EXAMINING THE RELATIONSHIP OF TEAM-MEMBER EXCHANGE AND EFFECTIVE OFFSHORE TEAMS: A QUANTITATIVE ASSESSMENT OF IT WORKERS IN THE INVESTMENT BANKING INDUSTRY

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Abstract

The concepts of workplace social interactions and team effectiveness have garnered a great deal of attention in organizational literature. However, these two concepts are seldom integrated for examination within the offshore technology groups. Drawing from the theory of workplace social exchange, this empirical study was initiated to investigate the relationship between team-member exchange (TMX) and perceived team effectiveness. Data was collected from a sample of 267 offshore IT professionals from the investment banking sector. Overall, results from correlational analyses conducted were consistent with the hypotheses. The results of the quantitative study indicated positive and significant correlations between the quality of TMX and offshore workers' perceptions of team effectiveness. That is, greater peer exchange relationships are more likely to achieve higher levels of job satisfaction, job commitment, trust, job performance and cohesiveness. The findings have advanced the understanding of the importance of offshore coworkers' interactions in relation to the overall team functioning. Practical and theoretical implications and future recommendations for research are presented.

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Dedication

This manuscript is dedicated to the two men who were the cynosure of my academic journey. The first was my dear father who taught me that education is a lifetime undertaking. His guidance and endless encouragement were the impetus for me to pursue my doctoral studies. The second was the father of a nation, the late Rafik Hariri, who provided higher education to tens of thousands of students regardless of their background. His unwavering support and commitment to education stemmed from his philosophy that education is the sine qua non of success of the society and its future. If it was not for the aforementioned, this achievement would not have been possible.

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CHAPTER 1. INTRODUCTION

Introduction to the Problem

Offshoring is a ubiquitous feature of today's global economy. The advent of globalization coupled with the technological advances has led organizations to extend the boundaries of workforce from the traditional (co-located) setting to the global (remote) setting. In addition, the recent global financial crises, including the collapse of the US-subprime mortgage market in 2008 and the current European debt conundrum, have pushed financial firms into aggressive cost-cutting strategies. In the realm of such economic turbulence, offshoring of organizational technology functions becomes a measure of cost and risk reduction designed to cope with future requirements in the financial industry.

Given the burgeoning interest in offshoring at the practitioner level, the topic is also garnering a high level of interest from scholars. Offshore teams create both challenges and opportunities for organizations that call for a better understanding of how a global virtual environment relates to team effectiveness (Shachaf, 2008). While it is becoming more common to deal with workers remotely, managers face a myriad of challenges exacerbated by the spatial, temporal and cultural distances. Among these challenges is the quality of workers' communication within the global offshore context (Jacobs, 2006). To cope with the complex and changing world, there is a need to have a

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dynamic understanding of the team interactions and their relationship to team outcomes (Miller, 2012). In addition, high quality workers' interactions become an enabler for group success in technology remote organizations. Thus, investigating the extent to which team member interactions may enhance or undermine the effectiveness of offshore technology teams within the investment banking industry provides an opportunity for improvement.

Background of the Study

There are a number of studies demonstrating that team member interactions can lead to greater team effectiveness in organizations (Layman, Williams, Damian, & Bures, 2006; Liu, Keller, & Shih, 2011; Tse & Dasborough, 2008). Recent studies have highlighted the importance of the quality of team-member exchange in connection with peculiar attitudinal, behavioral and socio-emotional team antecedents including commitment (Hellman, Witt, & Hilton, 1993), performance (Seers, 1989), cohesion (Jordon, Field, & Armenakis, 2002), job satisfaction (Golden, 2006), and trust (Seers, Petty, & Cashman, 1995). Whereas the growth of social exchange research in organizations has increased, few studies have investigated to what extent the organizational network exchanges relate to team outcomes within offshore organizations. As a consequence, Tse and Dasborough (2008) have suggested that more research is needed to understand the perceptions of individual workers' interactions in relation to perceived work outcomes from different contexts such as the global offshore teams.

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Statement of the Problem

The technological advances coupled with accelerated financial globalization have created a fertile environment for investment banks to offshore some of their information technology (IT) operations. One of the main incentives behind IT offshoring in investment banking is cost-cutting. As the need to bring down the cost remains relevant, it continues to drive executives to reduce costs and, in turn, firms continue to embrace technology offshoring strategies. The recent financial crisis coupled with a new wave of global regulations has given new impetus to cut down additional costs (Sidel & Lucchetti, 2011; Vithessonthi, 2011) and introduce efficiencies via technology solutions (Desai, 2009). This phenomenon has put more pressure on managers to coordinate and supervise dispersed project activities and resources (Palugod & Palugod, 2011). In addition, the offshore model faced many challenges including establishing an efficient and effective pool of talents that can be a natural fit to the overall onshore technology organization.

Although the importance of communication has been reiterated throughout the literature of organizational management and information systems, its effectiveness on the certain outcomes of remote and virtual teams remains unachieved (Saonee, Manju, Suprateek, & Kirkeby, 2011). Moreover, Aripin, Mustafa, and Hussein (2011) claimed that many research areas on remote workers are yet to be examined. Similarly, Mohiuddin (2011) argued that many aspects of offshore outsourcing are still in nascent stages. Thus, more research is needed on what managers can do to enhance the effectiveness of both resources and processes. In addition, communication has always been an essential tool for managers' success in virtual organizations (Ehsan, Mirza, &

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Ahmad, 2008). Having effective offshore teams enables organizations to dynamically achieve goals and modify business processes to meet changing market demands (Cascio, 2000). Therefore, the study reduces the gap in the existing research on the role of team-member exchange in offshore environments of financial firms.

Purpose of the Study

The purpose of this research is to identify and examine the relationship between team-member exchange and the effectiveness of offshore technology teams within investment banks. The study addresses the need of more research on communication effectiveness, particularly in offshore technology organizations of financial firms. Moreover, the study will have a positive impact on remote management by shedding light on one of the major challenges faced by IT managers dealing with remote offshore workers.

Rationale

This study suggests that team-member exchange serves as an important antecedent of team success. Such notion raises the possibility that financial firms can help create a context for their offshore technology teams to achieve higher levels of collaboration and productivity by focusing on enhancing the quality of member interactions. Furthermore, practitioners and scholars have increasingly argued that team outcomes are linked to how well the information is shared between individuals, teams, and entities (Liu et al., 2011). Given the importance of the quality of team-member

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exchange on team outcomes, it is critical to understand the reciprocity of individual's interactions and his or her perceptions of team outputs.

Research Questions

The study aims to answer the management question: Does team-member exchange in technology organizations contribute to the overall success and growth of the offshore teams? In order to address the research problem, the following research questions are developed to examine the relationship between peer communicative exchange and the critical factors of success in offshore teams.

The role of communication is recognized as a strong enabler in remote organizations. Furthermore, communication effectiveness has become more imperative in achieving better team member performance in managing offshore teams. Therefore, examining the relationship of team-member exchange and perceived workers' performance is warranted.

ResQ 1: Does team-member exchange relate to the performance of IT offshore team members within financial firms?

As communication effectiveness alleviates the geographical and cultural challenges in a dispersed offshore environment, it can help managers enhance the effectiveness of resources through determining the impact on perceived cohesion. This leads to the following question:

ResQ 2: Is the team-member exchange between offshore workers related to establishing cohesiveness?

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The catalyst of having a successful relationship between a manager and a remote employee is trust. Trust is developed through multiple factors including effective communication among team members. Thus, the question concerning trust among offshore teams will be stated as follows:

ResQ 3: To what extent does team-member exchange relate to building trust within offshore workers?

Effective communication drives job satisfaction in offshore environments, which eventually enhances team effectiveness. Thus, the following question identifying the relationship between team members' interactions and job satisfaction will be stated as follows:

ResQ 4: What is the relationship between team member exchange and perceived job satisfaction of offshore workers?

As organizational commitment presents the cornerstone of management strategy of successful teams, it is paramount to identify the relationship between team-member exchange and the remote worker's job commitment.

ResQ 5: To what extent does team-member exchange relate to building job commitment among offshore workers?

Hypotheses

The null hypothesis in this study suggests that team-member exchange demonstrates no significant link to team effectiveness as measured by job performance, job commitment, cohesiveness, job satisfaction, and trust among offshore technology

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team-members working in financial firms. The following null hypotheses guided this study:

$H_0$1: There is no relationship between team-member exchange and perceived performance within IT offshore workers in financial firms.

H_A1: There is a significant relationship between team-member exchange and perceived performance of IT offshore workers within financial firms.

$H_0$2: There is no relationship between team-member exchange and perceived cohesiveness within IT offshore workers in financial firms.

H_A2: There is a significant relationship between team-member exchange and perceived cohesiveness within IT offshore workers in financial firms.

$H_0$3: There is no relationship between team-member exchange and building trust within IT offshore workers in financial firms.

H_A3: There is a significant relationship between team-member exchange and building trust within IT offshore workers in financial firms.

$H_0$4: There is no relationship between team-member exchange and perceived job satisfaction within IT offshore workers in financial firms.

H_A4: There is a significant relationship between team-member exchange and perceived job satisfaction within IT offshore workers in financial firms.

