SALESPERSON COMPETITIVE INTELLIGENCE USE: A SOCIAL IDENTITY PERSPECTIVE

A dissertation submitted to the
Kent State University Graduate School of Management
in partial fulfillment of the requirements for the degree of
Doctor of Philosophy

by

Raj S. Agnihotri

June, 2009
Dissertation written by

Raj S. Agnihotri

B.E., University of Pune, 2001

M.B.A., Oklahoma City University, 2005

Ph.D., Kent State University, 2009

Approved by

___________________________  Co-Chair, Doctoral Dissertation Committee
___________________________  Co-Chair, Doctoral Dissertation Committee
___________________________  Members, Doctoral Dissertation Committee

Accepted by

___________________________  Doctoral Director, Graduate School of Management
___________________________  Dean, Graduate School of Management
ACKNOWLEDGEMENTS

This dissertation would not have been possible without the unconditional help of numerous people. I am fortunate to have had the guidance and support required to make it possible. First, I would like to thank my dissertation co-chairs, Dr. Adam A. Rapp and Dr. Michael Y. Hu, for their guidance and inspiration; and my dissertation committee member, Dr. Eddy Patuwo, for his faith on me. I thank my colleagues Kevin and Hyunjung for being there for me.

My earnest and heartfelt appreciation goes out to my family. To my parents, Dinesh Prasad Agnihotri and Mohini Agnihotri, for their endless motivation and love. To my brother, Shashank Shakher, for his encouragement. Finally, I wish to thank my wife Manu, for her unwavering devotion, love, understanding, and patience.
# TABLE OF CONTENTS

**Chapter 1 - Problem Setting**  
1  
Introduction  
1  
Competitive Intelligence  
4  
Information, Knowledge and Competitive Intelligence  
5  
Value of Competitive Intelligence  
6  
Building a Competitive Intelligence System  
7  
Competitive Intelligence and Sales Force  
9  
Importance of Competitive Intelligence for Salespeople  
11  
Salesperson Competitive Intelligence Use  
14  
Chapter Summary  
17  

**Chapter 2 - Theoretical Lens**  
19  
Introduction  
19  
Social Identity Theory in an Organizational Context  
23  
Theoretical Underpinning for the Model  
26  
Chapter Summary  
28  

**Chapter 3 - Model Development**  
30  
Introduction  
30  
Role Perceptions  
31  
Role Stress  
32  
Role Identity Salience  
34  
Recognition from Managers  
42  
Influence of Coaching  
46  
Behavioral Outcome  
49  
Adaptive Selling  
52
Table of Contents (cont.)

Salesperson Performance 53

Chapter 4 - Methodology 57

Sample 57

Measures 59
  Salesperson CI Use 61
  Salesperson CI Collection 62
  Role Conflict 62
  Role Ambiguity 63
  Job Involvement 63
  Organizational Identification 64
  Recognition 64
  Coaching 65
  Adaptive Selling 66
  Salesperson Performance 66

Chapter 5 - Data Analysis and Results 68

Analysis 68
  Tests of Validity 70
    Common Method Variance Testing 71

Results 72
  Confirmatory Factor Analysis 72
  Structural Model (Linear Effects) 74
  Test of Hypotheses (Linear Effects) 74
  Structural Model (Interactive Effects) 78
  Post-hoc Analysis 82

Chapter 6 - Conclusions 85

Summary 85

Research Implications 86
Table of Contents (cont.)

Managerial Implications 88
Limitations and Future Research 93

References 97

Figures 114
Tables 121

Appendix 131
## LIST OF FIGURES

<table>
<thead>
<tr>
<th>Figure</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 1</td>
<td>Identity Perspective in an Organizational Context</td>
<td>114</td>
</tr>
<tr>
<td>Figure 2</td>
<td>Hypothesized Model</td>
<td>115</td>
</tr>
<tr>
<td>Figure 3</td>
<td>SEM Results- Linear Effect Model</td>
<td>116</td>
</tr>
<tr>
<td>Figure 4</td>
<td>SEM Results- Interactive Effect Model</td>
<td>117</td>
</tr>
<tr>
<td>Figure 5a</td>
<td>Post-Hoc Analysis- Linear Effect Model</td>
<td>118</td>
</tr>
<tr>
<td>Figure 5b</td>
<td>Post-Hoc Analysis- Interactive Effect Model</td>
<td>119</td>
</tr>
<tr>
<td>Figure 6</td>
<td>Interaction of Salesperson CI Use and Coaching, as Related to Salesperson Performance</td>
<td>120</td>
</tr>
</tbody>
</table>
LIST OF TABLES

Table 1  Descriptive Statistics  121
Table 2  Factor Loadings from Confirmatory Factor Analysis  122
Table 3  Bivariate Correlations for Variable  123
Table 4  Summary of Hypotheses  124
Table 5a  Standardized Parameter Estimates and Goodness-of-Fit Statistics Hypothesized Model: Linear Effects  125
Table 5b  Standardized Parameter Estimates and Goodness-of-Fit Statistics Hypothesized Model: Interactive Effects  126
Table 6a  Standardized Parameter Estimates and Goodness-of-Fit Statistics Respecified Model: Linear Effects  127
Table 6b  Standardized Parameter Estimates and Goodness-of-Fit Statistics Respecified Model: Interactive Effects  128
Table 7  Discriminant Validity- Comparing Squared Intercorrelations and Variance Extracted by Latent Constructs  129
Table 8  Measurement Error Fix for Interaction Terms  130
Chapter 1
Problem Setting

Introduction

In today’s competitive business environment, it is generally recognized that organizations must adapt to their surroundings in order to survive and prosper. The speed and aggressiveness of competition has forced organizations to think beyond the traditional approach that focuses on the construction of competitive advantage to advance new initiatives that lead to the demolition of a competitors’ advantage (D’Aveni 1994; McNamara, Vaaler, and Devers 2003). As competition increases and technology evolves, firms are increasingly turning to competitive intelligence (hereafter, CI) to provide insight into competitors’ strategies and customers’ needs. Sensing the advantages of CI, major multinational corporations, such as General Motors, Eastman Kodak, and British Petroleum, have either created formal CI units (Vedder, Vanecek, Guynes, and Cappel 1999) or adopted structured processes for collecting and analyzing information on the external environment (Groom and David 2001). Experts recommend that firms consider CI activities not only as a protective tool to guard against perceived threats and changes, but also as a mechanism for discovering new opportunities and trends (Pirttimäki 2007).

Over the years, a number of theoretical and empirical research studies have advanced conceptual models of CI and offered various perspectives on CI practices (e.g., Band 1982; Gordon 1989; Attaway 1998). Despite diversity in terms of approach and
method, a common theme that emerges among previous studies is that employees play an important role in the CI process. In fact, Caudron (1994) suggested that up to 90% of the intelligence a company needs is possessed by its employees, who collect vast amounts of information as they interact with suppliers, customers, and other industry contacts.

Among a firm’s employees, the sales force is recognized as the single best internal source of information concerning market, customer, and competitor information (Hershey 1980; Lambert, Marmorstein, and Sharma 1990; Young 1989). Literature has recognized salespeople as information resources and considered them as information gatherers (Evans and Schlacter 1985; Liu and Comer 2007). Evans and Schlacter (1985) reported that management often utilizes the sales force as the source of information and specifically information about competitive activities and pricing. They cited customers as the most important information link between an organization and the market.

Because salespeople operate as boundary spanners between the firm and the outside world (Singh, Verbeke, Rhoads 1996), they have access to information unavailable to many others in the firm (Rapp, Ahearne, Mathieu, and Schillewaert 2006). This is especially true for information relating to competitors because the salespeople’s realm is contiguous to the competitors’ domain. Salespeople maintain frequent contact with customers and competitors, and therefore, they are in a strategic position to gather external information.

Although previous studies provide a foundation for our understanding of CI, several dimensions remain unexplored and need attention (Attaway 1998). For instance,
despite agreement among scholars and practitioners about the important role CI plays in firm performance and strategy development, as well as the valuable role of the sales force in gathering this intelligence, little attention has been devoted to understanding how CI may influence individual salesperson performance. To my knowledge, no research has considered CI as an instrument that salespeople can leverage to change their behaviors and ultimately influence their levels of performance.

Researchers’ neglect of this area is attributable to fact that past discussions of CI have been restricted to the organizational level, and thus provide little foundation for investigations aimed at the salesperson level. With this in mind, this research aims to utilize CI at the individual-level of analysis. Notably, salesperson CI (hereafter, SCI) is treated as an outcome of the intelligence process and therefore a product or instrument that can be used by salespeople during sales activities.

In the next sections, I present a detailed discussion involving the notion of competitive intelligence first from an organizational point of view and then from a sales force’s point of view. Also, I explore the idea of competitive intelligence by comparing it with information and knowledge, by discussing the value of it, and by investigating the issue of building a competitive intelligence system within an organization. Finally, a section is dedicated to the discussion of the focal construct of this study, which is salesperson competitive intelligence use.
**Competitive Intelligence**

The theory surrounding CI draws on many disciplines including marketing, strategic management, military theory, and economics. However, Porter’s *Competitive Strategy* (1980) is arguably the seminal framework underlying much of the research examining how intelligence can be used for strategic decision making by firms. Since Porter’s foundational research, scholars have approached CI in a multitude of ways. However, two primary views have emerged from the literature:

1) The process approach adopted by strategy researchers.

2) The overall value of CI embraced by practitioners.

There are multiple approaches to CI in contemporary practice and scholarship. Coupled with this, there are many definitions of CI and numerous labels for CI, which have combined to yield a partitioned and fragmented literature. Gordon (1989), for instance, defined CI as collecting information about competitors to gain a competitive edge in the marketplace, whereas West (2001) described it as an organization’s commitment and ability to study competitors and to anticipate their actions. Prescott and Gibbons (1993, p. 8) offer a more intricate definition of CI, calling it a “formalized, yet continuously evolving process” and suggesting that it can help managers achieve and sustain competitive advantage through evaluating the ‘capabilities and behavior’ of existing and prospective competitors.

Additionally, researchers have used many labels for CI. Moving beyond the research which uses the term CI, there is another, perhaps broader stream of research
which examines similar constructs including market(ing) information, competitive information, and market(ing) intelligence systems. Below, I provide a comprehensive overview of the different areas mentioned above. The relevant articles that address the role of the sales force in CI are discussed in detail.

**Information, Knowledge and Competitive Intelligence**

Before focusing on the elements of CI, one issue that is a necessary point of discussion concerns the differentiation between the related constructs of information, knowledge, and CI. Boisot (1999) documents that an amalgamation of risks and opportunities has created an environment where organizations are facing a knowledge-related paradox. He provides examples of organizations that have lost their ground to competitors despite having once had sufficient knowledge control. EMI, for example, innovated, produced and sold the CAT scanner for a period, but then lost its market over the course of two years and eventually sold off its scanner business to General Electric (Dell’Osso 1990).

Similarly, Dell conquered the personal computer market in the USA, which had previously been dominated by IBM, a pioneer in personal computers. These examples reinforce the notion that merely possessing knowledge cannot guarantee a firm’s success. Along with knowledge, one needs CI because it helps firms and salespeople command a superior understanding of change in the market environment and enables them to identify current and future competitors and competitive actions.
Differentiating knowledge from information, Nonaka (1994) postulated that “information is a flow of messages, while knowledge is created and organized by the very flow of information, anchored on the commitment and beliefs of its holder (p. 15).” In another definition, Boisot (1999) defined information as “data that modifies the expectations or conditional readiness of an observer” (p. 20), and knowledge as a “set of expectations that an observer holds with respect to an event” (p. 20). These theoretical standpoints underscore the notion that the process of knowledge creation starts from information and ends at knowledge. Information becomes knowledge when assimilated into some useful form. This progression can be considered as a continuum where information and knowledge represent two ends, and CI resides in the middle given the fact that it is neither raw data nor an ultimate knowledge product.

**Value of Competitive Intelligence**

Webster (1965) focused on the issue of information regarding competitors’ actions, and proposed that competitors’ information can affect not only a firm’s competitive strategy, but also its marketing mix elements. He argued that “any marketing decision that does not take competitors’ behavior into account is likely to lead up to a blind alley” (p. 81). Championing Webster’s idea, Moss (1979) reported several case studies where highly diverse companies used competitors’ information collected by their own salespeople to formulate realistic future strategies and plans.
Over the years, researchers continued to emphasize the importance of CI to firm strategy and survival, having referred to it as ‘a key to market place survival’ (Gordon 1982, p. 69); ‘a key element in the strategic management system’ (Bernhardt 1994, p. 12); and, ‘the key determinant of a strategy’ (Montgomery and Weinberg 1979, p. 41). Similarly, Rottenberger (1991) postulated that information about competitors’ pricing, quality, and service is vital for sales and marketing efforts. Referring to CI as commercial intelligence, Hershey (1980) documented the appropriateness of CI for small businesses in particular, providing suggestions about how small and moderate sized organizations can incorporate CI into their operations to get a competitive edge against larger organizations. Consequently, there appears to be widespread agreement throughout the literature regarding the value that CI holds for organizations.

**Building a Competitive Intelligence System**

Another vein of inquiry in CI research focuses on the ways how organizations can develop and build an effective CI gathering system, and how an organization’s sales force can be a practical tool in this regard. Providing early insight into the topic, Montgomery and Weinberg (1979) focused on the selection, gathering, and analysis of information for developing a strategic intelligence system, and suggested that organizations should scan the external environment for potential competitors in order to inject quality in their strategic planning. Band (1982) advocated that organizations establish a regular reporting system to allow employees to monitor the actions of competitors. Similarly, Grabowski
(1986) proposed that organizations establish central intelligence systems and suggested that all departments should act collectively to process and disseminate intelligence. Attaway (1998) reviewed the issues related to gathering and assessing CI, and suggested that organizations develop CI capabilities that enable managers to filter through “noise” and extract the appropriate and relevant information.

A similar approach is evident under the category of marketing intelligence, which Kotler (2002) defines as keeping track of the marketing environment in order to get information valuable to organizations. Among this research, Maltz and Kohli (1996) examined the antecedents and consequences of disseminating market intelligence throughout an organization, suggesting that dissemination frequency and formality have nonlinear effects on the perceived quality of intelligence.

Recent research studies highlight the importance of the sales force in intelligence collection and dissemination for building an effective marketing intelligence system (LeBon and Merunka 2006; Meunier-FitzHugh and Piercy 2006). In a related vein, while defining market orientation, Kohli and Jaworski (1990) referred to marketing intelligence generation, its dissemination, and responsiveness to it as a process within a firm. Employees of the organization play an important role in it, yet its operationalization occurs at the firm level.

As is evident from the above review, the research focused on developing a CI system has relied on a process-based view of CI, which focuses on the processes associated with gathering and disseminating competitive information. There is not doubt
that such approach does have its merits; however, the collection and use of CI at salesperson level and its influence need to be explored.

**Competitive Intelligence and Sales Force**

While many organizations have instituted dedicated intelligence-gathering teams or networks, a number of studies suggest that it is possible to collect information by utilizing a sales force that is already in place (Band 1982; Hershey 1980; Moss 1979). Because salespeople operate at the border of the organization (i.e., at the interface with the customer) and are often considered boundary spanners, they are considered by many to be an ideal resource for gathering CI. For example, researchers (i.e., Fouss and Solomon 1980; Grace and Pointon 1980; Lambert, Marmorstein, and Sharma 1990; Mellow 1989; Moss 1979; Robertson 1974; Saegart and Hoover 1980) have explored the theoretical underpinnings of using the sales force as a tool to collect market and competitor data. Others (Chonko, Tanner, and Smith 1991) report how and with what success U.S. multinational corporations are utilizing their global sales forces in collecting marketing research data. These previous research studies highlight the importance of the salesperson’s role in various CI activities and establish the link between salespeople and CI.

While most managers expect salespeople to report observations of competitive activities and other relevant information, there is substantial evidence that salespeople generally fail to distribute the information that they collect (Lambert, Marmorstein, and
Sharma 1990). In an experimental study, Albaum (1964) showed that critical competitor information was reported back by only 32% of salespeople. The reasons underlying salespeople’s failure to distribute information include characteristics of the salesperson, lack of time, lack of an institutional reward system or feedback, and the belief that information is already known (Lambert, Marmorstein, and Sharma 1990; Pinkerton 1995; Young 1989).

Recently, two studies explored the factors that influence salespeople’s involvement in organizational CI activities. LeBon and Merunka (2006) investigated the individual and manager level factors that can affect the salespeople’s involvement in activities related to CI, which they termed as market intelligence. Results of their study suggest that individual-level factors such as an individual’s desire for upward mobility affects the salesperson’s involvement in intelligence activities, and that manager-level factors including behavior control systems, feedback, and recognition significantly influenced salespeople’s motivation to participate in CI activities. In another study, Meunier-FitzHugh and Piercy (2006) attempt to examine how an organization can enhance salespeople’s participation in the firm’s CI process. They highlighted unambiguous objectives and proper incentives as factors that contribute to salespeople’s interest in CI activities.

In summary, there is a considerable body of literature that emphasizes the salesperson’s role in CI activities. As is evident from the literature reviewed above, the research in this area conforms to the predominant process-based view of CI, as its focus
is largely limited to salesperson behaviors as well as the organizational and managerial factors that encourage salespeople’s involvement in CI activities.

