0.2978137
ZCLU	-0.4667377	-0.1734889E-01	-0.5632029	0.6159130E-01	0.2107563
ZCOMPNUM	2.000828	0.3388249	1.875651	-0.9578282	-0.7725871
ZPERINC	-0.3454315	-0.1791289	-0.3948238	0.7496874	0.6292237
ZTOTINC	0.3756929	-0.2722625	-1.181584	-0.2233228	-0.3655643
ZXBAN	0.3456126	-0.3607238	-0.5073422	0.8284036	-0.5455709
ZXCONVEN	-0.2227717	0.6050242	-1.092544	-0.3127442	0.3538589
ZXTRIP	-0.4006763	-0.2671250	1.100068	-0.3423581E-01	-0.2395431E-01
ZXBROCH	-0.1051259	-0.5244811E-01	0.3346047E-01	-0.4145091	0.1914628
ZVAR12	0.6788789E-02	0.4544948	-0.2175890	-0.1706632	0.1689166
ZVAR13	0.6383182	-0.7587086E-01	0.3722862E-01	-0.1738824	0.5353024E-02
ZVAR14	-0.1149857E-01	-0.2150520	-0.1313355	0.3435940	-0.1298007
ZVAR18	-0.1482300	0.5442220	0.9447639E-01	0.3244643	0.5248897E-01
ZMUTUAL	0.9151631E-01	-0.3308429	-0.1724149	-0.1452117	0.1685256
(CONSTANT)	-2.886926	-2.770697	-3.420611	-2.629631	-2.001268

APPENDIX I - CONTINUED

STRUCTURE MATRIX:

POOLED WITHIN-GROUPS CORRELATIONS BETWEEN DISCRIMINATING VARIABLES AND CANONICAL DISCRIMINANT FUNCTIONS
(VARIABLES ORDERED BY SIZE OF CORRELATION WITHIN FUNCTION)

	FUNC 1	FUNC 2	FUNC 3	FUNC 4
ZCOMPNUM	0.82359*	-0.11620	0.01054	-0.07185
ZPERINC	-0.37241*	0.20812	0.00542	0.26141
ZAGE	0.22443*	-0.02960	0.01132	0.09502
ZXDIN	-0.20002*	-0.10400	0.16473	0.02334
ZXTOP20	-0.19415*	-0.13331	0.15124	0.10777
ZXCONVEN	-0.19068*	-0.10538	0.17851	0.09164
ZINTERCE	-0.18701*	-0.14130	0.14799	0.18420
ZVAR11	-0.18499*	0.06388	0.08041	0.10402
ZXTRIP	-0.18319*	-0.11251	0.01178	0.15233
ZXENTRY	-0.18242*	-0.13941	0.07501	0.05124
ZXTELE	-0.17966*	-0.10477	0.10611	0.07063
ZVAR16	-0.13146*	-0.12961	0.04235	0.06254
ZOTHDES	0.07710*	-0.05785	0.03949	-0.01149
ZYEARSEL	0.42846	0.71761*	0.11793	0.27122
ZCLU	0.11081	0.34068*	0.29908	-0.09667
ZVAR18	-0.06505	-0.23756*	0.00821	-0.03923
ZCHFC	0.13666	0.23164*	0.16959	0.02044
ZVAR20	0.06649	-0.22922*	0.02611	0.11606
ZSEX	0.01472	0.16213*	0.11263	0.09667
ZTOTINC	0.36716	0.09880	0.64986*	0.13713
ZMORT	0.14958	0.30430	0.37931*	-0.00235
ZMUTUAL	-0.00762	0.13866	0.31196*	0.09721
ZVAR13	-0.12464	-0.15032	0.28736*	0.13913
ZVAR19	-0.07673	-0.00885	0.27105*	0.18905
ZXBROCH	-0.09407	-0.13548	0.14469*	0.09257
ZVAR14	-0.03091	-0.13235	0.02813	0.39482*
ZXBAN	-0.14250	-0.16364	0.14295	0.35912*
ZVAR12	-0.02012	-0.03297	0.16075	-0.28138*
ZXTENTHO	-0.15624	-0.11321	0.17580	0.26325*
ZRECOG	0.04758	-0.01334	-0.03905	0.26059*
ZXTENPER	-0.12634	-0.11259	0.12928	0.24828*
ZXNEWS	-0.16053	-0.14932	0.12659	0.23945*
ZXEXEC	-0.12071	-0.08767	0.12289	0.23732*
ZVAR15	-0.14472	-0.13265	0.16837	0.19540*
ZCOMP	0.11099	0.05438	0.04296	0.16456*
ZVAR17	0.04055	-0.04176	-0.05413	-0.14447*
ZPRIZE	-0.01074	-0.02977	-0.01705	-0.08520*

CANONICAL DISCRIMINANT FUNCTIONS

FUNCTION	EIGENVALUE	PERCENT OF VARIANCE	CUMULATIVE PERCENT	CANONICAL CORRELATION	AFTER FUNCTION	WILKS' LAMBDA	CHI-SQUARED	D.F.	SIGNIFICANCE
1*	1.23139	72.14	72.14	0.7428659	0	0.2902296	341.43	60	0.0000
2*	0.25659	15.03	87.17	0.4518786	1	0.6476168	119.91	42	0.0000
3*	0.15553	9.11	96.28	0.3668784	2	0.8137875	56.871	26	0.0004
4*	0.06342	3.72	100.00	0.2442137	3	0.9403596	16.972	12	0.1507

* MARKS THE 4 CANONICAL DISCRIMINANT FUNCTIONS REMAINING IN THE ANALYSIS.