$H_0$5: There is no relationship between team-member exchange and building job commitment within IT offshore workers in financial firms.

H_A5: There is a positive relationship between team-member exchange and building job commitment within IT offshore workers in financial firms.

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Significance of the Study

The present research sheds light on one of the key challenges faced by IT managers dealing with remote workers – managing the quality of team-member exchange in offshore organizations. The significance of this study is twofold. First, it will provide organizational technology managers with further understanding of the relationships between communication exchanges within offshore teams and perceptions of antecedents underlying team effectiveness. Second, the findings will support and augment the existing research on offshore technology management. The study offers a novel perspective on team-member interactions within the offshore technology organizations of investment banks. Thus, the research presents a positive feedback for managers and bridges the gap in the literature.

Definition of Terms

One of the challenges with assessing the research on global virtual teams is the range of definitions employed. The following terms are defined for the purpose of this study.

Synchronous and asynchronous. Synchronous interactions entail real-time communication between workers, while asynchronous interactions involve time-constrained communication.

Computer-mediated-communication. Also known as CMC, the term refers to the communication activities among team members who rely on socio-technical systems to interact, coordinate and facilitate tasks. CMC is ubiquitous in global virtual teams.

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Face-to-face communications. Also known as FTF, the term refers to communication activities occurring in a real-time physical setting where both of communicative parties are located in the same location.

Global virtual teams. Also known as GVTs, the term refers to teams the geographically distributed teams characterized by multinational, intercultural, and global workforce.

Information and communication technology. Also known as ICT, the term refers to various technologies used to process, store, transfer, and disseminate information among different organizational entities.

Leader-member exchange. Also known as LMX, the term refers to the individual's perceptions of the exchange relationship with his or her supervisor.

Offshoring. The term refers to reallocation of operation or/and technology functions of an organization to another country.

Organization-member exchange. Also known as OMX, the term refers to the individual's perceptions of the exchange relationship with his or her organizational entities.

Outsourcing. The term refers to reallocation of operation or/and technology functions of an organization to another company.

Team-member exchange. Also known as TMX, the term refers to the individual's perceptions of the exchange relationship with his or her other team members.

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Assumptions, Strengths, and Limitations

Several assumptions applied to the current study. The study is conducted with the general assumption that participants submit an honest and accurate response with no coercion involved in the participation process. In addition, the study has utilized existing scale items as part of the data collection instrument. Thus, it is assumed that the measurement tools are appropriate for measuring the study's variables.

This research examines the relationship between team-member interactions and the effectiveness of offshore technology teams within investment banks. The quantitative approach for the study is correlational which precludes the researcher from drawing any cause-effect conclusions. Correlational approach does not establish any causality between independent and dependent variables (Johnson, 2001). Therefore, it is assumed that there will be no linear causality among variables.

This study obtains the sample of IT professionals from the LinkedIn population. LinkedIn represents the biggest professional network with a membership of 135 million covering over 200 countries (LinkedIn, 2012). A 2010 study found that 97% of decisions makers in corporation use LinkedIn (Diana, 2011). Thus, it is assumed that IT professionals working in investment banks have LinkedIn profiles and are computer literate.

The study also incorporates multiple strengths in the design. First, the established instruments to be used in the study have been tested by various previous researchers. In addition, the pilot test will also strengthen the validity and reliability of these instruments. Second, based on the population size of the study and the use of Cochran's (1977) sample

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approach, the sample size is sufficient to satisfy a robust power analysis. Third, the majority of construct measures used in the research is utilized by studies involving virtual or offshore workers. Thus, the use of such measures aligns with the offshore context of this study.

The first limitation of the study is that the results are based on a particular industry (i.e., the investment banking industry). Therefore, the generalization to other industries is limited. Second, the sample is drawn only from the IT professionals who have online LinkedIn account. This probability sampling of subjects distorts the representativeness of the sample. Third, the study utilizes a web-based survey, which requires protection of participants. However, privacy and confidentiality cannot be guaranteed due to possible but rare electronic breaches. Finally, the diversity of the subjects implies various cultural contexts, which might influence the results and eventually the generalizability of the study. For example, the same measure can yield different results for a software engineer in Germany and an offshore team member in India. Cultural differences impact the workers' perceptions of various organizational aspects. Despite these limitations, the study still contributes to the research theory and offshore management practice.

Conceptual Framework

The theoretical framework serves the purpose of structuring research questions while it accelerates the application of theory (Schiller & Mandviwalla, 2007). This study examines the relationship between team-member exchange and perceived team

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effectiveness. The concept of team effectiveness is multidimensional which includes job performance, cohesiveness, trust, job satisfaction and job commitment. The theoretical foundation of the study is derived from organizational theories that explain workers' interactions in relation to different work outcomes phenomena. This conceptual framework of the study is depicted in Figure 1.

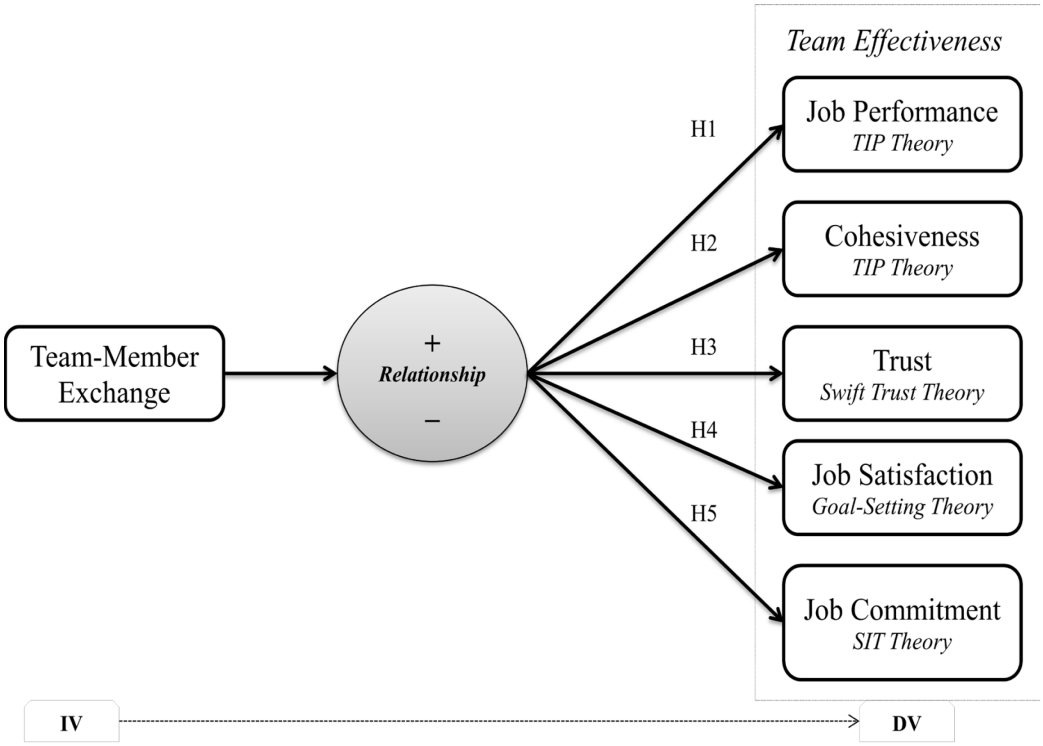

Figure 1. Conceptual model of the study.

The theoretical underpinning that helped understand the relationship between team-member exchange and its relationship to cohesiveness and job performance is consistent with the time, interaction and performance (TIP) theory (McGrath, 1991). Demiris, Washington, Doorenbos, Oliver, and Wittenberg-Lyles (2008) suggest that team

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functions pertaining to team-member interactions contribute to shared common goals, team well-being and higher performance. To study the phenomenon of building trust among team members in relation to interpersonal interactions can be guided by the swift trust theory formulated by Meyerson, Weick, and Kramer (1996). Pertaining to the global virtual workforce, the theory suggests that high levels of team actions, including communicative exchanges, reinforce confidence within team members (Daim et al., 2012). To explore the relationship between team-member exchange and job satisfaction, this study adopts the goal-setting theory formulated by Locke (1970). The theory suggests that the worker's determination to reach a goal can regulate his or her actions and work outcomes including job satisfaction (Locke & Latham, 1990). Finally, the link between peer interactions and job commitment is explained by the self-identification theory (SIT) developed by Tajfel (1981). Yu and Cable (2011) suggest that sharing information leads to the formation of social identity and reinforcement of membership to teams.

Organization of the Remainder of the Study

The remainder of the study is organized into four distinct chapters. After introducing the topic in Chapter 1, the next chapter provides a review of the literature pertaining to team interactions, team effectiveness, and offshore groups from both empirical and theoretical perspectives. Next, the research methodology and design used to conduct the study are described in Chapter 3. The research results and analyses are

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then presented in Chapter 4. Finally, Chapter 5 discusses the results of the study along with the implications and recommendations for future research.