Importance of Competitive Intelligence for Salespeople

In today’s technology governed business environment, getting competitors’ information is not a difficult task. General market information can be collected from numerous sources including media broadcasts, annual reports, books, popular press, tradeshows, publicly available databases, and various internet sources. However, the competitors’ information will depend upon salesperson’s exclusive information sources (i.e., customers, market informants, managers, colleagues, etc.) for becoming an effective intelligence product. Simon (1993) argued that “it is of little competitive advantage to know only what others know” (p. 136). Emphasizing the importance of this point, Allan Lombardi, former director of intelligence operations at Educational Testing Services (ETS), stated that “What’s available on a secondary basis is history, which is sometimes ancient history” (Mellow 1989, p. 26). Therefore, a salesperson possessing information that is not readily available to others will become more self-efficacious and should proceed competitively believing that he/she is the sole owner of this information. Although the information’s widespread availability and easy accessibility depreciates its value, this information may still help a particular salesperson in the long term strategic and operational decision-making process.
For salespeople, every assignment brings a new challenge. Therefore, they need to update, modify, or alter their plans according to the changing needs of customers (Weitz, Sujan, and Sujan 1986), and to the ever-evolving tactics of competitors. Exploring the role of salespeople in a marketing information (i.e., CI) system, Evans and Schlacter (1985) argued that aside from completeness and accuracy, ‘timeliness’ is the most important factor that salespeople must consider when assessing CI. Because information seldom retains its value in today’s ever-changing, dynamic environment, information about competitors should be treated as a perishable good (Hannon 1997). Reinforcing this point, Powell and Allgair (1998) argued that intelligence data might turn into a useless product if it is not promptly communicated.

Today’s salesperson is constantly challenged to do more in less time. In order to sustain and survive in this ‘time-based competition’, salespeople should use CI in their everyday operations. George Stalk Jr., Senior Vice President of Boston Consulting Group, proposed the idea of time-based competition and argued that “like competition itself, competitive advantage is a constantly moving target” (Stalk 1988, p. 41). As a consequence, salespeople can not delay in leveraging valuable information about competitors otherwise it may lose its value to serve a competitive purpose.

Aaker (1992) outlines the advantages of knowing competitors and their behavior, stressing the importance of competitor information and suggesting that it can help in identifying “some strategic questions, questions that will be worth monitoring over time” (p. 69). Importantly, CI is ‘needs-driven’, meaning that it will convey a decision maker’s
(i.e., a salesperson) ‘unique needs’ for outlining an effectual strategy to face a competitive market environment and make superior decisions (Fleisher 2000). Today’s salespeople rely on information for crafting strategies, therefore, information should enable them to decipher the strategic intent of competitors and enrich their strategic and tactical decision making procedure.

Salespeople will be enlightened on the strategic intent of the competitors with the help of CI. Moreover, CI will have a strategic orientation, and it will help salespeople to organize realistic goals, understand their competitor’s position in marketplace, and find the realm of competitors’ activities. In particular, CI will improve a salesperson’s plan of action and help them lessen the unfavorable effects of other’s actions. It will act as a platform from which salespeople will assemble, appraise, and adjust their market strategies and tactics.

Bernhardt (1993), describing the basic function of CI, argued that CI provides employees “with the organizational mechanism to learn what the competitor will do, not what the competitor has already done” (p. 22). In this way, the primary use of CI for salespeople is to avoid surprises in the marketplace and to help them respond effectively to competition. This is achievable if salespeople know or have some prediction of what competitors will do in future. Intelligence information should help salespeople anticipate the future market environment, which is important because the early detection of competitors’ plans and actions will provide salespeople with greater lead-time to develop a response. In certain selling situations, where CI is at a premium, competitors may
attempt to restrict the outflow of information or infuse inaccurate information into the marketplace in an effort to mislead competition. Therefore, salespeople need to be very cautious when developing their strategies based on the information.

**Salesperson Competitive Intelligence Use**

There exists a rich body of literature on the use of market intelligence at the managerial level (Hu and Toh 1995; Maltz and Kohli 1996; Menon and Veradrajan 1992). Past research discusses different types of intelligence use, such as instrumental use and conceptual use (Deshpande and Zaltman 1982). Instrumental use is defined as the application of intelligence to a particular problem-solving or decision-making process. Conceptual use can be defined as the utilization of information for general thinking processes rather than for a specific decision or action (Deshpande and Zaltman 1982).

In another study, Menon and Veradrajan (1992) outlined three dimensions of information utilization:

(i) action-oriented use (i.e., instrumental use),
(ii) knowledge-enhancing use (i.e., conceptual use), and
(iii) affective use (i.e., information use associated with increasing one’s satisfaction or confidence).

Building on this study, Hu and Toh (1995) described instrumental use as utilizing market information for direct action decision-making processes and affective use in terms of estimating sales and levels of confidence before and after a decision is made.
In contrast to this viewpoint, Dunn (1986) argued that instrumental use is basically one type of conceptual use, and therefore, the differentiation between these two types of uses does not have any clear basis. Focusing on market intelligence use, Maltz and Kohli (1996) supported this theoretical reasoning. They conceptualized intelligence use as the extent to which a user utilizes intelligence “to understand his or her work environment and make and implement decisions” (Maltz and Kohli 1996, p. 49). This conceptualization is adapted for the current research. The use of competitive intelligence use by salespersons (referred hereafter as “salesperson competitive intelligence use”) is defined as the extent to which competitor information helps the shape the selling strategies of salespersons, improve their understanding of the market, and change their selling behaviors.

Building on a dynamic theory of strategy and competitive advantage, D’Aveni (1994) developed the notion of ypercompetition to detail not only environmental changes driving differences in competition but also various aspects of competition, including (i) cost and quality, (ii) timing and know-how, (iii) the creation and destruction of strongholds, and (iv) the accumulation and neutralization of deep pockets. The fundamental notion underlying ypercompetition is that strategy is relative, which means that “a company’s competitive position and sustainability of its advantage are related to the moves of its competitors” (D’Aveni 1994, p. 18). Furthermore, this framework postulates several strategies for the creative destruction of an opponent’s competitive
advantages, such as identifying and creating opportunities to improve services for current as well as new customers.

These theoretical points highlight the fact that certain attributes make resources important and valuable for firms as they develop and sustain a competitive advantage relative to that of their competitors. These concepts hold at the organizational level and follow a similar pattern as CI, which is a tool used to develop a salesperson’s competitive advantage. To maintain a dynamic strategic approach, salespeople need to have information that can be useful in predicting the actions of competitors or, at least, diminishing the consequences of their actions.

CI can be used by salespeople to develop a competitive edge through tactical and strategic decision-making. For example, operational information can include updates on competitor operating activities, moves, and decision-making processes. It can be utilized for predicting industry moves, scheming and managing risks, and crafting better strategies (Gilad 2004). The planned expansion of a competitor’s sales force, for example, should indicate fierce upcoming competition to a salesperson. Accordingly, the salesperson can redesign his/her strategy to account for that particular environmental event in his/her effort to achieve sales growth.

Promotional information consists of updates related to the advertising, pricing strategies, sales promotions, public relation activities, or promotion-related actions of competitors. To be successful, salespeople must account for and respond to the promotional tactics waged by their competitors (Evans and Schlacter 1985). Such
information allows salespeople to develop promotional competitive parity. For example, if a salesperson happens to know about competitor’s upcoming discount policy, he/she can plan a counter strategy in an effort to defend his/her own customer base. Considering that promotional activities are a powerful influence on the purchasing decision processes of customers, promotional information should provide a salesperson with a competitive advantage. Technical information is of critical importance for industrial salespeople, as it incorporates updates regarding competitor products, technology, as well as research and development efforts (West 2001). Some scholars have argued that competitive information concerning new product introductions or distribution plans can be of “significant strategic importance,” and thus such information may be crucial for salespeople (Evans and Schlacter 1985, p. 57). For example, information about a competitor’s plan to provide its salespeople with unique relational database software or information about a new product launch will have a chilling effect for competing salespeople. While this type of strategic move from a competitor can have serious effects on other competing salespeople in the market, gaining access to this information in advance allows a salesperson to offset any advantages that would otherwise be gained by the competitor.

**Chapter Summary**

In sum, this chapter outlines the idea of competitive intelligence from organizational point of view as well as from the sales force’s point of view. The CI
literature is very widespread across disciplines and therefore, the literature review is broad and comprehensive. Specifically, the key points covered in this chapter were the comparison of competitive intelligence with information and knowledge, the value of competitive intelligence, and issue of building a competitive intelligence system within an organization.

Importantly, discussion involving the salesperson competitive intelligence use was presented. It is very clear that there is a considerable body of literature that emphasizes the salesperson’s role in CI activities. However, the literature is confined to the process-based view of CI, as its focus is largely limited to salesperson behaviors as well as the organizational and managerial factors that encourage salespeople’s involvement in CI activities. This critical gap in research is the key motivation for the current study.
Touted as “root constructs in organizational studies” (Ashforth, Harrison, and Corley 2008), identity and identification have gained much attention from marketing researchers in recent years (Homburg, Weiseke, and Hoyer 2009; Wieseke, Ahearne, Lam, and van Dick 2009). Researchers view these concepts using a social identity theory lens, which provides a solid groundwork for marketing studies, particularly those involving employees and organization. Although social identity theory covers a vast range of contexts, within this study, I focus on an organizational context and emphasize employee role behaviors and performance (Ashforth and Mael 1989; Hogg, Terry, and White 1995; van Knippenberg 2000). The general premise incorporates three causally-related concepts, namely, identity (that is, role perceptions), behavior (that is, role behaviors), and outcome (namely, performance). This approach and its significance are detailed in the next sections.

Introduction

To achieve and sustain a competitive advantage in the marketplace, organizations are required to exploit “the power of human potential in the workplace through creation of an involving and motivating organizational environment” (Brown and Leigh 1996, p. 358). The issues of self-esteem, motivation, and role clarity are critical for understanding
the reasons why salespeople try to do their best as well as for comprehending the major concerns of most sales managers (Kohli 1985). Salespeople are required to have a multitasking approach. They are generally responsible for two types of tasks, namely, central tasks and peripheral tasks. Central tasks have an impact on the objective sales productivity of an individual, while peripheral tasks contribute to the overall effectiveness of the sales unit (Podsakoff and Mackenzie 1994). Therefore, given the individualistic, independent and complex nature of sales jobs, it is very important to understand the mechanism behind the willingness and motivation of salespeople in serving their organization to their best ability.

There are several theories of motivation that have been utilized in the marketing literature. For example, equity theory suggests that negative inequity, which describes the case in which the amount of reward received by others is more than what an individual receives for his/her efforts, provides ground for motivation (Adams 1965; Robbins 1993). According to goal-setting theory, the simple act of identifying and stating goals for behavior should enhance the motivation to perform well (Locke 1997). In the social cognitive approach, self-efficacy theory suggests that self-confidence is the focus of one’s encouragement to perform (Bandura 1977). Elaborating intrinsic motivation theory, Deci and Ryan (1985), postulated self-determinant theory to suggest that there is an inherent desire to be competent, effective, and self-determining within each human being. Attribution theory suggests that one’s causal explanations regarding one’s abilities,
efforts, task difficulties, likelihood of success and other outcomes are key motivational beliefs (Weiner 1985; Klein 1989).

Among various motivational theories, expectancy theory has been extensively utilized by sales researchers (e.g., Churchill et al. 1985; Walker, Churchill, and Ford 1977; LeBon and Merunka 2006). Expectancy theory is a motivational theory that was first developed by Vroom (1964). The organizational application of this theory posits that employees in an organization will be motivated to work when they think that 1) their efforts will enhance their job performance (i.e., expectations); 2) enhanced performance will result in organizational rewards (i.e., instrumentality); and 3) the employee in question really desires this reward (i.e., valence).

Critics of expectancy theory argue that it is not applicable to predict actual behavior, and thus, it should be used to account for intentions or goals rather than actual effort or performance (Parker and Dyer 1976; Klein 1989). Also, it has been argued that expectancy theory is excessively rationale for the majority of situations (Klein 1989). In the sales context, expectancy theory has been utilized when the focus is only on extrinsic motivation, assuming that this will influence salespeople’s effort and job performance (LeBon and Merunka 2006).

In an attempt to find a comprehensive theoretical framework that can address the question of how and why employees become motivated to work, especially with respect to the interests of the organization, researchers are increasingly adopting a process-based approach derived from social identity theory (Tajfel and Turner 1979; Ashforth and Mael
1989). For example, Dutton, Dukerich, and Harquail (1994) suggest that employee identification with an organization will greatly motivate employees to contribute to the organization. Bell and Menguc (2002) applied this social identity perspective to develop a model to understand salespeople that examines extra role behaviors, such as organizational citizenship behaviors. Haslam, Powell, and Turner (2000) argued that group-based social identity provides employees with work motivation that advances the interests of that particular group. Similarly, van Knippenberg (2000) provided further support for this argument by analyzing employee work motivation and performance using social identity theory.

Given these analyses, it appears that social identity theory is best suited to examine the motivation of salespeople toward central and peripheral organizational tasks and, consequently, the performance of salespeople. In line with previous research, I assume that an individual’s task performance is “contingent on social identity processes to the extent that the individual possesses the necessary skills, knowledge, and so on” (van Knippenberg 2000, p. 367). Specifically, within this study the focus is on peripheral tasks, namely, the efforts of salespeople aimed at competitive intelligence development and use.

In the following section, I provide a detailed discussion on social identity theory and the theoretical foundation for the proposed model.
Social Identity Theory in an Organizational Context

The presented model is situated within social identity theory (Hogg and Abrams 1988; Tajfel and Turner 1979) and focuses on the connections among the self, personal roles and society. Social identity theory distinguishes between social self (as defined by an individual’s group membership) and the personal self (Hogg 2003). Social selves refer to social categories, including groups to which one belongs and the goals and values of the members of such categories (Abrams and Hogg 1999). Social identities incorporate “a positive feeling of being included in some groups, a valenced affective response to being excluded from other groups, and concomitant positive feelings about ingroup defining attributes and negative feelings outgroup defining attributes” (Oyserman 2007, p. 434).

The literature recognizes social identity theory as a social psychological theory (Hogg, Terry, and White 1995, p. 260) that posits that individuals have a tendency to “classify themselves and others into various social categories, such as organizational membership” (Ashforth and Mael 1989, p. 20). Affiliation with a group is represented in an affiliate’s mind as a social identity that both explains and constrains one’s characteristics, feelings, and behaviors as an affiliate of that group. Characterizing the phenomenon of social identity, Hogg, Terry, and White (1995) postulated that it involves two fundamental socio-cognitive processes, namely, categorization and self-enhancement. They defined categorization as a “basic cognitive process that operates on social and nonsocial stimuli alike to highlight and to bring into focus those aspects of experience that are subjectively
meaningful in a particular context” (p. 260). Self-enhancement was defined as guiding the choice of social categorization in order to make certain that “in-group norms and stereotypes largely favor the in-group” (p. 260).

Social identity theory can be utilized to define an individual’s identity-related behaviors; it suggests that the self should be regarded as a multifaceted, organized construct (Hogg, Terry, and White 1995). Social identity theory also views the self as a structure of multiple identities that reflect roles in differentiated networks of interaction (Stryker 1980). These identities can be viewed as the self-concepts that salespeople apply to themselves.

Social identity theory provides a basis for an identity-based motivation model in which the contents of one’s self-concept are based on social roles or group membership. The self-concept (e.g., ideal self) is embedded in a social identity and can be attained by self-regulation (Higgins 1996). Self-regulation is the capacity to coordinate neural, cognitive, affective, and behavioral process so that one can plan, sustain, and sequence actions to attain goals (Oyserman 2007). It involves the directing of energy, effort, and motivation toward a goal as well as the strategies required to achieve that goal. Moreover, self-regulatory capacity is described as a motivational resource that can influence the process of pursuing one’s goals (Oyserman 2007).

For a long time, researchers have taken a social identity approach to studying organizational behavior (Brown 1969). From a social psychological viewpoint, organizations can be viewed as social groups, and therefore, “the relevance of the social
identity approach to the study of organizational behavior is readily apparent” (van Knippenberg 2000, p. 359). Identity and identification are considered key variables in organizational research studies (Albert, Ashforth, and Dutton 2000). Presenting a comprehensive review of the literature on identification in organizations, Ashforth, Harrison, and Corley (2008) pointed out that “ironically, as societies and organizations become more turbulent and individual–organization relationships become more tenuous, individuals’ desire for some kind of work-based identification is likely to increase—precisely because traditional moorings are increasingly unreliable” (p. 326).

Elaborating social identity and self-categorization processes in organizational contexts, Hogg and Terry (2000) argued that people realize their sense of self through work groups or organizations, and moreover, their organizational and/or professional identity is more important than other identities derived from gender, age, ethnicity, race, or nationality. Notably, a social identity approach enriches our understanding of attitudes and behaviors relevant to organizations by highlighting the significance of the relationship between organizational identities and an individual’s sense of self (Hogg and Terry 2000).