STANDARDIZED CANONICAL DISCRIMINANT FUNCTION COEFFICIENTS

	FUNC 1	FUNC 2	FUNC 3	FUNC 4
ZYEARSEL	0.35719	0.94899	-0.34835	0.23758
ZMORT	-0.05882	0.32031	0.10778	-0.39831
ZCLU	-0.25839	0.14179	0.17632	-0.17590
ZCOMPNUM	0.86923	-0.33838	-0.12924	-0.05338
ZPERINC	-0.34295	0.18256	0.11092	0.30611
ZTOTINC	0.06423	-0.40134	0.82781	0.34428
ZXBAN	0.02028	-0.80082	0.04908	1.43772
ZXCONVEN	-0.24910	0.05891	0.79503	-0.90016
ZXTRIP	0.05364	0.38402	-0.91825	-0.03615
ZXBROCH	0.00200	0.34611	0.14175	-0.48561
ZVAR12	-0.04884	0.02506	0.25571	-0.57161
ZVAR13	0.21190	-0.07947	0.40015	0.12569
ZVAR14	-0.04589	-0.19160	-0.07188	0.53794
ZVAR18	-0.10106	-0.15410	-0.25131	-0.16920
ZMUTUAL	-0.00595	0.20000	0.31941	0.06000

CLASSIFICATION RESULTS -

ACTUAL GROUP	NO. OF CASES	PREDICTED GROUP MEMBERSHIP 1	2	3	4	
GROUP 1	68	45 66.2%	8 11.8%	10 14.7%	1 1.5%	5
GROUP 2	16	1 6.3%	9 56.3%	0 0.0%	6 37.5%	C
GROUP 3	34	8 23.5%	0 0.0%	25 73.5%	0 0.0%	2
GROUP 4	48	1 2.1%	4 8.3%	1 2.1%	35 72.9%	14
GROUP 5	125	12 9.6%	16 12.8%	11 8.8%	30 24.0%	44
UNGROUPED CASES	1	1 100.0%	0 0.0%	0 0.0%	0 0.0%	0

PERCENT OF "GROUPED" CASES CORRECTLY CLASSIFIED: 58.42%

CLASSIFICATION PROCESSING SUMMARY

320 CASES WERE PROCESSED.
0 CASES WERE EXCLUDED FOR MISSING OR OUT-OF-RANGE GROUP CODES.
28 CASES HAD AT LEAST ONE MISSING DISCRIMINATING VARIABLE.
292 CASES WERE USED FOR PRINTED OUTPUT.

APPENDIX J

LINKING PIN AND CONVENTIONAL AHP QUESTIONNAIRES

Section 2 is the only portion of the questionnaire which differs. See Appendix D for Sections 1, 3 and 4.

Questions on this page and the following page are the same for linking pin and conventional AHP.

SECTION II

Most life insurance companies feel that incentives, over and above commission, help to provide motivation for you as an insurance agent. We would like to know how you feel about these incentives and which ones you feel are the most motivating. These incentives can be thought of as consisting of three parts. These are: recognition, reward, and qualification basis (how winners are decided).

In each of the following, please compare the two alternatives, indicate which alternative is the most motivating, and by how many times. For example, if the two alternatives are:
a) Receiving a plaque
b) Receiving a tie clip
and you think receiving a tie clip is five times as motivating as receiving a plaque you would respond by placing the letter "b" in the space and circling the number 5 as shown below.

Of a and b I feel that b is: 1 2 3 4 (5) 6 7 8 9 times more motivating.

If you feel the two are equally motivating you would simply circle the number 1.

RECOGNITION (Please read the alternatives and answer the questions below)
The alternatives to be compared for recognition are:

a) If you win, your name and accomplishment are published in the company newsletter which is read by other agents.
b) If you win, you receive a telephone call from a head office representative congratulating you.
c) If you win, a presentation is made to you at a private dinner attended by you and your guest and two head office representatives.
d) If you win, a presentation is made to you at a banquet attended by the company's top agents.

		write letter	circle number								
1.	Of a and b I feel that	____	is: 1	2	3	4	5	6	7	8	9 times more motivating.
2.	Of a and c I feel that	____	is: 1	2	3	4	5	6	7	8	9 times more motivating.
3.	Of a and d I feel that	____	is: 1	2	3	4	5	6	7	8	9 times more motivating.
4.	Of b and c I feel that	____	is: 1	2	3	4	5	6	7	8	9 times more motivating.
5.	Of b and d I feel that	____	is: 1	2	3	4	5	6	7	8	9 times more motivating.
6.	Of c and d I feel that	____	is: 1	2	3	4	5	6	7	8	9 times more motivating.