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CHAPTER 2. LITERATURE REVIEW

Introduction

The purpose of this quantitative research is to examine the relationship between team-member exchange and the outcomes of team effectiveness including trust, job performance, job satisfaction, job commitment, and cohesiveness. The study is designed to fill the research gap on communication effectiveness and its relationship to enhancing work outcomes in offshore technology organizations within the financial industry. To anchor an understanding of the relationship between the quality of interpersonal interactions and team effectiveness, it is necessary first to examine the literature that has shaped these concepts. In addition, the literature review covers a gamut of theoretical concepts that provide the foundation for the conceptual framework of the correlational study. The purpose of this chapter is to review the literature relevant to the communication interactions and team effectiveness within the offshore organizational context.

The chapter has six sections each covering team-member exchange (TMX) and its relationship with the five antecedents of team effectiveness leading to suboptimal model based on the quality of communication exchanges. The chapter starts with the premise that communication is a critical process to organizations. Afterwards, the concept of TMX is discussed along with its theoretical underpinning of the social exchange theory.

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Following this, communication exchange is examined from the offshore perspective describing the various characteristics that distinguish offshore teams from conventional teams including spatial distance, temporal distribution, cultural heterogeneity, and technological mediation. The role of technology in mitigating the negative effects of offshore communication breakdown and diminishing the social communicative factor is also examined in this review. The chapter then proceeds to explain the concepts of team effectiveness antecedents and outline their theoretical bases. Finally, each of the attitudinal, behavioral and socio-emotional outcomes is empirically examined in relationship to TMX along with the specific role each plays in the offshore teams.

Communication in Organizations

While the discipline of organizational communication has been around for decades, it will continue to evolve in parallel to the eclectic nature of organizational management in an ever changing and complex world (Miller, 2012). The efficacy of organizational and team communication is well established in management practice. The idea of work-related exchanges being a key pillar to management is not new. Weber's (1947) seminal work focused on the role of the information flow of formal communication in organizational bureaucracies. Fayol (1949) introduced a new perspective on informal messaging and presented communication as the *sine qua non* of successful management. Bernard (1938) viewed communication as an essential tool for managers to link team members together through common purpose and shared understanding. In sum, the aforementioned literature suggests that communication is a

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ubiquitous part of organizational dynamics (Diallo & Thuillier, 2005; Ehsan et al., 2008; Jones, Watson, Gardner, & Gallois, 2004; Muchinsky, 1977; Paulraj, Lado, & Chen, 2008, Pincus, 1986).

Drawing on organizational behavior and theory, the genres of communication in organizations involve exchanging, interpreting, formulating, organizing, sharing, and presenting information in order to increase common understanding and reduce entropy. Organizational communication is defined as the process where members of the organization send and receive information (DeNobile & McCormick, 2008; Dwyer, 2009). This process includes internal, external, formal, informal, intra-team, inter-team, verbal, and nonverbal exchanges (Johansson, 2007). Since communication entails exchange of information, the bilateral interaction among participants is necessary to achieve a mutual inference of the meaning (Weick & Browning, 1986). This intra-team characteristic of coworkers' interactions has been the underpinning of organizational communication (Bernard, 1938).

Miller (2012) opined that as the working environment evolves, the role of interacting with individuals and groups within the organization should be reevaluated. The review of organizational research revealed multiple facets of communication including accessibility (O'Reilly, 1982), accuracy (Raina, 2010), information quality (Byrne & LeMay, 2006; Calabrese, 2004; Marques, 2010), information distortion (Carley, & Lin, 1997; Housel & Davis, 1977; O'Reilly, 1978), communication channels (Chen, 2011; Dobos, 1992; Zmud, Lind, & Young, 1990), communication measurement (Greenbaum, DeWine, & Downs, 1987; Muchinsky, 1977; Roberts & O'Reilly, 1974),

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and virtual communication (DeSanctis & Monge, 1998; Sarker, Ahuja, Sarker, & Kirkeby, 2011; Wiesenfeld, Raghuram, & Garud, 1998). However, the role of communication in relation to the changing landscape of organizations has not educed enough literature, and it remains disjointed. The shifting of the globalized business environment requires adjusting the communication processes to account for the complex interconnections between social, cultural, organizational, and global aspects of the changing working environment.

Team-Member Exchange

There is no doubt that communication is an essential factor at the cross-organizational level (e.g., organization, team, and peer levels). With organizations using less hierarchical structures with more work teams (Mannix & Neale, 2005) and geographical dispersed workforce (Cramton & Webber, 2005), social exchange relationships have captured more and more attention (Liao, Liu, & Loi, 2010). In addition, communication effectiveness is reflected in the quality of exchange relationships among workers (Alge, Wiethoff, & Klein, 2003). The quality of exchange relationships entails the reciprocity in contribution of ideas, support, feedback, knowledge sharing and rewards (Dose, 1999; Seers et al., 1995). The quality of exchange relationships is measured by the team-member exchange (TMX) construct (Seers, 1989).

TMX is a fundamental element of intra-team dynamics. Drawing on the research of leader-member exchange (LMX) and organization-member exchange (OMX), Seers (1989) developed TMX to close the loop on the social exchange continuum comprising

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peer, supervisor, and organizational interactions. TMX is parallel to the concept of LMX (Graen & Cashman, 1975) as it pertains to the quality of exchange between partners (Seers et al., 1995). Unlike the dyadic LMX, TMX addresses the individual perceptions of workers' interactions in the workplace (Witt, Hochwarter, Hilton, & Hillman, 1999).

Team-member exchange represents the worker's perception of exchanges existing with members of the team (Liden, Wayne & Sparrowe, 2000). Seers (1989) identified team-member exchange as the overall quality of interactions between a worker and his or her other team members. Elias (2008) refers to team-member exchange as the degree to which an employee works effectively with other members of the team including subordinate, supervisor, peer, and project manager interactions. Dierdorff, Bell, and Belohlav (2011) utilized TMX to measure "team-member self-perception of the willingness to help others, to share ideas and feedback with other team members, and team-member perception of how readily help, information, and recognition are received from others" (p. 250).

The quality of peer exchanges stems from two-way communicative support for team members. Instrumental support includes feedback, help, and knowledge sharing, while emotional support includes listening to concerns and understanding (Anand, Vidyarthi, Liden, & Rousseau, 2010). The context of communicative support cultivates a positive workplace characterized by cooperation, mutual understanding, and task engagement. It also motivates the workers to exert extra-role behaviors in support of the overall team goals. This working atmosphere under high quality TMX becomes the impetus for effective teams (Tse & Dasborough, 2008).

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Empirical studies have examined the quality of team-member exchange in connection with peculiar attitudinal, behavioral and socio-emotional team dynamics. Accumulating evidence links TMX to commitment (Hellman et al., 1993; Keup, Bnuiing, & Seers, 2004), social support (Kamdar & Van Dyne, 2007), performance (Alge et al., 2003; Liden et al., 2000; Seers, 1989), cohesion (Jordon et al., 2002; Seers et al., 1995), shared ownership and group identity (Ford & Seers, 2006), job satisfaction (Golden, 2006; Seers, 1989, Wech, 2003), trust (Seers et al., 1995), and citizenship behavior (Chiaburu & Harrison, 2008; Love & Forret, 2008). In consequence of this line of research, Tse and Dasborough (2008) contended that it is essential to understand the perceptions of the individual workers on peer-exchange relationships with their colleagues. As such, these findings support the existence of positive relationships between TMX and work outcomes.

Theoretical Basis

Referring to the quality of interpersonal interactions in peer groups, team-member exchange (TMX) is a theoretical extension of the LMX concept (Tse, Dasborough, & Ashkanasy, 2005). Like LMX, TMX is anchored in social exchange theory (Blau, 1964) as it provides work-related and social support to workers. Recognized as one of the influential theories on understanding organizational exchange relationships, the social exchange theory has a diffuse nature as it distinguishes between social and economic exchanges (Murphy, Wayne, Erdogan, 2003). Social exchanges entail notions of commitment, trust, and appreciation; while economic exchanges address the tangible

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needs of employment such as compensation. The underpinning of TMX and LMX does not follow the dichotomy between social and economic exchanges; instead it instills a holistic approach of both forms of exchanges. Nonetheless, social exchange theory provides a mechanism for TMX and LMX through which the worker's perceptions of the communicative support received by the exchange partner (supervisor or peers) reciprocate a positive or negative behavior (Murphy et al., 2003).

Communication in Offshore Teams

As offshoring and remote work continue to rise, it brings about new challenges to the traditional management style. Shachaf (2008) emphasized that communication issues pose both opportunities and challenges for offshore managers. Communication plays a pivotal role in control, coordination, and knowledge management, which in turn contributes to the execution of the organization mission (Poole, 1978). Team-member communication is central to any organization regardless of the team structure or setting. Marques (2010) expounds the communication process as the foundation to informational processing occurring in any business environment setting. Although communication is fundamental to all forms of organizations, it is preeminent in offshore teams (DeSanctis & Monge, 1998). Offshore team members exchange information to solve problems, build products, test solutions, and support the production environment (Berry, 2011). Unlike the conventional face-to-face (FTF), offshore teams have salient communication drawbacks. According to Staples (1997), typical communication problems within virtual teams include the following:

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> Keeping remote sites in the communication loop and having an equal information transfer for remote and nonremote sites; how can you be confident that you will get the required information about critical issues; the communication skills required; the loss/lack of informal contact; how to replace the non-verbal signals lost by less face-to-face communications; how to get timely access, both for managers to employees and vice versa, and timely response to messages; communications between manager and employees and between peers and management for sharing ideas and keeping in touch; how to deliver negative feedback remotely; and, communications to ensure that the roles of everyone in a work group/team are clear. (p. 82)

While offshore technology models present new challenges for managers in IT organizations, these challenges stem from several dimensions characterizing offshore teams including the location, time, culture, and technology dimensions. For technology leaders, these challenges augment the complexity of managing workers' interactions effectively (Shachaf, 2008) and carry potential negative ramifications on IT projects and implementations (Fabriek, Brand, Brinkkemper, Harmsen, & Helms, 2008). The literature on virtual team-member exchanges describes various characteristics that distinguish offshore teams from conventional teams including spatial distance, temporal distribution, cultural heterogeneity, and technological mediation.