In their seminal work, Ashforth and Mael (1989) applied social identity theory to organizations, particularly with respect to organizational socialization, role conflict, and intergroup relations. Outlining the implications of their analysis, they noted that:

(i) A social identity perspective can explain how a person can identify with or sense a loyalty toward an organization.
(ii) Managers, by providing clear and strong images representing the organization, can modify the identity salience of employees.

(iii) The conflict between the goals or expectations of multiple roles hampers the identification.

(iv) In a situation of conflict, an individual will refer to the most valued identity (Ashforth and Mael 1989).

Thus, social identity theory provides a way to enhance our understanding of social mechanisms within an organization. It is clear that employees who identify with organizations are more likely to subscribe to organizational objectives. However, employees who feel alienated from organizational values due to uncertainty and stress related to their work will not tend to subscribe to organizational objectives.

Theoretical Underpinning for the Model

Social identity theory can be employed to address the question regarding how salespeople might socially construct the meaning of CI in a personal context. Social identity notion provides support for the argument that individuals endeavor for a positive sense of worth, which is in part derived from social group membership, and that social identity is preserved or embraced through comparisons between in-group and out-group alliances and relations (Van Dick, Wagner, Stellmacher, and Christ 2004). Identity includes behavioral tendencies and scripts for actions. In other words, social identities hold “motivational characteristics, providing reasons to act and to refrain from acting in
any particular situation, specific behaviors to engage in as well as persistence and descriptive scripts (how much and how long to keep trying and when to pull back effort)” (Oyserman 2007, p. 444).

To the extent that the possible self is viewed as part of the whole, self-goals and group goals align, and hence, the more strongly one identifies with a particular group, the more likely it is that one will sense and perform in accordance with that group membership (Hogg and Abrams 1988, Tajfel and Turner 1986). Thus, when salespeople strongly identify with an organization, the attributes that they use to define the organization also define them (Dutton, Dukerich, and Harquail 1994).

Identities include both social and personal identities, and these different identities create conflicting demands upon an individual (Leary, Wheeler, and Jenkins 1986). Identities can be viewed as the self-concepts that salespeople apply to themselves. Notably, in the organizational setting, conflicts between different organizational roles are pervasive. From a social identity perspective, an individual will perceive a role conflict when inconsistency among roles are made salient, and this role conflict, though mostly hidden, will be “endemic to social functioning” (Ashforth and Mael 1989, p. 31).

Therefore, it is essential to study not only the factors that influence identity salience but also the factors that affect an individual’s perceptions toward group expectations (van Knippenberg 2000). Also, the salience of identification can be elevated or lowered depending on organizational support mechanisms, such as the recognition of the contributions of salespeople.
Salespeople will practice behaviors based on the strength of their identification with the company (i.e., categorization), which is moderated by factors that enhance their identification in the eyes of other employees (i.e., self-enhancement). The tasks that are typically assigned and completed by members of the sales force can be separated into two primary areas. First, there are those tasks that are mandated by the firm. Certain job descriptions or expectations are placed on an individual, and the individual is expected to complete those requirements to the best of his/her ability. Second, there are behaviors that salespeople engage in that are not required or rewarded by the company. Under this rationale, salespeople would either collect and use CI as part of their assigned duties or find some civic virtue in performing the task that contributes indirectly to the organization (Organ 1997).

**Chapter Summary**

Considering the fact that the social identity theory is quite broad, this chapter was primarily focused on applying a social identity perceptive to an organizational context. Specifically, a literature review is presented that details the employee identity formation process and its effect on role behavior and performance. The literature review reviews employee identity (i.e., role perceptions), behavior (i.e., role behaviors), and outcome (i.e., performance).

It is evident through this literature review that social identity theory is best suited to better understand how employees (in this case, salespeople) will socially construct the
meaning of CI in a personal context. Following this logic, I believe that salespeople will either collect and use CI as part of their assigned role expectations or find some intrinsic pleasure in performing the task that consolidates their identification with the organization. In sum, social identity theory provides the groundwork for an identity-based self-motivation framework in which self-concept contents are based on social roles and role identity salience.
Chapter 3  
Model Development  

**Introduction**  

The intent of salespeople to participate in CI activities will be directly affected by factors that are associated with two underlying socio-cognitive processes described by social identity theory. In terms of categorization, these factors will “sharpen inter-group boundaries by producing group-distinctive stereotypical and normative perceptions and actions, and assigns people, including self, to the contextually relevant category” (Hogg, Terry, and White 1995, p. 260). Similarly, self-enhancement variables will enable salespeople to make comparisons regarding “stereotypical dimensions that favor the in-group rather than on those which are less flattering to the in-group” (Hogg, Terry, and White 1995, p. 260). The general argument in this study suggests that salespeople will collect and use information based on the strength of their identification with the company (i.e., categorization), which is moderated by factors that enhance their identification in the eyes of other employees (i.e., self-enhancement).

Social identity theory provides a conceptual demarcation between role perceptions within a group and one’s identity based on group membership (Hogg, Terry, and White 1995). Although individual roles do not provide social identity in a strict sense, they satisfy a need for intra-group differentiation (Brewer 1993) and thus provide a sense of personal identity within a group. Also, in an organizational setting, a particular
identity represents a nested structure comprised of higher-order identities (e.g., organizational identification) and lower-order identity (e.g., job involvement). Aligned with these theoretical propositions, the presented framework incorporates salesperson role perceptions, including negative role perceptions (i.e., role stress) and positive role perceptions (i.e., role identity salience) as the antecedents to salesperson CI collection and CI use. Specifically, role identity salience is defined as organizational identification and job involvement. Recognition is conceptualized as a self-enhancement variable. Creating an environment within an organization where employees feel recognized and thus perceive themselves as important in the eyes of others can impact the strength of an individual’s identification with the organization.

**Role Perceptions**

An organization can be understood as a system of roles and social activities. Numerous interactions happening throughout this role system direct the work behaviors of employees (Katz and Kahn 1978). Employees develop positive or negative relationships with their surroundings, co-workers, as well as with the overall organization. Also, building on their experiences and emotions, employees create perceptions about their roles within an organization. Past research establishes the significance of role perceptions as critical variables influencing personal reactions (Jackson and Schuler 1985). Notably, the role perceptions of employees can be positive, negative or, in certain situations, a mix of both. Therefore, it is important to incorporate
both negative and positive role perceptions while exploring the employee identification process in an organizational context (Ashforth, Harrison, and Corley 2008). Within this study, I include role stress and role identity salience as the negative and positive sides of an employee’s role perceptions, respectively. Below, a detailed discussion regarding role stress and role identity salience and their effects on a salesperson’s identification process are presented.

**Role Stress**

In the context of a sales organization, the job profile of a salesperson is multifaceted. Moreover, expectations are very diverse, as salespeople deal with people from within the organization as well as from outside (Goolsby 1992). Because of “pluralistic nature of the sales job” as well as “boundary role position” of the salesperson, a salesperson is susceptible to experiencing negative role perceptions such as role stress, “which is a form of tension that is engendered from the job” (Dubinsky et al. 1992, p. 77). Salespeople suffering from role stress feel that they do not have the necessary resources to cope with their job demands. Specifically, they feel that they do not know how to do a task, do not know what role partners expect, do not know how their performance is being evaluated, and do not have clear objectives. In short, they are unsure how they are doing and what to do next. This type of role uncertainty regarding role performance expectations likely results in less purposeful exertions of effort (Brown and Peterson 1994). Moreover, role stress makes inter-group boundaries tedious and can
create difficulties for an individual in identifying him/herself with membership in a category of the organization.

As argued by Hogg and Terry (2000), the social identity process is facilitated by “a need to reduce subjective uncertainty about one's perceptions, attitudes, feelings, and behaviors and, ultimately, one's self-concept and place within the social world” (p. 124). Therefore, salespeople who are certain about their roles and expectations will find their existence meaningful within their physical and social environment and will exude confidence through their behaviors. Because of its subjective relevance to a salesperson’s self-concept, role uncertainty will impede that salesperson’s self-motivation.

A deficiency of satisfactory information and an absolute freedom to decide how to carry out relevant tasks both lead to uncertainty and result in stress due to ambiguity. This is especially true in the case of boundary spanners like salespeople because they are disposed to a greater degree of role stress (Singh, Verbeke, and Rhoads 1996). This uncertainty may lead to withdrawal or a lack of interest in taking the necessary steps toward fulfilling objectives. If salespeople are unclear or unsure about their roles and responsibilities within their respective organization, it is unlikely that they will gather further information. Thus, role conflict and role ambiguity will dampen the efforts of a salesperson to develop and utilize CI.

*H1a: Salesperson’s role stress will have a negative effect on CI collection efforts.*

*H1b: Salesperson’s role stress will have a negative effect on CI use.*
Role Identity Salience

The degree to which a role identity is stimulated is referred to as role identity salience (Oakes 1987; Callero 1985). Identity salience is the importance of a given role for one’s identity, as not all roles are equally important for how an individual thinks about him/herself (Adler and Adler 1987). Specifically, it is posited that salient identity operates psychologically “to increase the influence of one’s membership in that group on perception and behavior” (Oakes 1987, p. 118). In an organizational context, identity salience, which is the probability that a given identity is evoked, is primarily determined by subjective importance and situational relevance of that particular identity (Ashforth 2001). A subjectively important identity refers to the identity “that is highly central to an individual’s global or core sense of self or is otherwise highly relevant to his or her goals, values, or other key attributes” (Ashforth and Johnson 2001, p. 32), while a situational relevant identity refers to the identity “that is socially appropriate to a given context” (Ashforth and Johnson 2001, p. 32).

An individual’s subjective sense of self is comprised of personal identity, which is unique to the individual, and social identity, which is indicated by his/her membership in a group (Oakes 1987). Social identity drives actions differently than personal identity, and these actions are based on the values and norms of the group (Haslam, Powell, Turner 2000). Social identification shapes an individual’s social-self, which influences his/her perceptions, attitudes, and behaviors toward maintaining group memberships. Alignment of an individual’s actions with a group’s beliefs, customs, and standards is
dependent upon the salience of the identification with the group (Hogg and Abrams 1988). Depending on this identity salience, identification will induce an individual’s self-motivation toward group work (Oyserman 2007). It is also possible that work groups create counter-productive situations, such as conflicts between an individual’s perceptions and group expectations, in which the identification process can actually diminish an individual’s self-motivation (van Knippenberg 2000).

To the extent that individuals define themselves in terms of personal and social identities, their behaviors become influenced by these identities. A particular social identity becomes salient due to the contextual factors that give rise to increased cognitive accessibility and the fit of self-categorization and social-categorization into respective in-groups and out-groups (Haslem, Powell, and Turner 2000; van Knippenberg 2000). Therefore, social identification is an “individual difference that can impact upon social identity salience, but it is important to emphasize that this reflects the personal experience of the individual (which will typically be shaped by his or her group membership) rather than a personality variable” (Haslam, Powell, and Turner 2000, p. 326). As a particular social identity becomes salient, self-stereotyping occurs, which in turn increases the in-group homogeneity and depersonalizes self-perceptions such that the collective interests of the group are prior to individual interests (Ashforth and Mael 1989).

This concept of identity salience is important in social identity theory because the salience that salespeople attach to their identities influences how much effort that they
put into each task associated with that role (Burke and Reitzes 1981). Influenced by a reduction in uncertainty and motivation due to self-enhancement, a salesperson’s cognitive system will match the requirements of his/her organizational context. Moreover, the salesperson’s cognitive system will make his/her organizational category salient and, therefore, the most significant aspect of his/her identity. This identity salience, consequently, should directly impact the efforts aimed at the collection and use of CI. In the next section, I focus on how a higher-order identity (i.e., organizational identification) and a lower-order identity (i.e., job involvement) influence the role behaviors of salespeople.

There has been growing interest among scholars to study the concept of organizational identification and to explore its links to organizational and individual outcomes (Bell and Menguc 2002; Cardador and Pratt 2006; Thakor and Joshi 2005). Researchers understand the benefits of organizational identification and argue that for firms to stay competitive, they must stimulate identification among their employees (Pratt 1998). According to the widely-used conceptualization of organizational identification, this term is defined as “perceived oneness with an organization and the experience of the organization’s success or failures as one’s own” (Mael and Ashforth 1992, p. 103). In another study, Thakor and Joshi (2005) defined salesperson organizational identification as “a state of psychological congruence between salesperson and organizational values” (p. 586).
Employee identification with an organization occurs when their beliefs about the organization define employees as well. This identification with the organization may take two forms, namely, situated identification, which is a temporary and limited process of identification that operates as a precondition to deep-structure identification, which is enduring and multifaceted (Riketta, van Dick, and Rousseau 2006; Rousseau 1998). Managers can help advance situated identification among employees by underlining personal and ‘organizational distinctiveness,’ ‘successes’, and ‘competition with other firms’ (Riketta, van Dick, and Rousseau 2006, p. 85). Moreover, if employees receive organizational support, such as recognition and status, their situated identification transforms into deep-structure identification (Riketta, van Dick, and Rousseau 2006).

It is important to mention that theoretical and empirical studies frequently interchange the construct of organizational identification with organizational commitment (Ashforth and Mael 1989). However, these two constructs are very different from each other; for example, commitment may not be particular to an organization, but identification is purely organization-specific (Ashforth and Mael 1989). Importantly, commitment and identification measurement scales focus on different levels; for example, several sales researchers (LeBon and Merunka 2006; Sager and Johnston 1989) have used Modway, Steers, and Porter’s (1979) scale to measure commitment. One item of this scale is that “I find that my values and the organization’s values are very similar (Modway, Steers, and Porter 1979, p. 228).” Therefore, if a particular employee finds that another organization provides the same set of values or the current organization changes
its values, which then become incongruent with that of employee’s, he/she may quit the job. However, organizational identification operates on a different level; for example, Mael and Ashforth (1992) used a scale of identification that includes items, such as “this school’s successes are my successes (p. 122).” Thus, salespeople’s organization identification will be a truer predictor of their motivation to go above and beyond job expectations and perform activities that are not mandatory.

Work-based identification is considered one of the strongest and most persistent social identities, primarily because a worker spends a great amount of time in a work environment due to its significance to the worker’s livelihood and well-being (Bergami and Bagozzi 2000). Organizational values effect employee perception; however the level of influence depends on the extent to which employees accept these values (Ashforth and Mael 1989). Some have been argued that in the presence of a high level of organizational identification, salespeople consider critical organizational activities (e.g., customer oriented selling) to be important activities and, moreover, feel personally fulfilled upon the successful completion of these activities (Thakor and Joshi 2005). Organizational identification thus can act as a motivational force toward achieving collective goals by developing and releasing certain types of efforts, specifically in terms of extra-role behaviors (Bell and Menguc 2002).

The more strongly salespeople identify with a firm, the more likely they will be intrinsically motivated to perform in a manner that consistently benefits the firm. Given
the high level of organizational identification, salespeople will consider activities related to CI collection and use as imperative to their job.

An employee’s job involvement is defined as a cognitive or belief state of “psychological identification with a particular job” that depends on “(a) the saliency of his or her needs (both extrinsic and intrinsic) and (b) the perceptions he or she has about the need-satisfying potentialities of the job” (Kanungo 1982, p. 342). Researchers often confuse job involvement with another similar construct called job fit, which is defined as “the compatibility between people and organizations that occurs when at least one entity provides what the other needs, they share similar fundamental characteristics or both” (Kristof 1996, p. 4-5). Whereas job fit provides an assessment of the degree to which an individual’s knowledge, skills, abilities, needs, and values match their job requirements (Brkich, Jeffs, and Carless 2002), job involvement emerges from an individual’s perception of the job’s potential to fulfill their needs (Kanungo 1982).

Job fit focuses on the fit between an employee’s desires (i.e., the person side of the fit) and job expectations (i.e., the job side of the fit of the index) (Hambleton, Kallith, and Taylor 2000); however, job involvement is a function of the satisfaction of one’s salient needs in one’s current job (Kanungo 1982). Past research suggests that the more employees psychologically identify with their job, the more effort they are likely to exert toward job activities (Kahn 1990). Thus, job involvement is a key driver to motivate
employees and a vital source of competitive advantage for the organization in the marketplace (Pfeffer 1994).

Sales researchers have recognized the importance of the job involvement construct in relation to salesperson socialization, work environment, and numerous sales outcomes (Dubinsky, Howell, Ingram, and Bellenger 1986; Ingram, Lee, and Lucas 1991; Marshall, Lassk and Moncrief 2004; Ramsey, Lassk, and Marshall 1995). However, its relationship with salesperson behaviors and outcomes, including effort and performance, is not clear (Brown 1996). There is need for empirical work to explore the mediated route that links job involvement to performance (Brown and Leigh 1996). In a meta-analysis involving job involvement, Brown (1996) claimed that very limited research has explored the effects of job involvement on employee adaptability or other behaviors that may contribute to both personal and organizational efficiency and effectiveness. Also, the process and consequences of job involvement could be contingent upon organizational-level variables, such as rewards and recognition from managers. However, very few studies have examined them.