REWARD

The alternatives to be compared for reward are:

a) If you win you receive a 5 day trip for two to Hawaii, including airfare and accommodation.

b) If you win you receive a 5 day trip for two to Hawaii, including airfare and accommodation, to attend the company convention with other agents and their guests.

c) If you win you receive a seat on the President's Council which involves meeting with the President and the Vice-President of Marketing to discuss product and marketing issues.

d) If you win you receive 2000 copies of a custom designed brochure produced and paid for by the company and bearing your name and address for use in a mail campaign.

		write letter	circle number								
1.	Of a and b I feel that ____ is:		1	2	3	4	5	6	7	8	9 times more motivating.
2.	Of a and c I feel that ____ is:		1	2	3	4	5	6	7	8	9 times more motivating.
3.	Of a and d I feel that ____ is:		1	2	3	4	5	6	7	8	9 times more motivating.
4.	Of b and c I feel that ____ is:		1	2	3	4	5	6	7	8	9 times more motivating.
5.	Of b and d I feel that ____ is:		1	2	3	4	5	6	7	8	9 times more motivating.
6.	Of c and d I feel that ____ is:		1	2	3	4	5	6	7	8	9 times more motivating.

QUALIFICATION BASIS

The alternatives to be compared for qualification basis are:

a) You win if you produce 10% more premium this year than you did last year.

b) You win if you are one of the top 20 agents, based on premium produced for the year, in the company in Western Canada.

c) You win if you produce more that $10,000 in annual premium in a 3 month period.

d) An entry is placed in a draw for every application submitted in a 3 month period and you win if your name is one of the first 20 names drawn.

		write letter	circle number								
1.	Of a and b I feel that ____ is:		1	2	3	4	5	6	7	8	9 times more motivating.
2.	Of a and c I feel that ____ is:		1	2	3	4	5	6	7	8	9 times more motivating.
3.	Of a and d I feel that ____ is:		1	2	3	4	5	6	7	8	9 times more motivating.
4.	Of b and c I feel that ____ is:		1	2	3	4	5	6	7	8	9 times more motivating.
5.	Of b and d I feel that ____ is:		1	2	3	4	5	6	7	8	9 times more motivating.
6.	Of c and d I feel that ____ is:		1	2	3	4	5	6	7	8	9 times more motivating.

CONVENTIONAL

We would now like you to indicate which of the parts you feel is the most motivating. For example, do you feel that receiving recognition is more motivating than receving the reward. Or is the way the winners are decided (qualification basis) more motivating. Again, if you feel the parts are equally motivating you would circle 1. If you feel that part a is 3 times as motivating as part b you would write the letter "a" in the space and circle 3 and so on.

The parts to be considered are:

a) Recognition
b) Reward
c) Qualification basis (how winners are decided)

		write letter	circle number									
1.	Of **a** and **b** I feel that ____ is:		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	times more motivating.
2.	Of **a** and **c** I feel that ____ is:		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	times more motivating.
3.	Of **b** and **c** I feel that ____ is:		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	times more motivating.

LINKING PIN

We would now like you to indicate which of the parts you feel is the most motivating. For example, do you feel that receiving recognition is more motivating than receiving the reward. Or is the way the winners are decided (qualification basis) more motivating. To do this simply compare the alternatives below in terms of how motivating you feel each is. Again, if you feel the alternatives are equally motivating you would circle 1. If you feel that alternative a is 3 times as motivating as alternative b you would write the letter " a " in the space and circle 3 and so on.

The alternatives to be considered are:

a) If you win, a presentation is made to you at a banquet attended by the company's top agents
b) If you win, you receive a 5 day trip for two to Hawaii, including airfare and accomodation, to attend the company convention with other agents and their guests.
c) You win if you produce 10% more premium this year than you did last year.

		write letter	circle number									
1.	Of **a** and **b** I feel that ____ is:		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	times more motivating.
2.	Of **a** and **c** I feel that ____ is:		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	times more motivating.
3.	Of **b** and **c** I feel that ____ is:		**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	times more motivating.

APPENDIX K

NORMALIZATION METHOD FOR CONJOINT ANALYSIS

Conjoint Analysis part worths are can and often are negative and sum to zero and therefore, in order to make a comparision with AHP it is necessary to normalize them so that they range between 0 and 1 as the AHP weights do. This is performed with the following procedure:

Let x_{ij} represent the part worths of alternative i on criterion j. For each criterion there are four alternatives. Let S_j represent the range of the part worths for criterion j.

Let p_{ij} represent the normalized part worths calculated as:

$p_{ij} = ((x_{ij}/S_j) + 1)/4$

This method provides part worths which range between 0 and 1 and are proportional to the original weights. For example, if the part worths are .7, -.5, 1.2, and -1.4 (summing to 0) the range is 2.1. The transformation is as follows:

((.7/2.1)+1)/4 = .3333

((-.5/2.1)+1)/4 = .1905

((1.2/2.1)+1)/4 = .3929

((-1.4/2.1)+1)/4 = .0833

These part worths now sum to one.

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