Spatial distance. The geographical distance factor has a significant impact on the communication process of offshore teams. Due to spatial distance, both facial expression and body language are absent in the remote working environment. Cascio (2000) explains

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that the lack of physical interactions with the absence of the synergies of FTF cues reduces the quality of communicative relationships in offshore teams. The physical separation of offshore and onshore resources has negative impacts on furnishing common knowledge backgrounds and achieving cross-knowledge collaboration. In addition, complex tasks require significant information exchange and collaborative decision-making involving multiple individuals from both the offshore and onshore teams (Bell & Kozlowski, 2002). The majority of the system subject matter experts (SMEs) are often co-located within the onshore organization along with the supported line of business. This makes it more challenging for offshore team members to acquire tacit knowledge that is linked to both subject and context (Grote & Taube, 2006).

Temporal distribution. Virtual management research reveals that team member interactions in offshore organization are usually asynchronous instead of the traditional synchronous (Berry, 2011) partly because offshore technology teams are located in distant locations and different time zones. Temporal distance brings out various complexities to team interactions in offshore organizations. The level of complexity increases with the intensity of workflow arrangements (Bell & Kozlowski, 2002), which might require close collaboration of team members to accomplish tasks. Various studies have provided evidence of the implications of the resulting complexities. According to Lee-Kelley and Sankey (2008), the temporal feature is linked to dissonance among team members. Sharp and Ryan (2011) suggested that temporal distribution impacts the knowledge exchange process as well as the collection of project requirements in technology teams. Colazo (2008) viewed the lack of coordination resulting from the

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notion of temporal communication as the element for severe problems in global software development teams. Despite the teamwork complexities generated from temporal or geographical dispersion, the use of advanced information technology helps offshore teams to cross the boundaries of time (Bell & Kozlowski, 2002).

Cultural diversity. Although the cultural diversity contributes to stronger technology teams (Childs, 2005), it can also lead to communication breakdown and eventually impact team effectiveness (Layman et al., 2006). Barna (1985) described the factors behind such phenomenon as the language, nonverbal misunderstanding, misconceptions and stereotypes, high anxiety, similarity assumption, and the tendency to judge and evaluate. Shachaf (2008) argues that the cultural heterogeneity of team members within offshore organizations contributes to communication distortion due to cultural biases. The study of Hinds and Weisband (2003) found that such communicative distortions lead to less sharing of information that is critical to task execution. Despite these drawbacks of intercultural miscommunication, Shachaf (2008) found that the negative impact on employees' exchanges could be mitigated by having effective management and using ICT-based tools.

Technological mediation. Technological mediation presents opportunities and challenges for the offshore communication process. The absence of physical presence is counterbalanced by the use of computer-mediated communication (CMC) technologies to interact and collaborate in offshore organizations. However, the complete virtuality of offshore teams exacerbates the challenges of remote organizations (Berry, 2011). The relative loss of contextual information due to CMC hinders mutual understandings among

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team members. Driskell, Radtke, and Salas (2003) point out the negative effects of technological mediation on cohesiveness, team performance and eventually task commitment. In addition, the technology's role in bridging the temporal, cultural and spatial gaps can be limited with the lack of process. In order to realize the benefit of technology in enabling collaboration, Cascio (2000) explains that offshore members need to be empowered to make decisions.

Communication and Technology

Information and communication technology (ICT) is considered the backbone of the infrastructure supporting offshore technology teams. The use of ICT has changed the landscape of organizational communication (Aman & Nicholson, 2009; Tripathi, 2006; Yu & Guo, 2008) and allowed for the development of the global virtual model (Gressgård, 2011; Mowshowitz, 1997; Peters & Manz, 2007). Unlike traditional teams who utilize fact-to-face (FTF) interactions, offshore teams use computer-mediated technologies (CMCs) to communicate regardless of the time or location. ICT provides an efficient approach for knowledge management that entails sharing, dissemination, distribution and repackaging of information (Ng & Li, 2003). Although offshore virtual environments present considerable challenges to effective communication (Ramalingam, Mahalingam, & Hartmann, 2011), leveraging ICT mitigates these negative challenges and enhances the collaboration process among virtual workers (Montoya, Massey, Hung, & Crisp, 2009). Table 1 provides further insights into the role of ICT in reducing communication challenges in remote teams.

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Table 1

ICT Role in Remote Teams

Impacts of remote teams	ICT role	Outcome
Leverage diverse knowledge and skills to improve outcomes of decision-making, and to develop a global product	Enable	Improve job performance
Concurrent engineering to reduce time to market	Enable	Improve job performance
Software engineering reduces dependency on how each component functions to improve integration of components	Enable	Improve job performance
Constructive conflict	Enable	Improve job performance Reduce job satisfaction
Differences in non-verbal styles create miscommunication	Eliminate	Improve job satisfaction Improve job performance
Differences in verbal style create miscommunication	Mitigate	Improve job satisfaction Improve job performance
Language differences create miscommunication due to lack of accuracy	Mitigate	Improve job satisfaction Improve job performance

Note. Adapted from "Cultural diversity and information and communication technology impacts on global virtual teams," by P. Shachaf, 2008, *Information & Management, 45*(2), p. 145.

Remote teams rely heavily on ICT-based tools. Offshore team members use various technologies for exchanging information, collaborating on assignments, and connecting with their onshore partners. Offshore infrastructure for communication consists of technologies like e-mail, chat, LiveMeeting, teleconferencing, eRoom, WebEx, virtual private networks, videoconferencing, instant messengers, Network File Sharing (NFS), and the recent CISCO technology TelePresence (Duranti & Almeida, 2012; Montoya et al., 2009; Shachaf, 2008, Webster & Wong, 2008).

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While the role of ICT remains overwhelmingly positive in relation to virtual teams (Akgun, Dayan, & Benedetto, 2008; Gressgård, 2011; Mohamed, 2007), other studies present information exchange technologies as a barrier to team effectiveness. Since offshore teams are comprised of diverse and geographical dispersed workforce, differences in interpretations emerge hindering the development of shared understanding (Hinds & Weisband, 2003). Roberts (2000) points out that some ICT-based tools cannot fully transfer tacit knowledge, which eventually leads to the lack of trust among team members. Ramayah, Jantan, Nasurdin, and Ling (2003) suggest that electronic communication could have a negative impact on overall team performance. The evaluation of the impact of electronic communication technologies has been hampered by the complexity of offshore teams. Despite the stated drawbacks, ICT remains a potent force in driving success of offshore technology teams.

Trust

Trust is integral to both organizations and teams. According to Ichijo, von Krogh, and Nonaka (2000), trust is considered the catalyst for enhancing team-member cooperation and information exchange. Other scholars on organizational trust associate high level of trust with confidence (Earley, 1986), creativity and critical thinking (Reina & Reina, 1999), cooperative behavior (Shockley-Zalabak, Kathleen, & Winograd, 2000), empowerment (Culbert & McDonough, 1986) and motivation (Grant & Sumanth, 2009). Given the heightened interest in trust and its role in bridging past experiences and

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anticipated future ones (Blomqvist, 1997), it is obvious that trust contributes to the overall team effectiveness and success.

Concept of Trust

The concept of trust is multidimensional consisting of the behavioral, cognitive and emotional dimensions (Shockley-Zalabak, Morreale, & Hackman, 2011). The relationship of trust and team-member interactions lies in the socio-emotional dimension of team effectiveness. Trust is viewed by many scholars from the rational and social lenses. Jarvenpaa, Knoll, & Leidner (1998) suggest that the rational perspective is centered on the employee's self-interest and personality while the social perspective is concerned more with the moral obligation towards the team and organization. This study adopts a social view of trust to allow the examination of the perceptions of trust by team-members.

The definition of trust in the literature has been expansive and numerous. The exhaustive review by Burke, Sims, Lazzara and Salas (2007) entailed more than 30 different conceptualizations of trust, and summarized the concept to three different components: (a) willingness to accept vulnerability (Butler, 1991; Mayer & Davis, 1999), (b) the anticipation of protecting and promoting interests in the absence of monitoring (Mayer, Davis, & Schoorman, 1995), and (c) the assessment of the character, integrity, intentions, and reliability of others (Rousseau, Sitkin, Burt, & Camerer, 1998). This study adopts an integrated definition of trust based on the first two components of Burke et al. (2007). Thus, trust is conceived as the willingness of team members to depend on each

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other and live up to the team's expectations (Jarvenpaa & Leidner, 1998; Jarvenpaa, Shaw, & Staples, 2004).