In order to obtain a competitive advantage, sales organizations are undergoing tremendous structural and functional changes, which in turn create imbalances within an organization’s internal social scheme (Lassk, Marshall, Cravens, and Moncrief 2001). Such scenarios pressure every individual sales representative to focus on personal as well as sales unit effectiveness, both of which depend on their connectedness to the external
and internal environment. The mechanism underlying this connectedness can be explained through the concept of emotion-based motivation. Research on emotive motivation suggests that people perform a cognitive appraisal of the environmental situations that impact their interests (Bagozzi 1992). Moreover, this appraisal process stimulates emotions, which in turn motivate behavior (Bagozzi, Baumgartner, and Pieters 1998). According to the cognitive appraisal theory of emotion, the intensity of emotive motivation will depend on an individual’s stake in that situation (Lazarus 1991). Employees with a high level of job involvement are expected to have stronger emotion-based motivation, as they are likely to have a great deal at stake (Brown 1996).

In the current setting in which salespeople are expected to perform beyond their job expectations, it is essential to incorporate the job involvement construct into the current framework. A state of high job involvement involves “a positive and relatively complete state of engagement of core aspects of the self in the job, whereas a state of alienation implies a loss of individuality and separation of the self from the work environment” (Brown 1996, p. 235). Therefore, an employee’s perceived contribution of the job in satisfying his/her needs activates a motivation to engage in organizational activities (Pinder 1984). Moreover, salespeople with high job involvement will perceive the high intensity of competition and high market potential within their environments in comparison to salespeople with low job involvement (Lassk et al. 2001). This perception will also make them motivated toward competitive intelligence activities. Thus, a
salesperson’s psychological identification with the job (i.e., job involvement) will have a direct positive impact on CI collection and use.

Considering these insights, salespeople should perform actions to help their firm succeed if they identify with their organization. Similarly, a high level of job involvement should help solidify the positive perceptions of salespeople regarding their organizations and enhance their perception of themselves as an eminent part of their organizations. Conclusively, the salience of salesperson role identity can be viewed as a primary driver that fosters CI collection and use among salespeople.

\[ H2a: \text{ Salesperson’s role identity salience will have a positive effect on CI collection effort.} \]

\[ H2b: \text{ Salesperson’s role identity salience will have a positive effect on CI use.} \]

**Recognition from Managers**

In an organizational setting, recognition is defined as an individual’s “belief that the organization appreciates and recognizes one's efforts and contributions” (Brown and Leigh 1996, p. 360). If employees perceive that their contributions are properly acknowledged, they will come to identify with their work environment and will be more involved (Kahn 1990). Researchers have suggested that managerial recognition can be
encouraged setting up rules and policies for acclaiming or recognizing salespeople for their effective involvement in intelligence activities (LeBon and Merunka 2006, p. 400).

Managerial styles and behaviors, particularly with regard to recognizing the work of salespeople, can influence the work routines of salespeople and their overall performance by making them feel empowered (Rapp et al. 2006). Moreover, some research indicates that such behaviors can stimulate the potential of employees, increase their motivation, eradicate bureaucratic hurdles, and augment their adaptability with respect to the external and internal environment (Forrester 2000; Spreitzer 1996).

Managers can stimulate these results by encouraging salespeople to identify with the organization. One way to strengthen this identification is via recognition. Not only does recognition appear to enhance an individual’s identity salience, but it should also address problems associated with role stress. Ideally, a sales manager should attempt to remove any role ambiguity or role conflict so as not to detract from a salesperson’s identification. Salespeople that populate the interface between their company and the buyer are in particularly good positions to collect and use competitor information. Exploring these issues in the sales setting is important because salespeople are exposed to a large quantity of information about their competitors that may provide their firm with valuable insights for making marketing decisions and devising marketing strategies.

Salespeople often perceive CI activities as tangential responsibilities that are unrelated to selling. These activities are considered non-sales tasks with uncertain outcomes. Accordingly, a challenging task for managers is to motivate salespeople to
becoming involved in such activities by clearing any ambiguity related to these tasks. One way to motivate salespeople toward intelligence activities is through recognition (LeBon and Merunka 2006). Salespeople with a high level of CI can become an important source of information for managers. Moreover, CI can be an essential tool in efforts to develop better strategies. Therefore, individual and managerial efforts can act in a complementary manner. Managers can convey this message to salespeople by recognizing their contributions, and knowing that information related to competitors ultimately helps salespeople as well as managers, salespeople may not regard CI activities as an extra burden but will have more positive role perceptions.

The primary purpose of any type of sales force control system is to guide and influence salespeople attitudes and behaviors in order to accomplish organizational objectives (Anderson and Oliver 1987). Notably, the sales management system has evolved from a “command and control” form based on an economic perspective toward a “collaboration” form based on social perspective (Baldauf, Cravens, and Piercy 2005; Kaplan and Handerson 2005). Organizations can influence an employee’s identity formation process around organizational norms and beliefs by maintaining behavioral consistency in terms of job or role requirements (Pratt 1998). The proper recognition of salespeople’s productivity, performance, or other important assessment criteria can facilitate an identification process by mitigating salespeople’s role stress. Managers who recognize employee efforts and contributions will enhance their ability to position behavior as a basis for identification (Cardador and Pratt 2006).
With proper recognition, salespeople can acclimate themselves with their organizational environment. Recognition should enhance an individual’s self-perception, and as a result, it is quite possible that the individual will feel psychologically responsible to contribute something additional in return. That is, the salesperson will feel responsible to continue to acquire and utilize competitor information. With respect to role stress, it seems reasonable to suggest that an empowering environment should help alleviate role stress and entice salespeople to distribute intelligence. Thus, role stress is likely to negatively affect CI level and use, while recognition is likely to moderate the effect of role stress on a salesperson’s level and use of CI. Similarly, if salespeople experience a positive identification with an organization and with their job, recognition from managers will strengthen that relationship. That is, the identification with the organization has a positive relationship with intelligence activities, and recognition will only reinforce this identification and, consequently, the efforts exerted by salespeople.

**H3a:** Salesperson perceived recognition from the manager will lessen the effects of role stress on the salesperson CI collection efforts.

**H3b:** Salesperson perceived recognition from the manager will lessen the effects of role stress on the salesperson CI use.

**H3c:** Salesperson perceived recognition from the manager will enhance the effects of Role identity salience on the salesperson CI collection efforts.
H3d: Salesperson perceived recognition from the manager will enhance the effects of role identity salience on the salesperson CI use.

Influence of Coaching

To create a high performance work environment within an organization, it is essential that learning and growth are valued and supported (Tannenbaum 1997). Especially in sales setting, sales coaching is recognized as “one of the most competitive skills any organization can have” (Rich 1998, p. 53). The practitioner literature perceives sales coaching as “a sequence of conversations and activities that provides ongoing feedback and encouragement to a salesperson or sales team member with the goal of improving that person's performance” (Corcoran, Petersen, Baitch, and Barrett 1995, p. 118). Similarly, other research has conceptualized coaching “as a form of facilitating learning to encourage growth and development” (Ellinger, Ellinger, and Keller 2003, p. 438). This conceptualization incorporates a process of supporting, encouraging, and guiding a learner, and it is in line with other definitions that highlight sales coaching as a procedure to help executives realize opportunities to enhance their capabilities (Feldman and Lankau 2005).

In a sales context, the importance of coaching is extremely high, as selling is inherently a complex profession. It is possible that salespeople may have competitor information but choose not to use if it is not perceived to affect short-term goals. Such instances can be avoided if managers help salespeople to think through issues and
broaden their perspective. Notably, this empowerment-oriented notion of coaching is different from the “control-dominate-prescribe” paradigm, whereby a coach identifies and directs behaviors and goals of individuals to attain high performance (Ellinger, Ellinger, and Keller 2003, p. 438). In an empowerment paradigm, managers are supposed to encourage and motivate subordinates to learn and help them find their own solutions (Mink, Owen, and Mink 1993). Coaching in this paradigm is centered on the learner and his/her long-term growth (Ellinger and Bostrom 1999).

Researchers have widely used leader-member exchange theory (Gerstner and Day 1997) to investigate exchanges between sales managers and salespeople. According to this theory, “the quality of the relationship that develops between a leader and a follower is predictive of outcomes at the individual, group, and organizational levels of analysis” (Grestner and Day 1997, p. 827). Based on this notion, Onyemah (2008) hypothesized that sales coaching has an impact on several salesperson variables, such as intrinsic motivation, affective commitment, job satisfaction, and so on. The positive impact of sales coaching may vary across different industries (Rich 1998), but it is critical for organizations competing in competitive markets (Corcoran et al. 1995). Coaching will especially help salespeople who feel that their product does not have an advantage over competitor brands (Onyemah 2008).

In a sales organization, CI activities vary in complexity and with respect to the degree to which an organization integrate these activities into the existing intelligence infrastructure. Formal intelligence programs provide value to the organization and to
salespeople; however, the cumbersome standard operating methods and entrenched attitudes of organizations delay the implementation of CI (Fleisher 2000). Therefore, it is important for organizations to implement and integrate a program that utilizes its salespeople to the fullest possible extent.

By encouraging salespeople to use the information that they gather from customers about competitors, a company should be able to help gain some competitive advantage. This information should also enable a firm to make better strategic decisions and thus allow them to develop a better strategic position in the market. This is based on the assumption that the organization has a strong market-orientation and that successful implementation or responsiveness to the information gathered enhances decision-making processes and productivity. Managerial intervention through growth-oriented coaching behaviors can facilitate this process. Coaching will help salespeople to sharpen their individual problem-solving skills and equip them to analyze and manage CI.

Also, salespeople are known to exert varying degrees of effort in collecting competitive data (Attaway 1998), which may lead to incomplete or inaccurate information. There exists the possibility that the intelligence that is collected may be subjectively biased due to the individual salesperson and that the information a salesperson distributes to his/her organization may inherently contain some level of subjectiveness due to that salesperson’s specific level of experience and expectations.

A salesperson that has a high level of CI holds the potential to exhibit behaviors that impact the customer and, ultimately, organizational performance in a beneficial way.
Therefore, sales managers must insist on the importance of engaging in intelligence activities in order to build an insightful perspective of the market and to secure the competitiveness of the organization. In order to create an environment conducive to CI, managers must provide coaching accordingly. Coaching will help salespeople to utilize CI appropriately. The synthesis and organization of information in such a way that it can be utilized as an actionable tool is challenging, and thus, managers and salespeople need to continuously work together. Managerial involvement through coaching will strengthen the link between salesperson CI collection and CI use.

**H4:** There will be a positive relationship between salesperson CI collection efforts and CI use.

**H5:** The relationship between salespeople’s CI collection efforts and CI use will be more positive if they are provided with coaching from managers.

**Behavioral Outcome**

Developing a behavior-oriented view of salesperson performance, Plank and Reid (1994) highlighted the mediating role of sales behaviors and considered the quality of behavior as the driving force of performance. Behaviors can be defined in several ways. Moncrief (1986) performed a comprehensive study of the types of behaviors salespeople engage in for the purpose of sales position taxonomies. It has been argued that due to differences in terms of responsibilities and selling tasks across organizations and
industries, salespeople need to adhere to industry-specific and firm-specific behaviors (Moncrief 1986). The rise of the relationship selling approach has made salesperson behaviors a major focus in a customer-centric environment, and consequently, the elements that may influence sales behaviors have become critically important.

Recent research highlights the need for examining sales behaviors from a communication perspective (Reed, Pullins, and Plank 2002; Eckert 2006). In the context of a dyadic communication setting, the communication literature has recognized four processes, namely, the attainment, processing, generation, and dissemination of information (Thayer 1968). Processing and generating information can be understood as the development of customer solutions (Thayer 1968). Based on this notion, sales researchers have outlined ‘customer interaction behaviors’ (Plank and Reid 1994) and ‘communication-oriented sales behaviors’ (Reed, Pullins, and Plank 2002). Communication-oriented sales behaviors can be classified as behaviors related to information attainment and dissemination as well as those behaviors required to develop customer solutions (Reed, Pullins, and Plank 2002).

Another recent development in this field is the integration of seller influence tactics (Brown 1990; Spiro and Perreault 1979) and adaptive selling tactics (Spiro and Weitz 1990; Weitz 1981). McFarland, Challagalla, and Shervani (2006) developed a theoretical framework on seller influence tactics for effective adaptive selling. They recognize information exchange as a key influence tactic for salespeople, especially when dealing with task-oriented buyers. Frazier and Summers (1984) suggested that in a
traditional channel setting, information exchange occurs when “the source firm’s boundary personnel use discussions of general business issues … to alter the target’s general perceptions; … however, no specific target action is requested” (p. 45).

As described by Sheth (1976), task-oriented buyers are goal-oriented and decisive. Reflecting the characteristics of typical industrial buyers, such task-oriented customers are focused on task in hand and thus attempt to make the most suitable decision possible for their organization (Williams and Spiro 1985). McFarland, Challagalla, and Shervani (2006) argued that in situations of intense information exchange, “buyers with high task orientation will value such information because it helps them achieve organizational goals” (p. 106).

Thus, the use of CI by salespeople in such situations can create a positive environment for closing a deal. CI is much more than just knowing about one’s competitors. Rather, it includes unique information about competitors that can provide insights regarding one’s actions and directional moves (Prescott and Gibbons 1993). Therefore, it is logical to anticipate that a salesperson’s CI use will have the potential to influence salesperson performance by benefiting salesperson behavioral outcomes such as adaptive behavior and information communication. These outcomes are similar to behavioral measures of salesperson performance such as the successful transfer of information and effective sales presentations, as suggested by Behrman and Perreault (1982).
Adaptive Selling

The concept of adaptive selling is defined as the practice of “altering behaviors during a customer interaction or across customer interactions based on perceived information about the nature of the selling situation” (Weitz, Sujan, and Sujan 1986, p. 175). Discussing the different facets of adaptive selling, Spiro and Weitz (1990) proposed that the acquisition of information regarding different sales situations is important to facilitate adaptive selling. Extending this concept, researchers have proposed different adapting selling behaviors and outlined the range of adaptations that can be used by salespeople (Eckert and Plank 2004; Eckert 2006). More specifically, Eckert (2006) suggested that adaptation is possible in at four categories:

(i) information (i.e., adapting information depending on the specifics of the selling situation),
(ii) solution (i.e., adapting a solution based on the needs and situation of the customer),
(iii) communication (i.e., adapting the dyadic interaction process), and
(iv) process (i.e., adapting the resources utilized in sales practices).

CI enables salespeople to play the role of a solution provider. Moreover, if a salesperson fails to provide updated information in response to customer inquiries, it is possible that the customer’s perception toward the salesperson and the services he/she is offering will be negative. Importantly, a salesperson equipped with CI will be able to provide the customer with a greater number of available options, thereby influencing the
customer not through pressure tactics but with information valuable to the customer (Stock and Hoyer 2005).

While the acquisition and use of customer information is particularly important for adaptive selling (Weitz, Sujan, and Sujan 1986), product-related and competitor-related information will also play a significant role in this process (Sujan, Weitz, and Kumar 1994). In order to be adaptive, salespeople must have information about customers as well as competitors. Notably, CI will be useful for keeping salespeople informed as well as for developing, implementing, and revising sales planning. With CI, salespeople will better anticipate customer responses, more adequately prepare appropriate ways to meet customer needs, and overcome customer objections.

_H6: Salesperson CI use will have a positive effect on adaptive selling behaviors._

**Salesperson Performance**

The link between CI use and salesperson performance must be demonstrated in order to have any substantial impact on the practical activities of salespeople. Considering the two facets of sales performance, namely, the professional side (i.e., outcomes for organization) and the personal side (i.e., outcomes for an individual) (Miller, Heiman, and Tuleja 1985), CI use should relate to both. While the focus of past CI research has emphasized organizational outcomes (e.g., enhanced strategies, new products or services, and returns on investment), the focus of the current study is on
individual-level outcomes, since these outcomes can be aggregated to the organizational level.

In their seminal research on the determinants of salesperson performance, Churchill, Ford, Hartley, and Walker (1985) suggested that performance can be measured through various items, such as sales as a percentage of quota or market potential, total sales volume, or a number of total calls. In another study, Behrman and Perreault (1982) presented several dimensions of performance, including behavioral measures. Within this framework, salesperson performance is characterized as a salesperson’s successful achievement of sales growth. This measure is relevant in the current setting, as it reflects the efforts and productivity of the concerned salesperson as well as the competition.

Notably, past research has suggested that sales growth is a relevant measure for studies analyzing a market environment in which organizations have a highly competitive orientation (Greenley 1995). More importantly, sales growth has both personal and organizational importance. For a long time, sales growth has been considered the ‘actual sales consequence’ for a sales organization (Stephenson, Cron, and Frazier 1979) and thus is treated as a quantitative outcome (Low, Cravens, Grant, and Moncrief 2001). Overall, sales growth at the individual salesperson level will play a critical role in realizing an organization’s success and act as the driver of sales organization.

In today’s continuously-changing business and industrial environment, product life cycles are shorter than ever, and acquisitions and mergers take place on a routine basis. These competitive business settings, especially in an industrial selling context,
force customers to evaluate not only the offered products or services but also the organization with which they are dealing. Therefore, salespeople must ensure that they carry up-to-date information regarding the competition so that they can establish and maintain competitive positioning for themselves and for their organization. The success of salespeople is largely dependent on their concern and responsiveness to customer needs and competitive actions. In order to be reliable and responsive, salespeople must seek information to anticipate how changes in the external competitive environment may affect work demands and skill requirements.

A salesperson’s performance depends largely on having a full understanding of the environment in which they operate, including competitors, markets, and products. Previous research indicates that high-performing salespeople effectively plan and maintain a high level of knowledge concerning their products, customers, and competitors (Sujan, Weitz, and Kumar 1994). During a sales encounter, an exhaustive and independent assessment of a customer’s perceptions with regard to other sources of supply can provide the groundwork for a winning proposition.

Salespeople equipped with competitor information can effectively convince customers to buy their products and perform better in comparison with those who lack such information. For salespeople, it is helpful to know that specific accounts are dissatisfied with their current sources of supply and are open to competitive offers. Salespeople can approach these customers and consequently improve their sales performance as a result.
H7: Salesperson CI use will have a direct positive effect on his/her performance.

H8: Salesperson adaptive selling behaviors will have a direct positive effect on his/her performance.
Chapter 4
Methodology

This chapter discusses the methods used to examine the hypotheses detailed in the previous chapter. This chapter consists of two major sections. First, the sampling and data collection procedures used in the study are identified. Next, the preparation of survey instrument and the discussion regarding measures used in the study will be presented.

Sample

I conducted survey research to determine the tenability of the model. Sample for this study was drawn from a Fortune-500 company based in USA. Data was collected from separate sources in the form of salesperson surveys and archival job performance data from company records. Respondents were expected to complete an online questionnaire sent to them by the researcher and endorsed by management. In order to obtain the salesperson segment of the data, I surveyed 543 sales representatives of the institutional selling division of the company. Of these 543 sales representatives, there were 513 (94.7%) usable responses obtained. All of the respondents completed and submitted their surveys. A strong management endorsement of survey completion led to the high response rate.

Sales representatives in this firm are responsible for selling directly to institutions, specifically food restaurants, within a specific geographical area. All sales representatives
are responsible for a particular portfolio of products and completed training for each product line. They are expected to build strong consulting relationships and provide an unparalleled level of service.

I used Structural Equation Modeling for data analysis (discussed later in detail) that is based on tests which are sensitive to sample size (Bentler and Chou 1987); therefore, sample size sufficiency was considered carefully. Another requirement was based on attaining sufficient power for hypothesis testing as MacCallum, Browne, and Sugawara (1996) attach sample size to the expected effect size and the degrees of freedom. There are different arguments on the sample size requirements. For example, it has been suggested that minimum five cases per parameter estimate (including error terms as well as path coefficients) are required given all data assumption are checked (Bentler and Chou 1987).

Another rule says that sample size should be calculated as, $50 + 8*p$ where $p$ is the number of variables in the model. For the current study, utilizing the statistical power analysis program by Faul, Erdfelder, Lang, and Buchner (2007), the minimum sample size expected was set at $N = 220$ (expected medium effect size = .3; power = .95; $\alpha = .05$; $df = 5$). With 513 usable responses, the actual sample size was extremely sufficient.

This sample was 59% male, with an average age 38 (S.D. = 6.9). The average experience in a sales job was 13.4 years (S.D. = 9.5), the average experience in the company was 8.47 (S.D. = 7.8), and the average experience in the territory was 5.22 (S.D. = 14.5).
Measures

All the measurement scales were obtained from the established literature and have a history of reliability. Compiled scale items were reviewed by a separate panel of three researchers whose task was to ensure that items were appropriately worded and clearly articulated. The final questionnaire was discussed in detail with sales managers to make sure the relevancy of scale items to the specific industry. The measures were amended based on the feedback from researchers and managers to create a final set of items for each construct (see Appendix for all scale items). All resulting scales were 7-point Likert and anchored with 1 = strongly disagree and 7 = strongly agree.

A Confirmatory factor analysis (CFA) was performed using indicators of first order latent variables. I report the Standardized Root Mean Square Residual (SRMR) and the Comparative Fit Index (CFI) (Bentler 1990) to gauge model fit. Also, $\chi^2$ values that provide a statistical basis for comparing the relative fit of nested models are reported.

The CFI has been identified as the best approximation of the population value for a single model, with CFI < .90 suggesting deficient fit, CFI $\leq$ .90 to < .95 indicative of acceptable fit, and CFI $\geq$ .95 indicative of excellent fit (Mathieu and Taylor 2006). As an incremental fit index, CFI contrasts the fit of a hypothesized SEM model against a baseline (uncorrelated indicators) model. SRMR is a measure of the standardized difference between the observed covariance and predicted covariance. According to Mathieu and Taylor (2006), SRMR values $>$ .10 are considered deficient, SRMR $>$ .08 $<$ .10 are considered acceptable, and SRMR $<$ .08 indicative of an excellent fit.
In the past, Hu and Bentler (1999) proposed that use of combined cutoffs such as CFI \(>95\) and SRMR \(<.08\) results in better balance of rejection rates for misspecified models under different conditions.

Contrary to this viewpoint, some other researchers (e.g., Beauducel and Wittmann 2005; Fan and Sivo 2005) have argued that the most fitting index and cutoffs are complex functions and any conclusion related to them should be based on the nature of model misspecifications, sample sizes, and several other factors. Moreover, a great extent of the model acceptability depends on the fact that which hypothesized parameters are significant and in the projected direction, along with the other issues such as parsimony (Rapp et al. 2006).

Considering above mentioned points surrounding cutoff values for model fit indices, I considered models with CFI values <.90 and SRMR values >.10 as deficient, those with CFI >.90 to <.95 and SRMR >.08 to <.10 ranges as acceptable, and ones with CFI > .95 and SRMR <.08 ranges as excellent.

To demonstrate confidence in constructs, i.e. to establish construct validity, I examine the degree to which the current set of measurement variables actually represents the latent constructs. For the measures, convergent and discriminant validity was examined (detailed explanation in Analysis section). Convergent validity needs to be established in order to assess how well indicators of a specific construct share a high proportion of variance in common. This can be done by examining factor loadings (correlation coefficient between variables and latent construct). In addition, reliability is
another measure of convergent validity, therefore, coefficient alpha for all the measures were also assessed. Preliminary examination of intra- and inter-item correlations witnessed high within construct item correlations and a general pattern of uniformity signifying convergence.

Discriminant validity needs to be examined in order to assess the extent to which a construct is truly different and distinct from other constructs. High discriminant validity suggests that a construct is unique and explains phenomenon that others don’t. Support for discrimination can be obtained from between construct item correlations that should be homogeneous in general and lower than within-construct correlations (Bagozzi and Heatherton 1994).

A description of each measure, relevant statistics, and reliability details are presented in the following section.

**Salesperson CI Use**

A three-item measure (Mean = 5.086; S.D. = 1.476) was adapted from Maltz and Kohli’s (1996) study that incorporates *market intelligence use* by nonmarketing managers. Items were modified to fit in a salesperson context. Items captured the extent to which salespeople use CI to understand their work environment and make and implement decisions (e.g., “Over the last three months, the competitors’ information I received from different sources… helped shape my selling strategies”). In the previous
study, coefficient alpha for this scale was 0.86 (Maltz and Kohli’s 1996); reliability for the current sample was 0.92.

**Salesperson CI Collection**

A three-item measure (Mean = 5.199; S.D. = 1.597) was adapted from LeBon and Merunka’s (2006) study that includes salespeople’s *effort intention* toward marketing intelligence. The measure of salesperson CI collection captured the amount of behavioral efforts to collect competitors’ information (e.g., “I always assign myself objectives to obtain information about competitors”). The reliability of the scale was 0.91.

**Role Conflict**

Marketing researchers, building on role theory, primarily focus on the role member’s expectations (specifically that of immediate supervisors) and job characteristics in role stress formation (Goolsby 1992). Aligned with this approach, salesperson’s role stress was identified as role ambiguity and role conflict (Behrman and Perreault 1984). Two separate scales were adapted from role perception measures developed by Rizzo, House, and Lirtzman (1970).

Role conflict was conceptualized as the “degree of incongruity or incompatibility of expectations associated with the role” (Behrman and Perreault 1984, p. 12). Parallel to this definition, a three-item scale for role conflict (Mean = 4.296; S.D. = 1.570) captured the degree to which expectations of the salesperson’s role are incompatible with the
reality of the role (e.g., “I sometimes receive incompatible work requests from different people”). The reliability of the role conflict scale was 0.80.

**Role Ambiguity**

Role ambiguity was conceptualized as “the degree to which a sales rep is uncertain about others’ expectations with respect to the job, the best ways to fulfill known role expectations, and the consequences of different aspects of role performance” (Behrman and Perreault 1984, p. 12). Aligned with this definition, the three-item scale for role ambiguity (reverse coded) (Mean = 2.508; S.D. = 1.566) captured the extent to which the salesperson is unclear about the role expectations as well as the degree of uncertainty associated with his/her role performance (e.g., “I know how my performance is going to be evaluated”). The reliability of the role ambiguity scale was 0.90.

**Job Involvement**

The job involvement construct was conceptualized as a cognitive or belief state of “psychological identification with a particular job” that depends on “(a) the saliency of his or her needs (both extrinsic and intrinsic) and (b) the perceptions he or she has about the need-satisfying potentialities of the job” (Kanungo 1982, p. 342). In order to measure job involvement of a salesperson, I used a six-item scale (Mean = 4.993; S.D. = 1.276) based upon Kanungo’s (1982) study. Notably, Kanungo’s (1982) study was largely based on Lodahl and Kejner (1965) scale which is also used by other researchers (Brown and
Leigh 1996). The scale items (e.g., “I have very strong ties with my present job which would be very difficult to break”) for the current study assess the “psychological identification with work” definition of job involvement (Brown and Leigh 1996; Kanungo 1982).

Researchers have reported that job involvement scale items are prone to confound with intrinsic motivation scale items (e.g., Blau and Boal 1989; Blau 1986). Therefore, only those items which are extremely aligned with the definition of job involvement were considered. The reliability of the scale was 0.88.

**Organizational Identification**

The organizational identification construct was conceptualized as “perceived oneness with an organization and the experience of the organization’s success or failures as one’s own” (Mael and Ashforth 1992, p. 103). Aligned with this definition, the six-item organizational identification scale (Mean = 5.805; S. D. = 1.262) was adapted from Mael and Ashforth’s (1992) study (e.g., “When I talk about (company name), I usually say we rather than they”). Coefficient alphas for this scale are typically greater than 0.80 (Mael and Ashforth 1995); reliability for the current sample was 0.91.

**Recognition**

The three-item scale to measure the recognition (Mean = 5.409; S.D. = 1.606) was adapted from the Koys and Decotiis’s (1991) study that includes recognition as one of the
dimensions of an organization’s psychological climate. Specific to CI, items captured the salesperson’s perceptions that his/her contributions to the organization are acknowledged (e.g., “When considering competitive intelligence, my manager…frequently acknowledges a salesperson’s good performance”). The reliability (coefficient alpha) of the recognition scale for the current sample was 0.96.

**Coaching**

Several coaching instruments within the field of sports and sports psychology are available in literature; however, these instruments were developed primarily for use in sport setting to assess athletic coaching behavior (Chelladurai and Saleh 1980; Smoll and Smith 1989). Therefore, I conducted a comprehensive review of the coaching literature to identify an appropriate measure of coaching behavior suitable for a business context.

The most relevant measure was found in Ellinger, Ellinger, and Keller’s (2003) study that involves supervisory coaching behavior and employee performance and conceptualized coaching as “a form of facilitating learning to encourage growth and development” (p. 438). Adapted from Ellinger and colleagues’ work, a five-item manager’s coaching behavior measure (Mean = 4.496; S.D. = 1.246) was used for the current research. Items, specific to CI, captured salespeople’s perceptions about the coaching behavior of their supervisor (e.g., “My manager’s behavioral approach toward me is focused on…encouraging me to think of my own solutions”). The coefficient alpha of this scale for the current sample was 0.88.
Adaptive Selling

Salesperson’s adaptive selling behavior was measured using the three items scale (Mean = 5.726; S.D. = 1.161) adapted from ADAPTS Scale (Spiro and Weitz 1990). Adaptive selling is the adjustment of sales behaviors with customers based on perceived information about the selling situation (Weitz, Sujan, and Sujan, 1986). In other words, items captured the adaptability of salespeople to their customers (e.g., “When I feel that my sales approach is not working, I can easily change to another approach”). The coefficient alpha of the adaptive selling scale for the current sample was 0.80.

Salesperson Performance

The terminal criterion variable used in the present study (i.e., sales representative performance) was obtained from company records. Specifically, the performance measure (Mean = 7.225; S.D. = 10.272), which is the increase in sales achieved by the salesperson, was an average of the three months following the survey. As I mentioned earlier, the focal construct of the study, CI use captured the extent to which salespeople use CI to understand their work environment and make and implement decisions (e.g., “Over the last three months, the competitors’ information I received from different sources… helped shape my selling strategies”). Thus, I averaged the increase in sales by each individual salesperson over the three months period.

This approach was intended to level the data and filter any outlier based on a single month of performance. It is also important to mention at this point that the territory
size assigned to each salesperson was unchanged during these three months that avoided the possibility of sales increase based on territory change.
Chapter 5
Data Analysis and Results

Analysis

To analyze the proposed model, I followed the two-step procedure recommended by Anderson and Gerbing (1988). The AMOS 6.0, a covariance-based structural equation modeling program, was used for analysis purpose. Since social identity theory has been applied and validated in several research studies, there is a strong theoretical support to specify the presented model and to test validity. Thus, a confirmatory approach to data analysis is appropriate in the current context.

I first fit a confirmatory factor analysis model to examine the adequacy of the measurement component of the proposed model and evaluate discriminant validity. After ensuring an appropriate fit, I then fit a series of structural models to test the linear and interactive hypotheses, respectively. The final analytical step involved a model respecification analysis. Appropriate fit indices will be tested to make sure the acceptable fit of the model to the data.

Figure 3 depicts a linear effect model that amounts to the hypothesized model (as shown in Figure 2), minus the interactions (i.e., hypotheses H3a, b, c, d and H5). This model was fit in order to test the linear relational links from role stress to CI collection and CI use (H1a, b), from role identity salience to CI collection and CI use (H2a, b), from CI collection to CI use (H4), from CI use to adaptive selling and performance (H6, H7),
and from adaptive selling to performance (H8). This also serves as a baseline model (a model containing uncorrelated indicators) for tests of the interactions. Notably, the linear relational links from recognition to CI collection and CI use and from coaching to CI use were also included in this model so as to serve as a baseline for the hypothesized model. I estimated the structural model while correcting for measurement error (detailed discussion in the next section). I next fit the hypothesized model that includes the interaction terms (Figure 4).

To test the interaction effects, role stress, role identity salience, recognition, and coaching were all mean-centered. I then calculated multiplicative interactive terms between variables and fit a second model that included these product terms as antecedents to salesperson CI collection and CI use, respectively. I test the significance of the interaction by comparing $\chi^2$ values corresponding to models including and excluding the product terms. Because the linear effect model is nested within the hypothesized model it is necessary to first analyze the linear effect model and then compare the results to the interaction effect model which includes the interaction terms. A significant/non-significant $\Delta\chi^2$ between two models would indicate that the interaction is significant or non-significant.

This procedure for testing interactions in structural equation modeling is recommended by the method comparison study of Cortina, Chen, and Dunlop (2001) and the empirical study of Mathieu, Tannenbaum, and Salas (1992).
Tests of Validity

Convergent Validity

I assessed and confirmed convergent validity by conducting a confirmatory factor analysis in structural equation modeling. Using the process recommended by Gerbing and Anderson (1988), I confirmed that all indicator variables loaded significantly on their intended constructs (Gerbing and Anderson 1988), and that each path loading exceeded twice its standard error (Gerbing and Anderson 1988). Additionally, each indicator exhibited loadings of .60 or greater (see Table 2 for factor loadings), which also met Bagozzi and Yi’s (1988) position that convergent validity is established if the loadings of the measures to their respective constructs are at least 0.60. Each item loading was significant at ($p < .001$), which also suggests high convergent validity according to Gerbing and Anderson (1988).

Discriminant Validity

Fornell and Larcker (1981) maintain that establishing discriminant validity requires demonstrating that the average variance extracted by an underlying construct is larger than the shared variance (i.e. the squared intercorrelation) with other latent constructs. The average variance extracted (AVE) is calculated as:

$$
AVE = \frac{\left(\sum \lambda_i^2\right)}{\left(\sum \lambda_i^2\right) + \left(\sum (1 - \lambda_i^2)\right)}
$$
Here $\lambda_i$ represents the $i$th factor loading of indicator $x$ on factor $\xi$, and $\Sigma$ denotes a sum (Fornell and Larker 1981). If AVE < 0.50, then the variance due to measurement error is greater than the variance captured by the relevant construct. In such cases, the validity of the individual indicators as well as the construct is doubtful (Segars 1997).

As shown in Table 7, by examining the amount of variance extracted for each of the latent constructs and comparing this to the squared correlations among the constructs, I confirmed that the shared variance among any two constructs (i.e., the square of their intercorrelation) was always less than the average variance explained by the construct (i.e., the $\rho_{vc(p)}$ for each of the constructs). Also, the cutoff value for AVE was set at 0.50 and each construct satisfied this condition.