A myriad of studies on trust reveal various features of the concept of trust. According to Paliszkiewicz (2011), these features are summarized in the following: (a) trust is interpersonal as it utilizes team-member interactions; (b) trust is situational and not global; (c) trust is voluntary as it is experimental; (d) trust is committed as it springs from team-members interdependency; (e) trust is relevant to both parties; (f) trust is temporal as it gradually grows; (g) trust is action oriented as it is intrinsic to the relationship goal; and (i) trust is not a linear process as it is impacted by the state of the overall relationship.

Theoretical Basis

Trust is considered an integral aspect to various conceptual frameworks including the classic theory of social exchange (Blau, 1964), transaction costs theory (Coase, 1937), and the swift trust theory (Meyerson et al., 1996). The theoretical framework that helped understand the relationship between team-member exchange and trust lies in the swift trust theory developed by Meyerson et al. (1996). Pertaining to the global virtual teams (GVT), the theory suggests that high levels of team actions including communication reinforce confidence within team members (Daim et al., 2012). According to Schiller and Mandviwalla (2007), the swift trust theory is used to explain interpersonal interactions between global team members with short working experiences. Members of offshore teams operate in different locations, timing zones, and backgrounds, which

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makes the gradual development of trust more challenging. Therefore, it is crucial for offshore team members to take actions that help maintain trust. For example, communication actions related to project updates such as tasks, requirements, and specifications are necessary to maintain trust between project teams (Jarvenpaa & Leidner, 1998).

Trust and Team-Member Exchange

Examining the role of communication in trust development is appropriate as social interactions are central to maintaining relationships. A number of concepts describe the development of trust in the context of social exchange. The social exchange theory developed by Blau (1964) assumes that the process of trust formulation evolves in an environment of mutual exchange of benefits between individuals including exchange of information. Similarly, the swift trust theory (Meyerson et al., 1996) promotes frequent communication actions to maintain trust between members of the team.

Studies have confirmed that the quality of communication is associated with trust and cooperation (Muchinsky, 1977; Whitener, Brodt, Korsgaard, & Werner, 1998; Yeager, 1978). According to Aripin et al. (2011), trust has a direct relationship to communication and teamwork. In addition, arguments on team-member exchange can be used to support outcomes of trust. Rotter (1980) suggests that trustworthy individuals tend to act in a cooperative and prosocial manner. Carnevale (1995) asserts that trust is earned through a myriad of exchanges between team members in the workplace. In addition, the seminal work of Jarvenpaa et al. (1998) also suggests that high trust in

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teams entails a pattern of team-member interactions, which is frequent, task-oriented and amicable.

As the cross-sharing of information is crucial to project success, communicative interactions should not be clouded with doubts. Diallo and Thuillier (2005) explain that communication is the antecedent of knowledge-based trust. Robert, Dennis, and Hung (2009) further elucidate that this type of trust emerges gradually with repeated interactions and work relations among team members over time. Thus, the quality of team-member exchange plays a prominent role in establishing the knowledge-based trust.

Trust and Offshore Teams

While trust is fundamental to the collaboration and teamwork in any organization, it is pivotal to virtual teams due to its role in bridging geographic, cultural and time distances (Aripin et al., 2011; Jarvenpaa et al., 1998). Offshore teams work in different locations and time zones from their main business operations. Such team characteristics have fostered the need of high-level trust that enables team members to collaborate virtually and perform effectively. A number of scholars view trust as a salient component of virtual organizations. Peters and Manz (2007) write that trust represents an essential element of team effectiveness in virtual organizations. Similarly, Ring and Van de Ven (1994) describe trust as the social lubricant of interdependent team members to achieve common goals. While Ghilic-Micu and Stoica (2003) confirm that trust is a high performing antecedent for teams, the writers conclude that its lack within team members leads to marginal work, high turnover, and sabotage among the behaviors.

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Trust in offshore virtual teams is harder to build. Aspirin et al. (2011) explain that barriers to developing trust are related to the factors of social control and psychological safety in virtual environments. Empirical research demonstrated negative associations between the remoteness or virtuality of teams and trust development (Bierly, Stark, & Kessler, 2009; Cramton & Webber, 1999; Webster & Wong, 2008). Other factors include the lack of FTF communications, which reduces interpersonal affections such as attentiveness, warmth, and body language (Jarvenpaa & Leidner, 1998). Compounding this problem, there are also other factors contributing to the barriers of trust development such as inadequate communication and less knowledge sharing. Peters and Manz (2007) assert that building trust in offshore virtual teams requires a meaningful dialogue that leads to shared understanding between team-members.

Job Satisfaction

The organizational theme of job satisfaction has garnered significant attention from both practitioners and researchers. Roznowski and Hulin (1992) regard job satisfaction as the most salient aspect of employees in organizations. Empirical research has revealed that high level of job satisfaction reflects higher degree of teamwork (Qureshi, Hayat, Ali, & Sarwat, 2011), lower rates of turnover (Chen, Ployhart, Thomas, Anderson, & Bliese, 2011; Neelamegam, 2010), higher levels of employee empowerment (Gill, Sharma, Mathur, & Bhutani, 2012), and higher productivity and job effectiveness (Brookfield, 1998; Roethlisberger & Dickson, 1939). Given the pivotal role job

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satisfaction plays in team dynamics, it is apparent that it contributes to the overall team effectiveness and success.

Concept of Job Satisfaction

The concept of job satisfaction has been investigated by numerous scholars over time (Blackburn & Bruce, 1989; Locke, 1969; Weiss, 2002). The concept is based on a general attitude a team member has towards own job. The relationship of job satisfaction and team-member interactions lies in the attitudinal dimension of team effectiveness. Ostroff (1992) suggests that such attitude stems from the worker's needs including rewards, tasks, management, and supportive working environment. Spector (1997) provides an expanded summary of the facets of job satisfaction including communication effectiveness, job condition, job nature, job security, recognition, management and coworkers' relationships, growth opportunities, compensation, appreciation, and fringe benefits.

The organizational literature provides a myriad of definitions on job satisfaction. The widely accepted definition by Locke (1976) describes job satisfaction as a "pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences" (p. 1300). Worf's (1970) definition focuses on the need fulfillment of the worker's physical and psychological needs. Similarly, Conrad, Conrad, and Parker (1985) provide support to the use of affect-based aspect through simplifying the definition as a match between the worker's perception and the outcome of the job. This study refers to

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job satisfaction as the perception of team members of what they require from the job versus what the job offers (Locke, 1970).

Theoretical Basis

Job satisfaction is a widely used variable in the theory of organizational phenomena including the two-factor theory of job satisfaction (Herzberg & Mausner, 1959), human needs theory (Maslow, 1954), and the goal-setting theory (Locke, 1970). The traditional models of job satisfaction focus on the attitude of the team member and its formulation with respect to the expectation versus the actuality of the job. However, the premise of this attitude stems from needs, job effects, or the combination of both. Maslow (1954) approaches the formulation of the employee's attitude from the perspective of needs fulfillment, while Locke (1970) approaches the same from the affect-based perspective. On the other hand, Herzberg and Mausner (1959) approach satisfaction attitudes from both perspectives expounding the aspect of satisfaction as a function of intrinsic and extrinsic factors of the job. This study adopts the affect-based perspective as presented by Locke's goal-setting theory.

The goal-setting theory formulated by Locke (1970) will cover the theoretical framework for understanding the relationship between communication and job satisfaction. The theory suggests that the worker's determination to reach a goal can regulate his or her actions and influence job satisfaction (Locke & Latham, 1990). According to the theory, workers react to goals with reference to their self-perceptions and their achievement of such goals can lead to various work outcomes including job

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satisfaction (Locke, 1969). In addition, Locke and Latham (2002) examined key elements to enhance goal commitment including adequate training, role modeling and effective communication.

Job Satisfaction and Team-Member Exchange

A great deal of research has been devoted to understanding the importance of team members being adequately informed on the job (Allen, 1996, Miller & Jablin, 1991; Sias, 2005), and how this notion is related to the workers' attitudes and outcomes (Mesmer-Magnus & DeChurch, 2009; Mishra & Morrisey, 1990). Team members regard high quality coworkers' interactions as an essential intrinsic motivation that may elevate their satisfaction about their job. Piccoli, Powell, & Ives (2004) suggest that job satisfaction increases as communication effectiveness increases. Hampering the communication efficiency can lead to a state of demotivation and frustration, which is central to dissatisfaction of workers. Therefore, the effectiveness of team-member interactions, including the information quality, is related to the formulation of job satisfaction.

Of particular relevance here, prior research has linked team-member exchange (TMX) to a range of outcome variables in organizational research including job satisfaction (Keup et al., 2004; Seers, 1989; Sherony & Green, 2002). Agrifoglio and Metallo (2010) highlight the importance of TMX as a determinant of job satisfaction by focusing on the relationship between workers' interactions and emotional dynamics. High levels of job satisfaction derive from physical interaction – with its verbal and nonverbal

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cues – and the synergies of FTF communications that contribute to shared understanding, and workplace friendships.

Tse, Dasborough, and Ashkanasy (2008) argue that high quality TMX nourishes workplace friendship because social interactions reinforce trust, shared interests, and emotional support. This motivational force is central to the formulation of the attitude of satisfaction in workers who view their team members as friends. Further evidence of this notion can be explained by the empirical research by Morrison (2008) who elucidates that workplace relationships have a substantial relationship with job satisfaction. Therefore, extant scholarship suggests that workplace interactions and social relationships are linked to job satisfaction.

Job Satisfaction and Offshore Teams

Offshore teams pose multiple challenges for managing team effectiveness due to characteristics of spatial, time, and cultural distances. A stream of research studies has revealed a greater level of job satisfaction in traditional onshore teams than members of offshore remote teams (Baltes, Dickson, Sherman, Bauer, & LaGanke, 2002; Staples, 1997). Offshore teams rarely meet in person making it difficult to regularly exchange feedback that could be positive to work attitudes. Moreover, the geographical dispersion of team members and the lack of contextual cues generate a great deal of ambiguity which in turn affects the employee's interest in his or her own work (Agrifoglio & Metallo, 2010). Thus, these barriers arising from physical proximity affect the process of team effectiveness and ultimately, the workers' satisfaction with their jobs.

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The offshore workplace relies heavily on computer-mediated communication (CMC) to exchange information and share knowledge. Nonetheless, creating an effective working environment requires more than technology-based exchanges; it requires interpersonal skills, intercultural communication competence, shared goals and understanding, and intra-relational bonds (Zakaria, Amelinckx, & Wilemon, 2004). The amalgam of these elements can enrich team-member interactions, facilitate better decisions, and enhance work outcomes such as job satisfaction (Hertel, Geister, & Konradt, 2005).

Job Commitment

Job commitment has been the cornerstone for enduring organizational goals from the perspectives of both practitioners and researchers. Since its inception, the concept of job commitment has played a vital role in the field of organization management. In recent decades, much research has been dedicated to the understanding of the relationship of commitment to the workers' performance (Bashaw & Grant, 1994; Carmeli & Freund, 2004; Meyer, Paunonen, Gellatly, Goffin, & Jackson, 1989), turnover (Porter, Steers, Mowday, & Boulian, 1974; Rusbult & Farrell, 1983; Williams & Hazer, 1986), isolation (Staples, 1996), emotional intelligence (Kauts & Veenu, 2011), and motivation (Meyer, Becker, & Vandenberghe, 2004). Given the heightened interest in the organizational aspect of job commitment, it is clear that the work-related attitude contributes to the overall effectiveness of teams.

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Concept of Job Commitment

The concept of job commitment has been the subject of considerable empirical research as both an antecedent and an outcome of other aspects of organizational workplace. Along with job satisfaction, the employee's commitment constitutes the attitudinal dimension of team effectiveness. According to Baruch and Winkelmann-Gleed (2002), commitment is frequently associated with an exchange relationship based on intrinsic and extrinsic incentives. In addition, the work-related commitment can have multiple foci including career, value, occupational, union, organizational, and job (Morrow, 1983).

The diversity of conceptualization of work-related commitment has led to the lack of consensus in the construct definition. Bateman and Strasser (1984) define commitment as "multidimensional in nature, involving an employee's loyalty to the organization, willingness to exert effort on behalf of the organization, degree of goal and value congruency with the organization, and desire to maintain membership" (p.95). Meyer and Allen (1991) later expanded the definition by highlighting three dimensions of commitment: (a) affective commitment which is related to the workers' emotional attachment, involvement, and identification to the organization; (b) continuance commitment which is related to the workers' need to remain with the organization; and (c) normative commitment which is related to the obligation of workers to remain with the organization. Affective commitment is viewed as the most consistent variable related to workplace behaviors and effectiveness (Agrifoglio & Metallo, 2010). Therefore, this

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study draws on the affective commitment dimension to explain coworkers' identification with their teams and their involvement in the organization.

Theoretical Basis

Many theories have been used to explain work-related commitment including the three-component model (TCM) of organizational commitment (Meyer & Allen, 1991), the psychological contract theory (Rousseau, 2005), and the self-identification theory (Tajfel, 1981). Perhaps the most significant and identified work in organizational commitment resulted from Meyer and Allen's (1991) multidimensional TCM model. The model provided a holistic view of commitment (affective, normative, and continuance) integrated with both antecedents (distal and proximal) and outcomes of commitment. TCM laid the foundation for a holistic approach to understanding the psychological impressions of commitment from both the attitudinal and behavioral perspectives. From the emotional perspective, the psychological contract theory explained the nature of the attachment aspect between team members and their organization (Rousseau, 2005).

As this work attempts to investigate job commitment in connection with team effectiveness and workers' interaction, the notion of self-identification with the team or organization manifests extra efforts to support the sense of attachment (Dukerich, Golden, & Shortell, 2002). This notion is supported by the self-identification theory (Tajfel, 1981). SIT explains intergroup differentiation through the lens of social identity (Taşdemir, 2011). The theory entails various factors that strengthen organizational identification including an effective communication climate (Smidts, Pruyn, & van Riel,

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2001). Drawing on the SIT theory, Yu and Cable (2011) suggested that sharing information leads to the formation of social identity and reinforcement of membership to teams.

Job Commitment and Team-Member Exchange

Substantial amount of research has suggested that the use of electronic communication reduces the spontaneity and richness of social relations (Cooper & Kurland, 2002), which in turn affects the attitudes of team members towards their attachment and identification to the job (Agrifoglio & Metallo, 2010). Thus, the quality of workers' social interactions fosters stronger relationships between team members and enhances their job outcomes like commitment. Evidence supporting this claim can be found in empirical research by Keup et al. (2004), which found a positive relationship between TMX and affective commitment.

Similarly, the research conducted by Jarvenpaa and Leidner (1999) found that effective communication is central to establishing commitment and trust in virtual team members. The quality and quantity of team-member interactions are crucial to maintain employee perceptions of being informed and less isolated. In addition, the reduction of socialization and the lack of physical meetings have a long-term effect on the employee's attachment to the organization. Therefore, higher degree of team-member interactions contributes to higher employee commitment and engagement.

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Job Commitment and Offshore Teams

The essence of job commitment lies in the notions of identification, attachment and involvement with the team and organization. Offshore environment may affect all of these elements due to spatial and psychological distancing from the onshore organization. Staples (1996) explained that the sense of isolation in a virtual setting leads to lower employee's commitment to the job. In addition, Wiesenfeld, Raghuram, and Garud (2001) found that offshore virtual members experience issues in organizational identification because of the lack of exposure to its culture and overall structure. This gap in commitment to the organization can be mitigated by the ability of management to communicate effectively to team members in order to maintain feelings of attachment, of which commitment is one facet (Jacobs, 2006; Morgan & Symon, 2002).

Job Performance

The organizational aspect of job performance has long occupied the attention of scholars as well as practitioners. Being an important variable in the organizational psychology (Kahya, 2009), job performance poses a great value for management since it is considered as the measure of the employee's organizational worth (Motowidlo & Van Scotter, 1994). Reviews of the empirical research suggest that job performance is related to many other variables: (a) motivation (Lawler & Hall, 1970; van Knippenberg, 2000); (b) turnover (Jackofsky, 1984; Trevor, Gerhart, & Boudreau, 1997); (c) work experience (Quinones, Ford, & Teachout, 1995); and (d) work stress (Sullivan & Bhagat, 1992). In addition, the notion of job performance contributing to effectiveness outcomes has gained

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a wide acceptance in the organizational literature (Guzzo & Dickson, 1996; Griffin, Neal, & Neale, 2000; Miron, Erez, & Naveh, 2004). The performance variable focuses on the behavior on the employee, while effectiveness represents the results of this behavior. The behavioral dimension of work effectiveness captures the behavioral reactions of the remote team members working in technology teams. The dimension incorporates the job performance (Stewart, Fulmer, & Barrick, 2005) of the team member. As interest grows in job performance, it becomes more valuable to understand its relation to the overall team effectiveness.

Concept of Job Performance

Job performance is a multidimensional concept. The aforementioned research on this concept has lacked clarity due to the latent, temporal and complex aspects of the job performance construct (Rodrigues & Rebelo, 2009). The job performance repertoire includes task, citizenship, and contextual performance. Task performance refers to the worker's accomplished duties and responsibilities specified by the job description (Murphy, 1989). Citizenship performance refers to non-task behavior that supports the social and psychological context of the organization in which the job is accomplished. Contextual performance refers to the non-task behavior that supports the social and motivational aspects needed for accomplishing the job (Borman & Motowidlo, 1997).

A stream of definitions on job performance has emerged in the last decades. Campbell, McCloy, Oppler, and Sager (1993) defined job performance as the employee's self-perception of the worker's proficiency and contribution level. Murphy and Shiarella

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(1997) extended the definition of job performance to include the demands of the job, the organizational structure, and the team strategy. This study will refer to job performance as "the quantity and quality of the achievement that an individual or a group contributes to the organization" (Schermerhorn, Hunt, & Osborn, 2005, p. 151).