**Common Method Variance Testing**

Given the fact that all of the variables, except the performance, were collected from the same source (i.e., salespeople); I tested for common method variance. If present, common method variance has potential to inflate or deflate observed correlations between the dependent and independent variables. Following the approach suggested by Griffith and Lusch (2007), I used the confirmatory factor analysis approach to Harman’s one-factor test. All the variables were loaded on single factor to investigate the fit of the CFA model. It was expected that the one-factor CFA model would fit the data well, if common method variance is the primary reason for the relationship among the variables. As per my analysis, the measurement model yielded a good fit, $\chi^2 = 511.1$ (230); $p <$
On the other hand, the one-factor model fit was worse, $$\chi^2 = 4565.05 \ (252); \ p < .001; \ CFI = .48; \ RMSEA = .18$$. Next, I employed the partial correlation method where one would include a marker variable (i.e., a variable not theoretically linked to at least one other variable in the model). Notably, no significant relationships to other variables in the model were found after including the salesperson ethics as a marker variable. These results suggested that common method variance is not a serious problem and therefore is not likely to confound the findings.

### Results

Table 3 contains bivariate correlations for all study variables included in the model and Table 4 contains a summary of all hypotheses to be tested in.

### Confirmatory Factor Analysis (CFA)

The above analyses supported the unidimensionality of each variable. Given the large number of observed scores in the present study (i.e., 30) it was not pragmatic to simultaneously fit a CFA model to the full set. Moreover, researchers have observed that the various indices of model fit can be deficient when modeling items as opposed to parcels (Little, Cunningham, and Shahar 2002). I elected to create parcels for the primary antecedents in the model that are role stress and role identity salience and a moderating variable (i.e., coaching).
The parcels were created by averaging pairs of the highest and lowest loading items for the constructs. Then, I conducted a CFA model employing substantively based item parcels as indicators (cf. Hagtvet and Nasser 2004; Landis, Beal, and Tesluk 2000). Specifically, I fit an 8-factor model that consisted of: 1) role stress (3 items for role ambiguity and 1-item parcel for role conflict); 2) role identity salience (3-item parcels for organizational identification and 1-item parcel for job involvement); 3) recognition (3 items); 4) CI collection (3 items); 5) CI use (3 items); 6) coaching (3-item parcels); 7) adaptive selling (3 items); and 8) performance (1 composite). This model was estimated by statistical means to verify the sufficiency of its goodness-of-fit to the sample data, and subsequently determine the misspecifications of the hypothesized model and rectify it.

The measurement model yielded excellent fit indices: $\chi^2 = 511.1$ (230); $p < .001$; CFI=.97; SRMR=.04; RMSEA=.05. Measurement model was specified by describing (or drawing graphically) how the indicators are associated with each construct and the correlations between each construct in the hypothesized model. All indicators of latent variables exhibited significant ($p < .001$) relationships with their intended latent constructs.

These results demonstrate that the measurement properties are acceptable, and that sufficient covariance among the variables exists to warrant the examination of structural models.
**Structural Model (Linear Effects)**

Next, I fit the hypothesized linear effect structural model. This model contained all observed, latent and interaction variables, while paths between the interactive terms and respective dependent variables were constrained to zero. The linear effect structural model exhibited acceptable model fit indices, $\chi^2 = 1018.1$ (299), $p < .001$; CFI = .92; SRMR = .08; RMSEA = .07. Although the chi-square statistic is significant, it is not always the best indication of model fit (e.g., Bagozzi and Yi 1988) since it has the drawback of being sensitive to sample size and the number of parameters contained within the model (Bentler and Bonnet 1980).

**Test of Hypotheses (Linear Effects)**

All hypothesized linear relationships namely, H1a-b, H2a-b, H4, H6-8 were tested and the findings are summarized in Table 5a. Each cell of this table indicates whether an individual hypothesis was supported, not supported, and the statistical significance (p-value) of the test. Blank cells of this summary table indicate that no hypothesized relationship was proposed. Figure 3 summarizes the results of the structural linear model.

**H1: Salesperson Role Stress**

Hypothesis 1 consists of two individual hypotheses (H1a and H1b) to test the relationship between salesperson’s negative role perceptions and role behaviors. Specifically, it was hypothesized that salespeople experiencing the role stress will put
less effort in collecting CI and using it. Uncertainty and incompatibility regarding role and responsibilities will hinder the motivation toward role behaviors, namely CI collection and CI use behaviors. The data supported the negative relationship between salesperson role stress and CI collection (H1a: $\beta = -.21$, $p<.05$).

As hypothesized, relationship between role stress and CI use was negative, however, it was not significant (H1b: $\beta = -.07$, ns). One interpretation of this could be the fact that salespeople still have a dilemma over their role in intelligence system of the organization and often consider the collection of intelligence as a burden. Having role stress present will fuel that thought and that is why there is a significant negative relationship between role stress and CI collection. On the other hand, this stress will have a negative effect on utilization of CI, but not significant because it is becoming a matter of no choice as customers are being objective in terms of picking one organization over another. Such competitive situations leave no other option for salespeople but to use CI which they may have not collected personally but received from management or other organization resources without putting much effort.

**H2: Salesperson Role Identity Salience**

Hypothesis 2 consists of two individual hypotheses (H2a and H2b) to test the relationship between salesperson’s positive role perceptions and role behaviors. Specifically, it was hypothesized that salespeople experiencing high role identity salience will be motivated toward CI collection and CI use. As hypothesized, relational links from
role identity salience to CI collection (H2a: $\beta = .48$, $p < .05$) and CI use (H2b: $\beta = .16$, $p < .05$) were positive and significant. Empirical evidence supported the arguments regarding the importance of positive role perceptions and their enhancing effects on employees’ role behaviors.

**H4: CI Collection $\rightarrow$ CI use**

This hypothesis incorporates the positive link between salesperson CI collection and use. It was expected that salespeople who are putting effort to collect CI will be motivated to use it in order to reap the rewards of their diligent efforts. As hypothesized, the relationship between CI collection and CI use was significantly positive (H4: $\beta = .62$, $p < .05$).

**H6: CI Use $\rightarrow$ Adaptive Selling**

This hypothesis was intended to establish a positive link from utilization of CI by salespeople to their adaptive selling behaviors. There are abundant of sales research studies examining the antecedents and outcomes of adaptive selling behaviors of salespeople, however the current study adds on to the existing literature. While much of the past research focuses on customer knowledge and product knowledge, the current study centers on the competitor’s knowledge.

The measure of CI use is unique in sense that items are very focused on the salesperson’s CI use (Over the last three months, the competitors’ information I received
from different sources...improved my understanding of the market). Data supported the positive effect of CI use on adaptive selling (H6: $\beta = .63$, $p<.05$).

**H7: CI Use $\rightarrow$ Performance**

This hypothesis attempts to establish a positive relationship between salesperson CI use and his/her performance (i.e., sales growth). It was expected that salespeople’s use of CI will enable them to make a strong sales pitch and they will be more able to satisfy customers’ queries and objections. However, link between salesperson CI use and performance was not supported (H7: $\beta = .02$, ns). One missing link here could be the presence of manager’s behaviors toward coaching and training salespeople to better utilize this information. Sensitive and delicate in nature, CI is still important tool for salesperson to have, yet its use is somewhat complex in execution. In the post-hoc analysis discussion, I will present some interesting and important findings related to this link, in detail.

**H8: Adaptive Selling $\rightarrow$ Performance**

As documented in past research, the current data re-established positive relationship between adaptive selling and performance significantly (H8: $\beta = .15$, $p<.05$). Particular, in the current context, the performance data was objective in nature and an average of three months’ performance, therefore, adds value to the current finding.
**Structural Model (Interactive Effects)**

Next, I fit an interactive effect structural model (using the structural linear model as a base) by adding paths from the three interaction terms namely, role stress X recognition, role identity salience X recognition, and CI collection X coaching. This allowed a test of Hypotheses H3a, b, c, d and H5. These hypotheses suggested that recognition from managers would lessen the negative effects of role stress on salesperson CI collection and CI use, and enhance the positive effects of role identity salience on salesperson CI collection and CI use. Manager’s coaching behaviors would enhance the relationship between CI collection and CI use.

To test for two-way interactions (i.e., a relationship between an independent variable and the dependent variable, moderated by a third variable), I adapted the procedure suggested by Aiken and West (1991). SPSS 14.0 was used to create interaction (product) terms. Notably, the independent variable and moderator are standardized (i.e., Z score) before calculation of the product term. The dependent variable was left in its raw score form. In order to plot interactions, a program was executed on SPSS that takes information from a moderated multiple regression and run and identifies points for plotting a two way interaction. It depicts “High,” "Moderate" and “Low” groups on the moderator using Cohen and Cohen’s (1983) formula and strategy of setting high and low levels at +/- 1 SD.

Because the model included interaction terms, it was necessary to compute estimates of the interaction term reliabilities. Following procedures suggested by
Mathieu, Tannenbaum and Salas (1992) and supported by Cortina, Chen, and Dunlop (2001), the reliabilities of the interaction terms were estimated using a formula, advance by Bohrnstedt and Carter (1978). The reliability of an interaction XZ, $\rho_{XZ}$, involving mean centered X and Z is,

$$\rho_{XZ} = \frac{\text{Corr}^2_{X,Z} + \rho_X \rho_Z}{\text{Corr}^2_{X,Z} + 1}$$

$\text{Corr}^2_{X,Z}$ is the square of the correlation between X and Z, and $\rho_X$ and $\rho_Z$ are the reliabilities of X and Z. This formula takes into account the reliabilities of both individual constructs that form a product term, and the correlation between the two respective linear terms.

As shown in Table 8, the resulting reliabilities for the interaction terms are as follows: role stress X recognition ($\alpha_{xz} = .26$), role identity salience X recognition ($\alpha_{xz} = .20$), and CI collection X coaching ($\alpha_{xz} = .23$). These figures were used to fix the error term associated with each product term as described above. Specifically, I specified the relationship between the observed variables and their respective latent construct by fixing the measurement error terms for each variable at $(1- \rho_{XZ})$ X variance of each scale score (Rapp et al. 2006).

As shown in Table 5b, the interactive effect model exhibited acceptable fit indices, $\chi^2 = 1010.3$ (294), $p < .001$; CFI = .92; SRMR = .08; RMSEA = .07. However, a chi-square difference test indicated that the interactive effect model did not differ
significantly from the linear effect model, $\Delta \chi^2 (5) = 7.9$, $p < .975$. The results of the structural interactive model appear in Figure 4 and are discussed below.

**H3a-b: Role Stress X Recognition**

This set of hypotheses consists of two individual hypotheses (H3a and H3b) to test the interaction effects of role stress X recognition on CI collection and CI use. Specifically, it was hypothesized that salesperson perceived recognition from the manager will lessen the effects of role stress on the salesperson CI collection efforts (H3a) and salesperson perceived recognition from the manager will lessen the effect of role stress on the salesperson CI use (H3b). The interactions between role stress and recognition (H3a: $\beta = .00$, ns; H3b: $\beta = .07$, ns), relative to CI collection and CI use were not supported. Arguments for these hypotheses were based on the fact that recognition from managers will diminish the negative effect of role stress on salespeople’s role behaviors.

The reason for not finding the support for these interactions can be linked to the issue related to the measurement of recognition construct. This particular measure captured salespeople’s perceptions that their contributions to the organization regarding CI are acknowledged. In essence, items were not primarily focused on the recognition of a salesperson’s specific effort toward CI collection and use. In order to have a better understanding of this construct within CI context, it will be useful to have a measure distinctively targeted to the recognition of salespeople’s CI collection and its use.
**H3c-d: Role Identity Salience X Recognition**

This particular set of hypotheses consists of two individual hypotheses (H3c and H3d) to test the interaction effects of *role identity salience X recognition* on CI collection and CI use. Specifically, it was hypothesized that salesperson perceived recognition from the manager will enhance the effect of role identity salience on the salesperson CI collection efforts (H3c) and salesperson perceived recognition from the manager will enhance the effect of role identity salience on the salesperson CI use (H3d).

The interaction between role identity salience and recognition (H3d, $\beta = .07$, ns), relative to CI use, was not supported. However, the hypothesized interactions between role identity salience and recognition (H3c: $\beta = .13$, $p < .05$), relative to CI collection was supported. Again, due to the less specific nature of recognition construct, it is hard to make a better understanding of the findings. Considering the fact that role identity salience is the outcome of a positive psychological climate, recognition, even at the broad level, is showing some effects.

**H5: CI Collection X Coaching → CI Use**

This hypothesis was intended to examine the interaction effect of *CI collection X coaching* on salesperson CI use. Specifically, it was hypothesized that relationship between salespeople’s CI collection efforts and CI use will be more positive if they are provided with coaching from managers. The argument was based on the fact that the managerial involvement through coaching will help salespeople to use CI after collecting
it. However, the hypothesized interaction between CI collection and coaching (H5: \( \beta = .06, \) ns), relative to CI use, was not supported.

In sum, six of the eight linear hypotheses were found to be significant and one of the five interactions was significant. Together, role stress, role identity salience, and their interactions with recognitions accounted for 38% of the variance in CI collection (36.5% for the main effects and 1.5% for the interactions). CI collection along with coaching as a moderator and abovementioned antecedent variables accounted for 59.8% of the variance in CI use (59.2% for the main effects and 0.6% for the interactions). CI use accounted for 39.9% variance in adaptive selling. Finally, CI use and adaptive selling accounted for 2.9% variance in salesperson performance.

**Post-hoc Analysis**

The final step in analyzing the model involved respecifications (see Figure 5a-b), wherein I deleted all non-significant interactions and added all significant interactions which were not hypothesized earlier. The additional paths were included based on the condition that they are consistent with the theoretical groundwork proposed earlier and yield significant results. This model respecification approach was aligned with the two-step procedure suggested by Mathieu, Tannenbaum and Salas (1992). These authors argue that such post-hoc analysis though exploratory in nature, yields some potential models accounting for the relationships among given data (cf. Stelzl 1986).
As outlined in Table 6a-b, the final respecified structural model exhibited acceptable fit indices, $\chi^2 = 815.3$ (277), $p < .001$; CFI = .94; SRMR = .08; RMSEA = .06 and showed significant difference from linear effect model, $\Delta\chi^2 (2) = 8.6$, $p < .05$. The key finding was the significant interaction effects of CI use and coaching on salesperson performance ($\beta = .10$, $p < .05$). This result is especially interesting as the direct relationship between CI use and performance was not significant. Together, adaptive selling and CI use along with coaching as a moderator accounted for 4.4% variance in salesperson performance that was an increase of 1.5% from that of in hypothesized model.

As described previously, to interpret the nature of the significant interaction, I employed standard practices for moderated regression analyses (Aiken and West 1991). Using the information from the hypothesized model analyses, I plotted the relationship between the salesperson CI use that correspond to the low (one standard deviation below the mean) and high (one standard deviation above the mean) values of the coaching.

Figure 6 represents a graphical depiction of the interaction of CI use and coaching, as related to salesperson performance. As depicted in the graph, the nature of CI use $\rightarrow$ performance is moderated by coaching. This finding has very special meaning for managers. It is easier to understand the importance of CI in sales operations; however, it will be a complex task for salespeople to actually use CI as an actionable tool in their daily routines. It would require the efforts from managers in terms of coaching and
training to help salespeople use CI appropriately. In sum, the manager needs to coach salespeople in order for them to make the best of CI.
Chapter 6
Conclusions

Summary

The CI literature has focused on organizations as opposed to individual employees. However, employees, especially those who work as boundary spanners, are often more able to collect and utilize CI effectively because they are closer to the source of such information. In order to fill this gap in literature, the current study is an attempt to open the black box of CI. The research undertaken and described in this study is the first theoretical and empirical analysis examining CI and the phenomena associated with it at the individual level, as the majority of past research has examined CI using a process approach focused at the organizational level. More specifically, I proposed and tested the critical factors that affect the relationship between salesperson CI use and performance as well as those determinants that appear to influence salesperson CI use.

Competitor orientation has emerged as a critical tool to gain and sustain a competitive edge (Kohli and Jaworski 1990). However, in order for an organization to achieve and sustain such an orientation, it must have a competitor-oriented workforce. Therefore, it is essential to investigate the influence of CI at an individual level within a firm. Several new insights are reported that are relevant to researchers and practitioners alike. Specifically, a salesperson’s role stress will have a negative effect on his/her efforts toward acquiring CI; salespeople with a high salience of role identity will exude more effort toward CI collection; the salience of a salesperson’s role identity will positively
influence his/her CI use; recognition from managers enhance the relationship between a
the salience of a salesperson’s role identity and CI collection; the utilization of CI by
salespeople is positively correlated with their adaptive selling behaviors. In addition,
post-hoc analysis suggests that salespeople will be able to enhance their performance by
using CI only if it is coupled with coaching from managers. Below, I detail the
implications of these findings for researchers and managers. Also, future research
directions as well as the limitations of this study are presented.

**Research Implications**

This study provides theoretical insights on sales by integrating the views of both
researchers and practitioners from the marketing, strategic management, human
resources, sales force management, and CI literatures. The majority of past research has
examined CI as an organizational-level construct focused on the processes associated
with gathering and/or disseminating CI within an organization. My efforts represent the
first attempts to conceptualize salesperson CI use and advance a theoretical model to
outline its outcomes.

Salespeople are no longer selling a mere product; instead, they aim to offer a
solution to customer problems and thus provide ‘a value’ to customers. Anderson and
Dubinsky (2004) commented on this issue in their discussion of consultative selling in
which a salesperson acts as an expert and provides customized solutions. In such
scenarios, salespeople must convey that their solution is unique and that no competitor
can serve this purpose. The communication of information between buyer and seller has been defined as the “glue that holds together” business relationships (Mohr and Nevin 1990, p. 36). Sales research recognizes that customers want their sales representatives to draw clear, objective comparisons between the product and competitive offerings (Ahearne, Jelinek, and Jones 2007), and thus, CI can be used as a critical tool for satisfying customers through productive interactions.

The individual-level conceptualization of CI supplements the service-centered perspective presented by Vargo and Lusch (2004). A service-centered perspective does not consider marketing as a mere exchange of tangible goods, but rather it focuses on supporting customers in the value-creation process to discover superior core competencies in an effort to acquire competitive advantage (Vargo and Lusch 2004). The proposed theoretical model suggests that salesperson CI use has the potential to influence a salesperson’s behavioral outcomes and ultimately, performance.

At a broader level, a discussion on individual-level CI highlights a widely-neglected determinant of salesperson performance. Despite the abundance of frameworks linking different salesperson-related variables and performance, superior performance only arises when salespeople identify new market opportunities and react to them faster and more proficiently than their competitors. The proposed theoretical framework is intended to encourage academics to extend this debate and focus on individual-level CI use. This study offers that sales researchers should not only concentrate on the link between the salesperson and customer but also address the question of how competitor
information can weaken or strengthen this link. Moreover, a salesperson’s utilization of CI may provide the opportunity to incorporate the much-needed ‘competitor’ side of the salesperson-customer-competitor triangle.

**Managerial Implications**

This research offers several interesting conclusions for managers. It suggests that there is an urgent need to assign salespeople a wider role in organizational CI activities. The concept of competitor orientation is not new for managers, as the market orientation literature (Narver and Slater 1990) has already highlighted this notion. However, the prior conceptualization of competitor orientation does not include the links between competitor information and individual salesperson behaviors or his/her performance. Alternatively, the current study focuses on the effect of CI at the individual level and widens the salesperson’s role *beyond* the mere sharing of competitor information or responding to competitor actions, which are the focal points of competitor orientation.

In a recent study from the Competitive Intelligence Foundation (2006), almost half of the professionals who responded to the survey frequently utilize CI to support their sales/business development activities. This suggests that value can be added to the outcomes of these activities if salespeople incorporate CI into their routine tasks. With the sales force of an organization facing competition daily, no other group is better situated to position its offerings with respect to competitors.
One way to collect relevant information is through environmental scanning. Environmental scanning is an important mechanism that allows firms to gain and assimilate information. Because business executives invest a major proportion of their resources to apprehending, thinking, and learning about external surroundings (Purser and Passmore 1992), recognition of salespeople as a useful source of competitor information is valuable. Salespeople who actively collect and use CI can provide critical support for the information needs of managers in the process of learning. CI, with its multidimensional focus on the market situation, can be an essential tool in scanning efforts (Vedder et al. 1999). Therefore, individual and managerial efforts can act jointly in a complementary manner.

These results suggest that a firm should ensure that its sales force is sensitive regarding the external environment and that it possesses critical competitive information. The strong relationships related to a salesperson’s CI suggest that this is a valuable investment. A salesperson that has a high level of CI exhibits behaviors that impact the customer and, ultimately, organizational performance. Therefore, sales managers should insist on the importance of performing CI activities in order to develop market insights and secure the competitiveness of the organization. In order to create an environment conducive to CI, managers should integrate CI principles into sales training programs. Moreover, the participation of salespeople should be assured through a formal CI acquisition and reporting system at the organizational level.
This research contributes to managing insofar as it helps managers facilitate the identification of salespeople with the organization. One way to strengthen this identification is through the recognition of the efforts and performance of salespeople. Intrinsic motivation, a key variable of a salesperson’s CI acquisition efforts (LeBon and Merunka 2006) can be influenced through managerial recognition. Also, salespeople often consider CI activities as non-sales tasks; hence, a challenging task for managers is to motivate salespeople to become involved in such activities (LeBon and Merunka 2006).

Knowing that information related to competitors is gathered for the sake of themselves rather than managers, salespeople should not regard CI activities as an extra burden. Instead, salespeople should be motivated to enhance their performance and, consequently, the related rewards. The results of this study did not support all hypotheses regarding recognition, but this relates to limitations in measurements. Based on the direction of the supported interaction hypothesis, it is reasonable to believe that recognition plays an important role in identification processes.

It appears straightforward that CI is important in generating high levels of performance, yet it is often difficult to identify the specific factors that contribute to the development of CI. Thus, the influential role of coaching should be taken into consideration. Managers should coach salespeople, as salespeople may not be able to or know how to utilize CI properly. The findings are in line with the notion that salespeople can be the victim of “imperial intelligence,” that is, the situation in which intelligence
becomes the overriding factor in decision-making (Shulsky 1993). With proper coaching from managers, salespeople will be able to find an adequate balance with respect to how much decision-making should be based on CI and how much should be based on sound judgment. Thus, salespeople should better understand the needs and requirements to make a winning pitch, and thus, they should know what information is important and relevant.

Today’s customers are increasingly demanding; they want to know how certain products or services differ from others, and they question why a particular product or service should be chosen over the competition. Without having up-to-date competitor information, salespeople will find it difficult to provide satisfying answers to such demanding customer inquiries. Being equipped with competitor information provides salespeople with advantages as they attempt to effectively convince customers to buy their products; they will also perform better in comparison with those salespeople who lack such information. Salespeople who have sound market and competitive information will tend to be regarded as competent and be able to fill the needs of their customers. Ideally, a sales manager should attempt to remove any role ambiguity or role conflict from a salesperson’s work profile in order to enhance CI acquisition and utilization.

Salespeople supply vital information to customers, and so their ability to communicate information is one of the most important facets of the sales encounter. Thus, both customers and salespeople must share information on competitors, products, and business trends with each other in order to reach a satisfactory solution. Clearly, this
is a bi-directional process. Salespeople obtain valuable information from the customer, but in order to serve as experts, salespeople must have competitor information as well. Managers play a vital role in this process. It is widely evident that managers encourage salespeople to avoid a closed box approach while pitching to customers. The direct relationship between CI use and adaptive selling outlined here will thus be useful for managers. Importantly, CI is involved in both directions of information communication, that is, from customer to salesperson and vice versa, and this involvement of CI tends to benefit salespeople as well as the organization.

Results of this study suggest that even though salespeople have CI, they will not make much use of it without proper coaching from managers. I did not find a significant relationship between CI use and performance. However, in the presence of coaching, salespeople can enhance their performance by using CI. Managers must be cautious regarding the CI activities of salespeople, as they can encourage unethical approaches. Salespeople need coaching to see the so-called “big picture,” especially regarding the collection and use of information, as such intelligence has the potential to lead to legal and ethical issues. A potential sales transaction can become detrimental to a firm if it is accompanied with a lawsuit or other bad publicity due to falsified or altered information about competitors. In addition, CI that is gathered from top management must be used cautiously by an individual salesperson due to its proprietary and confidential nature.

Finally, managers should make sure that salespeople are not exploiting customers by using CI. Salespeople differ from each other in terms of the efforts they will exert
toward CI acquisition, which may lead to incomplete or inaccurate information. Also, salespeople may use CI to achieve short-term goals that can ruin a customer’s relationship with the organization and the salesperson in the long run. All of these issues, if not handled appropriately, could damage the firm’s or salesperson’s relationship with the customer. To remove the confusion surrounding CI procedures and objectives, managers should develop explicit CI guidelines.

**Limitations and Future Research**

The implications of this proposed framework should be evaluated alongside caveats regarding restricted applicability and empirical limitations. While the data used here were from multiple sources and, as such, overcome many of the biases found in single-source studies, there are several limitations that should be discussed. To address the self-reporting bias that occurs when a salesperson reports on his/her own performance, archival data on performance were collected. However, several other variables, such as role stress, role identity salience, recognition, coaching, CI acquisition efforts, and CI use, were all collected from a single source. Thus, this raises concerns about the impact of method bias in the current study (Ahearne, Mathieu, and Rapp 2005).

Some may argue that the use of recognition as a moderating variable is a poor choice due to the fact that it may actually help remedy role stress. As mentioned previously, role stress consists of role ambiguity and role conflict. Considering this fact, recognition, especially in cases in which managers are quick to recognize performance,
may act as a “guideline” for salespeople, therefore, lowering the role ambiguity that contributes to role stress.

There may be a relationship between role stress and role identity salience. Role stress may be an antecedent to role identity salience and thus may be partially mediated. If salespeople have a strong identification with their organizations and feel comfortable in their jobs, the effect of role stress may be lowered. Alternatively, high role stress may diminish role identity salience. Salespeople facing role conflict and role ambiguity may find that they have low job involvement and little organizational identification. However, it is important to note that in this model, only the independent effects of role stress and role identity salience on salesperson CI acquisition and use are examined.

Another limitation relates to the causality suggested in the results, and indeed, this issue requires further study. I combined multiple data sources (i.e., salesperson surveys and company records) to test the model; however, the research design is still cross-sectional in nature. Hence, purely causal conclusions are not easy to make; evidence of causality through longitudinal and/or experimental studies is necessary. Finally, the sales context is unique, and it is quite possible that these results might be idiosyncratic to the specific type of selling under study. Thus, this study should be replicated using other industries and organizations to further examine the hypothesized relationships. It would be useful to know whether the relationships found among CI use, performance, and coaching are obtained in other business settings.
Clearly, the proposed model is not exhaustive in considering all possible antecedents to and outcomes of CI acquisition and use. Future research may further expand the scope of antecedents by examining the other variables that fit into the CI context. Some interesting issues related to a salesperson’s CI, such as the speed of information dissemination and the quality of information, should also be explored. Past research has suggested that the presence of proper organizational systems in which salespeople can participate in communication and decision-making processes would positively influence a salesperson’s motivation toward intelligence activities (Thietart and Vivas 1981; Chonko et al. 1991). Therefore, it would be interesting to see the nature and outcomes of salesperson CI acquisition and use in the presence of a formal CI system.

Researchers should also explore CI use in the context of different sales situations and sales orientations. Transactional-based settings may encourage salespeople to misuse CI to finalize a sale. Alternatively, there could be situations in which firm objectives are aimed at short-term sales. In such a context, salespeople may have information but choose not to use it if is not perceived to affect short-term goals. The effects and use of CI should be studied and compared in long-term and short-term settings. Sales researchers have become more attentive to issues related to sales control system (i.e., outcome-based versus behavior-based models) and their impact on performance outcomes. The proposed framework should be extended to include these control systems.
Future research should examine the proposed relationships and compare their findings across distinct control systems.

The study findings have their greatest meaning for salespeople as they need to focus on CI for their own benefit. In an era of rapidly, sometimes dramatically changing market environments, CI helps salespeople recognize threats and opportunities posed by competitors. I hope that this research provides a foundation upon which future research efforts can address this issue.
REFERENCES


Figure 1: Identity Perspective in an Organizational Context

Identity

Role Perception

Behavior

Role Behaviors

Outcome

Performance
Figure 2: Hypothesized Model
Figure 3: SEM Results- Linear Effect Model

Note: *p~<0.05; **p~<0.01; ***p~<0.001; 'ns' indicates p>0.05
Figure 4: SEM Results- Interactive Effect Model

Role Perceptions  Role Behaviors  Outcome

Role Stress  CI Collection  Adaptive Selling

Role Identity Salience  CI Use  Coaching  Performance

Recognition

Note: *p~<0.05; **p~<0.01; ***p~<0.001; 'ns' indicates p>0.05
Figure 5a: Post-Hoc Analysis- Linear Effect Model

Role Perceptions  | Role Behaviors  | Outcome

Role Stress  | CI Collection  | Adaptive Selling
Role Identity Salience  | CI Use  | Performance

Note: *p~<0.05; **p~<0.01; ***p~<0.001; 'ns' indicates p>0.05
Figure 5b: Post-Hoc Analysis- Interaction Effect Model

Role Perceptions  Role Behaviors  Outcome

Role Stress  CI Collection  Adaptive Selling
Role Identity Salience  CI Use  Performance

-.21***  -.06(ns)  .62***
.55***  .13*

Recognition  Coaching

Note: *p<0.05; **p<0.01; ***p<0.001; ‘ns’ indicates p>0.05
Figure 6: Interaction of Salesperson CI Use and Coaching, as Related to Salesperson Performance
Table 1: Descriptive Statistics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>S.D.</th>
<th>No. of Items</th>
<th>Cronbach (α)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role Ambiguity</td>
<td>2.508</td>
<td>1.566</td>
<td>3</td>
<td>0.9</td>
</tr>
<tr>
<td>Role Conflict</td>
<td>4.296</td>
<td>1.57</td>
<td>3</td>
<td>0.8</td>
</tr>
<tr>
<td>Organizational Identification</td>
<td>5.805</td>
<td>1.262</td>
<td>6</td>
<td>0.91</td>
</tr>
<tr>
<td>Job Involvement</td>
<td>4.993</td>
<td>1.276</td>
<td>6</td>
<td>0.88</td>
</tr>
<tr>
<td>Recognition</td>
<td>5.409</td>
<td>1.606</td>
<td>3</td>
<td>0.96</td>
</tr>
<tr>
<td>CI Collection</td>
<td>5.199</td>
<td>1.597</td>
<td>3</td>
<td>0.91</td>
</tr>
<tr>
<td>CI Use</td>
<td>5.086</td>
<td>1.476</td>
<td>3</td>
<td>0.92</td>
</tr>
<tr>
<td>Coaching</td>
<td>4.496</td>
<td>1.246</td>
<td>5</td>
<td>0.88</td>
</tr>
<tr>
<td>Adaptive Selling</td>
<td>5.726</td>
<td>1.161</td>
<td>3</td>
<td>0.8</td>
</tr>
<tr>
<td>Performance</td>
<td>7.225</td>
<td>10.272</td>
<td>Archival data</td>
<td>NA</td>
</tr>
</tbody>
</table>

N=513
Table 2: Factor Loadings from Confirmatory Factor Analysis

<table>
<thead>
<tr>
<th>Indicator</th>
<th>1st order Latent Construct</th>
<th>Standardized Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPRA3</td>
<td>Role Ambiguity</td>
<td>.827</td>
</tr>
<tr>
<td>SPRA2</td>
<td>Role Ambiguity</td>
<td>.939</td>
</tr>
<tr>
<td>SPRA1</td>
<td>Role Ambiguity</td>
<td>.841</td>
</tr>
<tr>
<td>SPRC1</td>
<td>Role Conflict</td>
<td>.709</td>
</tr>
<tr>
<td>SPRC2</td>
<td>Role Conflict</td>
<td>.849</td>
</tr>
<tr>
<td>SPRC3</td>
<td>Role Conflict</td>
<td>.691</td>
</tr>
<tr>
<td>SPOI6</td>
<td>Org. Identification</td>
<td>.604</td>
</tr>
<tr>
<td>SPOI5</td>
<td>Org. Identification</td>
<td>.875</td>
</tr>
<tr>
<td>SPOI4</td>
<td>Org. Identification</td>
<td>.864</td>
</tr>
<tr>
<td>SPOI3</td>
<td>Org. Identification</td>
<td>.829</td>
</tr>
<tr>
<td>SPOI2</td>
<td>Org. Identification</td>
<td>.819</td>
</tr>
<tr>
<td>SPOI1</td>
<td>Org. Identification</td>
<td>.755</td>
</tr>
<tr>
<td>SPJID1</td>
<td>Job Involvement</td>
<td>.635</td>
</tr>
<tr>
<td>SPJID2</td>
<td>Job Involvement</td>
<td>.693</td>
</tr>
<tr>
<td>SPJID3</td>
<td>Job Involvement</td>
<td>.672</td>
</tr>
<tr>
<td>SPJID4</td>
<td>Job Involvement</td>
<td>.831</td>
</tr>
<tr>
<td>SPJID5</td>
<td>Job Involvement</td>
<td>.690</td>
</tr>
<tr>
<td>SPJID6</td>
<td>Job Involvement</td>
<td>.874</td>
</tr>
<tr>
<td>SPREC1</td>
<td>Recognition</td>
<td>.939</td>
</tr>
<tr>
<td>SPREC2</td>
<td>Recognition</td>
<td>.958</td>
</tr>
<tr>
<td>SPREC3</td>
<td>Recognition</td>
<td>.920</td>
</tr>
<tr>
<td>SPCIC3</td>
<td>CI Collection</td>
<td>.852</td>
</tr>
<tr>
<td>SPCIC2</td>
<td>CI Collection</td>
<td>.910</td>
</tr>
<tr>
<td>SPCIC1</td>
<td>CI Collection</td>
<td>.877</td>
</tr>
<tr>
<td>SPCIU3</td>
<td>CI Use</td>
<td>.826</td>
</tr>
<tr>
<td>SPCIU2</td>
<td>CI Use</td>
<td>.918</td>
</tr>
<tr>
<td>SPCIU1</td>
<td>CI Use</td>
<td>.924</td>
</tr>
<tr>
<td>SPCS1</td>
<td>Coaching</td>
<td>.599</td>
</tr>
<tr>
<td>SPCS2</td>
<td>Coaching</td>
<td>.750</td>
</tr>
<tr>
<td>SPCS3</td>
<td>Coaching</td>
<td>.750</td>
</tr>
<tr>
<td>SPCS4</td>
<td>Coaching</td>
<td>.810</td>
</tr>
<tr>
<td>SPCS5</td>
<td>Coaching</td>
<td>.838</td>
</tr>
<tr>
<td>SPAS1</td>
<td>Adaptive Selling</td>
<td>.742</td>
</tr>
<tr>
<td>SPAS2</td>
<td>Adaptive Selling</td>
<td>.806</td>
</tr>
<tr>
<td>SPAS3</td>
<td>Adaptive Selling</td>
<td>.741</td>
</tr>
<tr>
<td>Variables</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>-------------------</td>
<td>-----</td>
<td>-------</td>
</tr>
<tr>
<td>Role Ambiguity</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Role Conflict</td>
<td>0.23</td>
<td>1</td>
</tr>
<tr>
<td>Org. Identification</td>
<td>-0.47</td>
<td>-0.02</td>
</tr>
<tr>
<td>Job Involvement</td>
<td>-0.35</td>
<td>0.00</td>
</tr>
<tr>
<td>Recognition</td>
<td>-0.39</td>
<td>-0.09</td>
</tr>
<tr>
<td>CI Collection</td>
<td>-0.41</td>
<td>-0.01</td>
</tr>
<tr>
<td>CI Use</td>
<td>-0.37</td>
<td>-0.01</td>
</tr>
<tr>
<td>Coaching</td>
<td>-0.26</td>
<td>-0.26</td>
</tr>
<tr>
<td>Adaptive Selling</td>
<td>-0.40</td>
<td>0.08</td>
</tr>
<tr>
<td>Performance</td>
<td>-0.06</td>
<td>-0.04</td>
</tr>
</tbody>
</table>