Theoretical Basis

The theoretical framework that led to an understanding of the relationship between team-member exchange and its relationship to cohesiveness and job performance draws from the time, interaction and performance (TIP) theory developed by McGrath (1991). TIP theory explains three different team functions including production, well-being and member support (McGrath, 1991). Demiris et al. (2008) posited that team functions pertaining to communication lead to a common function and better performance of the team. In addition, the theory suggests that communication among team members sustains the function of working together towards a common goal (Ehsan et al., 2008).

Job Performance and Team-Member Exchange

The different aspects representing social exchange between coworkers involve flexibility, open-ended, and discretion relationships (Kamdar & Van Dyne, 2007). Having healthy coworkers' exchange and support among team members influences attitudes and behaviors at work. The communication process changes the experience of employees and might increase their productivity. Workers expect consistent and

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unambiguous communication from other team members. Such behavior among team members reinforces the role identity of workers exchanging messaging at both the individual and team levels (Liu at al., 2011).

A number of studies have linked team-member exchange (TMX) to the performance of individuals (Kamdar & Van Dyne, 2007; Liden et al., 2000; Seers, 1989; Seers et al., 1995). Empirical research reveals that workers with high TMX quality contribute to a more supportive and collaborative environment and gain further social rewards (Seers et al., 1995). On the contrary, workers with low TMX quality contribute to a less collaborative environment and receive fewer social rewards. Seers et al. (1995) further explain that coworkers' interactions optimize the coordination, collaboration, and teamwork among workers. This cooperative environment is led by the reciprocal behavior of team members, which eventually leads to better performance (Seers, 1989). In addition, coworkers experiencing high quality interactions engage in more efficient efforts, which pave the way for higher productivity. Kamdar and Van Dyne (2007) demonstrated in their study a strong relationship between TMX and helping coworkers that in turn reduces the negative effects of low conscientiousness.

Job Performance and Offshore Teams

The central role of team-member performance in remote organizations provokes continuing interest among social scientists and practitioners alike. The most visible differences between offshore teams and traditional teams are the challenges arising from the space, time and organizational boundaries. The focus of such differences and their

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influence on individual performance outcomes also provide clues to the overall team effectiveness of remote teams (Ahuja, Galletta, & Carley, 2003).

The role of communication in offshore teams is vital to the workers' behavior including performance outcomes. Balthazard, Potter, and Warren (2004) suggest that communication quality among remote team members is a key determinant to job performance. This is consistent with the anecdotal research on traditional teams where workers' interactions style affects performance outcomes (Watson & Michaelsen, 1988). However, this notion is more emphasized in offshore teams due to the heavy reliance on communication to perform assignments.

Another factor affecting performance outcomes in offshore teams is the sense of isolation that remote workers often feel. A great deal of research indicates that feeling professionally isolated may be an obstacle to the effectiveness of remote team members (Baumeister & Leary, 1993; Finholt & Sproull, 1990; Golden, Veiga, & Dino, 2008). Due to the sense of isolation from the onshore partners, offshore workers are more apt to experience higher chances of misunderstandings and conflict escalation (Hertel et al., 2005), which can put them at a distinct disadvantage in performing their assignments. Thus, offshore workers need to have increased opportunities of inclusiveness and involvement, which eventually enhance job performance.

Cohesiveness

Organizational researchers have long considered cohesiveness as a central factor in understating team dynamics. Cohesiveness is a salient force within teams as it brings

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employees together to achieve common goals. According to Levin and Moreland (1990), successful teams are teams with high cohesion. For example, cohesiveness represents a critical factor for the success of projects including technology implementations (Wang, Chou, & Jiang, 2005). In addition, cohesiveness is a prominent facet of teamwork (Hoegl & Gemuenden, 2001) as it contributes to the overall effectiveness of teams. Team members who work together and maintain the same organizational task goals are expected to perform well on the job.

Many researchers have concurred that cohesiveness is an essential ingredient of effective teams. In the recent decades, research has been dedicated to the understanding of the relationship of cohesiveness to organizational aspects including performance (Beal, Cohen, Burke, & McLendon, 2003; Gammage, Carron, & Estabrooks, 2001; Wang et al., 2005), leadership (Shields, Gardner, Bredemeier, & Bostro, 1997), team remoteness and virtuality (Garrison, Wakefield, Xu, & Kim, 2010; Lin, Standing, & Liu, 2008**;** Salisbury, Carte, & Chidambaram, 2006), communication (Friedley & Manchester, 2005; Knight, Pearson, & Hunsinger, 2008), and efficacy (Paskevich, Brawley, Dorsch, & Widmeyer, 1999). Given the heightened interest in the organizational aspect of cohesiveness, it is evident that increased cohesiveness contributes to the overall effectiveness of teams.

Concept of Cohesiveness

The multidisciplinary concept of cohesiveness involves a multidimensional construct comprising both social and task-related elements (Festinger, Schachter & Back, 1950). Beal et al. (2003) posit that social and motivational factors are integral parts of the

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cohesiveness concept. The social-oriented cohesiveness refers to the degree to which shared values and goals exist among team members. The task-oriented cohesiveness refers to the degree to which team member work is in concert with the team shared common goals (Beal et al., 2003). Another multidimensional view of concept is based on the two-dimensions of perceived cohesion: sense of belonging and feelings of morale (Chin, Salisbury, Pearson, & Stollak, 1999).

Most of the work on cohesiveness seeks to identify the concept as an input, output, and mediator variables. Along with trust, cohesion constitutes the socio-emotional dimension of team effectiveness construct (Beal et al., 2003; Jarvenpaa & Leidner, 1998). The concept is also most visible in recent research as a predictor to team behaviors including performance (Wang et al., 2005).

Over the years, researchers have proposed alternative definitions of the concept of cohesion. Hagstrom and Selvin (1965) described cohesiveness as the capacity of team members to work together in controlled behavior for maintaining a sense of team identity. Goodman, Ravlin, and Schminke (1987) defined it as the willingness of team members to adapt to the overall goal of the team and task to each other. Additionally, Bollen and Hoyle (1990) define perceived cohesiveness as an "individual's sense of belonging to a particular group and his or her feelings of morale associated with membership in the group" (p. 482). Since this study endeavors to examine perceived cohesion, the definition of Bollen and Hoyle is adopted.

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Theoretical Basis

The theoretical treatment of the concept of cohesiveness lies in various theories including the self-categorization theory (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987), successive-stage theory (Tuckman, 1965), and the time, interaction and performance theory (McGrath, 1991). The theories depicting the framework of cohesiveness specify functions that involve motivation, goal setting, teamwork, and group identity. All of these themes have a reciprocal relationship of increased cohesiveness.

The theoretical framework that helped to understand the relationship between team-member exchange and its relationship to cohesiveness lies in the time, interaction and performance (TIP) theory developed by McGrath (1991). Building relationships through interpersonal and interactions foster cohesion in teams (Powell, Piccoli, & Ives, 2004). The TIP theory suggests that a supportive team ethos entailing shared common goals and team well-being, contribute directly to building relationships (Lin et al., 2008). The temporal dimension of TIP theory entails the synchronization of activities, the regulation of interpersonal interactions, and the promotion of dynamic teamwork (McGrath, 1991). Therefore, the theory suggests that these themes sustain the function of working together towards a common goal (Ehsan et al., 2008).

Cohesiveness and Team-Member Exchange

Prior research shows growing evidence on the role of communication in fostering cohesion and relationships in teams (Bormann, 1990; Friedley & Manchester, 2005;

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Kayworth & Leidner, 2001; Wech, Mossholder, Steel, & Bennett, 1998). Bormann (1990) suggests that communication is a fundamental ingredient of building team cohesion. For teams to share common goals, workers should interact in a consistent, open and unambiguous pattern. Wech et al. (1998) maintained in their study a positive correlation between increased cohesion and high quality of workers' interactions.

Limited research examining the interplay between team-member exchange (TMX) and cohesiveness has shown support for a positive relationship between the two. High levels of team cohesion have been found to correlate with high quality of TMX (Agrifoglio & Metallo, 2010; Seers et al., 1995). This is consistent with the study of Susskind, Behfar, and Borchgrevink (2006) that found a relationship between cohesive communication relationships and performance outcomes. Thus, building cohesion is grounded in effective and high quality team member interactions.

Cohesiveness and Offshore Teams

As cohesiveness becomes an important force in fostering team effectiveness (Hoegl & Gemuenden, 2001), it is also an essential feature for the success of offshore teams. Global teams characterized as having dispersed and diverse workforce face a range of coordination and trust challenges, which appear to plague the growth cohesiveness. While communication effectiveness alleviates the challenges in dispersed offshore environments, the development of relational bonds and shared common goals remain hampered by the lack of mutual understandings (Garrison et al., 2010).

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Although the use of technology-based communications mitigates the geographical and temporal challenges, the high reliance on such technologies still contributes to the cohesion conundrum in offshore teams (Powell et al., 2010). The use of computer-mediated communication (CMC) involves no contextual and social cues that underpin relationship buildings (Lin et al., 2008). Electronic communication can also contribute to more conflict among team members (Hobman, Bordia, Irmer, & Chang, 2002). In addition, the lack of the commonalities of time, language, location and culture hinders the communication process. This is consistent with the comparative study of Warkentin, Sayeed, and Hightower (1997) that found higher levels of group cohesion in traditional teams than virtual teams.