N= 513, correlations $> 0.09$ are significant at 0.05 level; $> 0.12$ are significant at 0.01 level.
<table>
<thead>
<tr>
<th>Hypotheses</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypothesis 1a</td>
<td>Salesperson’s role stress will have a negative effect on CI collection efforts.</td>
</tr>
<tr>
<td>Hypothesis 1b</td>
<td>Salesperson’s role stress will have a negative effect on CI use.</td>
</tr>
<tr>
<td>Hypothesis 2a</td>
<td>Salesperson’s role identity salience will have a positive effect on CI collection efforts.</td>
</tr>
<tr>
<td>Hypothesis 2b</td>
<td>Salesperson’s role identity salience will have a positive effect on CI use.</td>
</tr>
<tr>
<td>Hypothesis 3a</td>
<td>Salesperson perceived recognition from the manager will lessen the effects of role stress on the salesperson CI collection efforts.</td>
</tr>
<tr>
<td>Hypothesis 3b</td>
<td>Salesperson perceived recognition from the manager will lessen the effects of role stress on the salesperson CI use.</td>
</tr>
<tr>
<td>Hypothesis 3c</td>
<td>Salesperson perceived recognition from the manager will enhance the effects of Role identity salience on the salesperson CI collection efforts.</td>
</tr>
<tr>
<td>Hypothesis 3d</td>
<td>Salesperson perceived recognition from the manager will enhance the effects of role identity salience on the salesperson CI use.</td>
</tr>
<tr>
<td>Hypothesis 4</td>
<td>There will be a positive relationship between salesperson CI collection efforts and CI use.</td>
</tr>
<tr>
<td>Hypothesis 5</td>
<td>The relationship between salespeople’s CI collection efforts and CI use will be more positive if they are provided with coaching from managers.</td>
</tr>
<tr>
<td>Hypothesis 6</td>
<td>Salesperson CI use will have a positive effect on adaptive selling behaviors.</td>
</tr>
<tr>
<td>Hypothesis 7</td>
<td>Salesperson CI use will have a direct positive effect on his/her performance.</td>
</tr>
<tr>
<td>Hypothesis 8</td>
<td>Salesperson adaptive selling behaviors will have a direct positive effect on his/her performance.</td>
</tr>
</tbody>
</table>
Table 5a: Standardized Parameter Estimates and Goodness-of-Fit Statistics
Hypothesized Model: Linear Effects

<table>
<thead>
<tr>
<th>Relationships</th>
<th>Estimates</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1a Role Stress → CI Collection</td>
<td>-0.21</td>
<td>0.01</td>
</tr>
<tr>
<td>H1b Role Stress → CI Use</td>
<td>-0.07</td>
<td>ns</td>
</tr>
<tr>
<td>H2a Role Identity Salience → CI Collection</td>
<td>0.48</td>
<td>0.001</td>
</tr>
<tr>
<td>H2b Role Identity Salience → CI Use</td>
<td>0.16</td>
<td>0.002</td>
</tr>
<tr>
<td>H3a Role Stress X Recognition → CI Collection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H3b Role Stress X Recognition → CI Use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H3c Role I.S. X Recognition → CI Collection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H3d Role I.S. X Recognition → CI Use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H4 CI Collection → CI Use</td>
<td>0.62</td>
<td>0.001</td>
</tr>
<tr>
<td>H5 CI Collection X Coaching → CI Use</td>
<td></td>
<td></td>
</tr>
<tr>
<td>H6 CI Use → Adaptive Selling</td>
<td>0.63</td>
<td>0.001</td>
</tr>
<tr>
<td>H7 CI Use → Performance</td>
<td>0.02</td>
<td>ns</td>
</tr>
<tr>
<td>H8 Adaptive Selling → Performance</td>
<td>0.15</td>
<td>0.02</td>
</tr>
</tbody>
</table>

Chi-square (df)        1018.1(299)

p value                   0.001
CFI                        0.92
SRMR                      0.08
RMSEA                     0.07

Note: ‘ns’ indicates p>0.05
Table 5b: Standardized Parameter Estimates and Goodness-of-Fit Statistics
Hypothesized Model: Interactive Effects

<table>
<thead>
<tr>
<th>Relationships</th>
<th>Estimates</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>H1a Role Stress → CI Collection</td>
<td>-0.21</td>
<td>0.01</td>
</tr>
<tr>
<td>H1b Role Stress → CI Use</td>
<td>-0.06</td>
<td>ns</td>
</tr>
<tr>
<td>H2a Role Identity Salience → CI Collection</td>
<td>0.55</td>
<td>0.001</td>
</tr>
<tr>
<td>H2b Role Identity Salience → CI Use</td>
<td>0.19</td>
<td>0.001</td>
</tr>
<tr>
<td>H3a Role Stress X Recognition → CI Collection</td>
<td>0.001</td>
<td>ns</td>
</tr>
<tr>
<td>H3b Role Stress X Recognition → CI Use</td>
<td>0.07</td>
<td>ns</td>
</tr>
<tr>
<td>H3c Role I.S. X Recognition → CI Collection</td>
<td>0.11</td>
<td>0.05</td>
</tr>
<tr>
<td>H3d Role I.S. X Recognition → CI Use</td>
<td>0.07</td>
<td>ns</td>
</tr>
<tr>
<td>H4 CI Collection → CI Use</td>
<td>0.61</td>
<td>0.001</td>
</tr>
<tr>
<td>H5 CI Collection X Coaching → CI Use</td>
<td>0.06</td>
<td>ns</td>
</tr>
<tr>
<td>H6 CI Use → Adaptive Selling</td>
<td>0.63</td>
<td>0.001</td>
</tr>
<tr>
<td>H7 CI Use → Performance</td>
<td>0.02</td>
<td>ns</td>
</tr>
<tr>
<td>H8 Adaptive Selling → Performance</td>
<td>0.16</td>
<td>0.02</td>
</tr>
</tbody>
</table>

Chi-square (df) 1010.3(294)  
p value 0.001  
CFI 0.92  
SRMR 0.07  
RMSEA 0.07  

Note: ‘ns’ indicates p>0.05
Δ Chi-square (5) = 7.9, ns (p<.975)
Table 6a: Standardized Parameter Estimates and Goodness-of-Fit Statistics
Respecified Model: Linear Effects

<table>
<thead>
<tr>
<th>Relationships</th>
<th>Estimates</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role Stress → CI Collection</td>
<td>-0.21</td>
<td>0.01</td>
</tr>
<tr>
<td>Role Stress → CI Use</td>
<td>-0.06</td>
<td>ns</td>
</tr>
<tr>
<td>Role Identity Salience → CI Collection</td>
<td>0.48</td>
<td>0.001</td>
</tr>
<tr>
<td>Role Identity Salience → CI Use</td>
<td>0.18</td>
<td>0.001</td>
</tr>
<tr>
<td>Role I.S. X Recognition → CI Collection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>CI Collection → CI Use</td>
<td>0.62</td>
<td>0.001</td>
</tr>
<tr>
<td>CI Use → Adaptive Selling</td>
<td>0.63</td>
<td>0.001</td>
</tr>
<tr>
<td>CI Use → Performance</td>
<td>0.02</td>
<td>ns</td>
</tr>
<tr>
<td>CI Use X Coaching → Performance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adaptive Selling → Performance</td>
<td>0.15</td>
<td>0.02</td>
</tr>
</tbody>
</table>

Chi-square (df) 823.9(279)

*p value   0.001
CFI     0.94
SRMR     0.08
RMSEA     0.06

Note: ‘ns’ indicates p>0.05
Table 6b: Standardized Parameter Estimates and Goodness-of-Fit Statistics
Respecified Model: Interactive Effects

<table>
<thead>
<tr>
<th>Relationships</th>
<th>CI Collection</th>
<th>Estimates</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role Stress</td>
<td>→ CI Collection</td>
<td>-0.21</td>
<td>0.01</td>
</tr>
<tr>
<td>Role Stress</td>
<td>→ CI Use</td>
<td>-0.06</td>
<td>ns</td>
</tr>
<tr>
<td>Role Identity Salience</td>
<td>→ CI Collection</td>
<td>0.55</td>
<td>0.001</td>
</tr>
<tr>
<td>Role Identity Salience</td>
<td>→ CI Use</td>
<td>0.18</td>
<td>0.001</td>
</tr>
<tr>
<td>Role I.S. X Recognition</td>
<td>→ CI Collection</td>
<td>0.13</td>
<td>0.02</td>
</tr>
<tr>
<td>CI Collection</td>
<td>→ CI Use</td>
<td>0.62</td>
<td>0.001</td>
</tr>
<tr>
<td>CI Use</td>
<td>→ Adaptive Selling</td>
<td>0.63</td>
<td>0.001</td>
</tr>
<tr>
<td>CI Use</td>
<td>→ Performance</td>
<td>0.01</td>
<td>ns</td>
</tr>
<tr>
<td>CI Use X Coaching</td>
<td>→ Performance</td>
<td>0.10</td>
<td>0.04</td>
</tr>
<tr>
<td>Adaptive Selling</td>
<td>→ Performance</td>
<td>0.15</td>
<td>0.03</td>
</tr>
</tbody>
</table>

|                      | Chi-square (df)         | 815.3(277) |
|                      | p value                 | 0.001 |
|                      | CFI                     | 0.94 |
|                      | SRMR                    | 0.08 |
|                      | RMSEA                   | 0.06 |

*Note: ‘ns’ indicates p>0.05

Δ Chi-square (2) = 8.6 (p<.05)
Table 7: Discriminant Validity - Comparing Squared Intercorrelations and Variance Extracted by Latent Constructs

<table>
<thead>
<tr>
<th>Latent Constructs</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Role Ambiguity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.757</td>
</tr>
<tr>
<td>2 Role Conflict</td>
<td>0.052</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.567</td>
</tr>
<tr>
<td>3 Org. Identification</td>
<td>0.217</td>
<td>0.000</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.633</td>
</tr>
<tr>
<td>4 Job Involvement</td>
<td>0.125</td>
<td>0.000</td>
<td>0.393</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.544</td>
</tr>
<tr>
<td>5 Recognition</td>
<td>0.148</td>
<td>0.008</td>
<td>0.126</td>
<td>0.061</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>.858</td>
</tr>
<tr>
<td>6 CI Collection</td>
<td>0.167</td>
<td>0.000</td>
<td>0.266</td>
<td>0.244</td>
<td>0.064</td>
<td></td>
<td></td>
<td></td>
<td>.774</td>
</tr>
<tr>
<td>7 CI Use</td>
<td>0.136</td>
<td>0.000</td>
<td>0.225</td>
<td>0.213</td>
<td>0.063</td>
<td>0.453</td>
<td></td>
<td></td>
<td>.793</td>
</tr>
<tr>
<td>8 Coaching</td>
<td>0.069</td>
<td>0.066</td>
<td>0.006</td>
<td>0.006</td>
<td>0.195</td>
<td>0.007</td>
<td>0.003</td>
<td></td>
<td>.947</td>
</tr>
<tr>
<td>9 Adaptive Selling</td>
<td>0.164</td>
<td>0.006</td>
<td>0.371</td>
<td>0.176</td>
<td>0.100</td>
<td>0.416</td>
<td>0.260</td>
<td>0.003</td>
<td>.583</td>
</tr>
</tbody>
</table>

Variance extracted by each construct is on the diagonal.
Table 8: Measurement Error Fix for Interaction Terms

<table>
<thead>
<tr>
<th>Interactions</th>
<th>( \rho_{xz} )</th>
<th>1-( \rho_{xz} )</th>
<th>Variance</th>
<th>Variance X (1-( \rho_{xz} ))</th>
</tr>
</thead>
<tbody>
<tr>
<td>Role Stress X Recognition</td>
<td>0.75</td>
<td>0.25</td>
<td>1.04</td>
<td>0.26</td>
</tr>
<tr>
<td>Role Identity Salience X Recognition</td>
<td>0.88</td>
<td>0.12</td>
<td>1.70</td>
<td>0.20</td>
</tr>
<tr>
<td>CI Collection X Coaching</td>
<td>0.78</td>
<td>0.22</td>
<td>1.06</td>
<td>0.23</td>
</tr>
<tr>
<td>CI Use X Coaching</td>
<td>0.78</td>
<td>0.22</td>
<td>1.13</td>
<td>0.25</td>
</tr>
</tbody>
</table>

\[
\rho_{xz} = \frac{(\text{Corr}^2_{x,z} + \rho_x\rho_z)}{(\text{Corr}^2_{x,z} + 1)}
\]
APPENDIX

Scale Items

All the scales utilized in the study are measured on a Likert scale ranging from 1-7 where 1= Strongly Disagree and 7=Strongly Agree. All the predictor variables were reported by salespeople indicating the degree to which they agree or disagree with scale items. The terminal criterion variable was obtained from company records.

Recognition
(Adapted from Koys and DeCotiis 1991)
When considering competitive intelligence, my manager...
...gives special recognition when a salesperson produces at a high level.
…commends a salesperson when he/she exceeds his/her productivity goals.
…frequently acknowledges a salesperson’s good performance.

Adaptive Selling
(Adapted from Spiro and Weitz 1990)
1. Each customer requires a unique approach.
2. When I feel that my sales approach is not working, I can easily change to another approach.
3. I like to experiment with different sales approaches.

Role Conflict
(Adapted from Rizzo, House, and Lirtzman 1970)
1. I receive assignments without the resource to complete them.
2. I sometimes receive incompatible work requests from different people.
3. I am sometimes required to work on unnecessary things.
Role Ambiguity
(Reverse coded)
(Adapted from Rizzo, House, and Lirtzman 1970)
1. Clear planned goals/objectives exist for my job.
2. I know exactly what is expected of me.
3. I know how my performance is going to be evaluated.

Job Involvement
(Adapted from Kanungo 1982)
1. Most of my interests are centered around my job.
2. I have very strong ties with my present job which would be very difficult to break.
3. Most of my personal life goals are job-oriented.
4. When someone criticizes the job of being a (job title) it feels like a personal insult.
5. I am very interested in what others think about the job like mine.
6. When someone praises the job of being a (job title), it feels like a personal compliment.

Coaching
(Adapted from Ellinger, Ellinger, and Keller 2003)

When considering competitive intelligence, my manager’s behavioral approach toward me is focused on...

…Achievement of clear, holistic goals.
…My long term growth.
…Encouraging me to think of my own solutions.
…Development of skills and knowledge.
…My awareness as a means to learn.
Organizational Identification
(Adapted from Mael and Ashforth 1992)
1. When someone criticizes (company name), it feels like a personal insult.
2. I am very interested in what others think about (company name).
3. When I talk about (company name), I usually say “we” rather than “they.”
4. (Company name)’s successes are my successes.
5. When someone praises (company name), it feels like a personal compliment.
6. If a story in the media criticized (company name), I would feel embarrassed.

Competitive Intelligence Collection
(Adapted from LeBon and Merunka 2006)
1. When I am in the field, I try to gather and transmit reliable information about competitors.
2. I always assign myself objectives to obtain information about competitors.
3. I ask customers about the competition’s products and strategies.

Competitive Intelligence Use
(Adapted from Maltz and Kohli 1996)
Over the last three months, the competitors’ information I received from different sources...
...helped shape my selling strategies
…improved my understanding of the market
…changed my selling behaviors