Summary

This chapter laid the theoretical and empirical context for the study by reviewing the literature on key constructs and their relationships with the variables being investigated. The literature discussed has led to multiple empirical studies that link team-member exchange to team outcomes. This study attempts to explore how the depth of interpersonal coworkers' interactions leads into higher levels of performance, commitment, trust, cohesion, and satisfaction on the job.

Although researchers have studied team-member exchange and its relationship to various attitudinal, behavioral and socio-emotional outcomes, the literature reveals that very few known studies have explored this relationship from the offshore model perspective. Similarly, reviews of literature on TMX have noted little to no research on

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the link between TMX and team variables within the financial industry. In addition, TMX construct is still in nascent stages compared to its predecessors LMX and OMX, which pertain to supervisor-subordinate and organizational-employee exchanges respectively. Thus, the findings will provide insights to fathom the depth of the relationship between individuals' interactions and job outcomes from the peer level perspective. In Chapter 3, the research methodological approach and design will be discussed.

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CHAPTER 3. METHODOLOGY

Introduction

The purpose of this quantitative research is to discover if there is a statistically significant relationship of team-member exchange and team effectiveness. The aspects of team effectiveness include job performance, job satisfaction, job commitment, trust and cohesiveness. This study contributes to the body of knowledge on offshore technology teams by examining the relationship between workers' interactions and perceived team effectiveness. This research also enables technology organizations to benefit by curtailing the negative effects of offshore communication breakdown on the strategic, financial and temporal aspects of their projects. The study is distinctly different from previous research on communication in offshore organizations as it investigates the relationship between interpersonal exchanges and team efficacy of technology teams within financial firms.

The nature of the study is quantitative as it upholds empirical research tradition in the field of organizational communication (Forza, 2009). Similarly, Vaishnavi and Kuechler (2004) suggested that information technology research is typically rooted in methodologies underpinning empirical and statistical techniques. Unlike the qualitative designs, quantitative methodology employs objective, rigorous, and systematic approach to generate knowledge and refine theory (Driessnack, Sousa, & Mendes, 2007). This chapter provides an overview of the quantitative methodology used to examine the

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association between the independent variable of team-member exchange (TMX) and the dependent variables of trust, job performance, job satisfaction, cohesiveness, and job commitment. The chapter introduces the research design, philosophical assumptions, study participants, sampling design, procedures, methods, and selected measurement instruments used in this study. Finally, this chapter also addresses the ethical considerations, validity and reliability issues, as well as summary expected findings.

Research Questions and Hypotheses

The focus of this quantitative correlational research is to ascertain how peer interactions within offshore technology teams relate to team effectiveness. More specifically, the study aims to provide evidence in support of the answers to research questions. As part of this process, data will be collected to test the research hypotheses. The following hypotheses and questions are defined:

ResQ 1: Does team-member exchange relate to the performance of IT offshore team members within financial firms?

$H_0$1: There is no relationship between team-member exchange and perceived performance within IT offshore workers in financial firms.

H_A1: There is a significant relationship between team-member exchange and perceived performance of IT offshore workers within financial firms.

ResQ 2: Is the team-member exchange between offshore workers related to establishing cohesiveness?

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$H_0$2: There is no relationship between team-member exchange and perceived cohesiveness within IT offshore workers in financial firms.

H_A2: There is a significant relationship between team-member exchange and perceived cohesiveness within IT offshore workers in financial firms.

ResQ 3: To what extent does team-member exchange relate to building trust within offshore workers?

$H_0$3: There is no relationship between team-member exchange and building trust within IT offshore workers in financial firms.

H_A3: There is a significant relationship between team-member exchange and building trust within IT offshore workers in financial firms.

ResQ 4: What is the relationship between team member exchange and perceived job satisfaction of offshore workers?

$H_0$4: There is no relationship between team-member exchange and perceived job satisfaction within IT offshore workers in financial firms.

H_A4: There is a significant relationship between team-member exchange and perceived job satisfaction within IT offshore workers in financial firms.

ResQ 5: To what extent does team-member exchange relate to building job commitment among offshore workers?

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$H_0$5: There is no relationship between team-member exchange and building job commitment within IT offshore workers in financial firms.

H_A5: There is a significant relationship between team-member exchange and building job commitment within IT offshore workers in financial firms.

Philosophical Assumptions

Quantitative research usually adopts an empirical approach that is rooted in a positivist or post-positivist school of thoughts. Both paradigms use "scientific method" which involves theory revisions, hypotheses formulation, data collection and empirical testing (Ponterotto, 2005). The positivism worldview implies an overly experimental approach, while the post-positivist philosophy underpins but avoids shortfalls of positivism (Clark, 1998). Thus, the correlational research is grounded in the post-positivist worldview as it involves systematic observation (Ponterotto, 2005) and maintains objectivity in evaluating relationships between variables. The underlying assumptions of the post-positivist position guiding this study are the axiological, ontological, epistemological, and methodological research assumptions.

Post-positivism entails only one reality that is independent of the human perception, as it is entirely scientific (Sale, Lohfeld, & Brazil, 2002). Ontologically, the data is measurable and observable as it shares objective reality. Epistemologically, knowledge derives from statistical models where data is quantifiable, and variables are precise and reliable (Crotty, 1998). According to Creswell (2009), knowledge is conjectural where the researcher fails to reject the hypothesis rather than proving it.

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The research outcomes are derived from careful observation, measurement, and interpretation of objective reality (Driessnack et al., 2007). From an axiological stance, the researcher needs to be value free (Gephart, 1999). Methodologically, the researcher is utterly detached in order to prevent bias (Creswell, 2009). The quantitative researcher employs statistical methods, procedures, and reliable instruments where variables are measured, and researcher's bias is irrelevant. The study assumes this to be true and holds this philosophical orientation where the role of the quantitative researcher is completely detached in order to prevent bias (Creswell, 2009).

Research Design

The study of examining the relationship between team-member exchange and the effectiveness of offshore technology teams in financial firms uses a quantitative methodology. The approach of the study is nonexperimental since there is no manipulation of the variables, control groups, or random assignment (Driessnack et al., 2007). Furthermore, the cross-sectional study utilizes a correlational design as it conforms to the objective of examining the relationships and interrelationships among phenomena (Brewerton & Millward, 2001). Correlational designs have a propensity to investigate the direction, magnitude, degree, and strength of these relationships.

The study uses a probability sample, which employs random sampling techniques with target group of LinkedIn. The random sampling type is used to source data from participants in offshore IT organizations of financial firms. In addition, the study utilizes a Likert five-point scale to measure the various interval variables and a category scale to

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measure nominal variables. To analyze the collected data, the researcher will use correlation coefficient statistics to reveal the strength and direction of relationships defined in the study (Leedy & Ormond, 2012).

This study uses a quantitative nonexperimental approach to explore the associations between coworkers' exchange and indicators of team effectiveness. Nonexperimental design involves no manipulation of independent variables when drawing the relationships among the variables of interest (Gelo, Braakmann, & Benetka, 2008). This notion is consistent with the natural setting of the study where no variables are manipulated. In addition, a quantitative design employs deductive reasoning where the researcher starts with an established theoretical framework, reduces concepts into measurable variables, and collects data to evaluate the support to established theory (Driessnack et al., 2007).

The research questions, stated earlier in the chapter, seek to understand the relationships between team-member exchange and the other variables of the concept of team effectiveness. Likewise, researchers usually employ correlational designs to explore associations among variables through natural observations instead of manipulation and randomization (Mitchell, 1985; Fitzgerald, Rumrill, & Schenker, 2004). Seers and Crichton (2001) posited that researchers use correlational approach to pose research questions aimed at proposing associations, building on existing knowledge, and having exploratory nature. Thus, the correlational research presents the best-fit design to address the research questions.

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In investigating the relationship between peer interactions and offshore team effectiveness, the interest is in individual analysis of the remote team member. The research questions of the study suggest the unit of analysis will be the team member with experience working in offshore teams' context. In this study, the investigation of offshore teams is limited to the investment banking sector.

The overall quantitative design is appropriate for the study of organizational phenomena. Mitchell (1985) writes that correlational design is widely used in conducting organizational research to portray the associations between or among variables. Moreover, nonexperimental research is utilized in environments where the characteristics of independent variable have already transpired and cannot be manipulated or controlled (Driessnack et al., 2007). Furthermore, Flynn, Sakakibara, Schroeder, Bates, and Flynn (1990) suggest that empirical research in organizational management widely employs survey method like that used for this study. Baker, Singleton, and Veit (2011) suggest that surveys allow for standardization of data and versatility of administration through various interactions' methods including email.

This study incorporates multiple strengths in the design. First, the established instruments to be used in the study have been tested previously by various researchers. In addition, the pilot test also strengthens the validity and reliability of these instruments. Second, based on the population size of the study and the use of Cochran's (1977) sample approach, the sample size is sufficient to satisfy a robust power analysis. Third, the majority of construct measures to be used in this research have been utilized by studies

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involving virtual or offshore workers. Thus, the use of such measures aligns with the offshore context of this study.

The research design of the study involves multiple steps. Figure 2 illustrates these design activities used for the planning, execution, and analysis of this research. The specifics of these elements are discussed in the following sections.

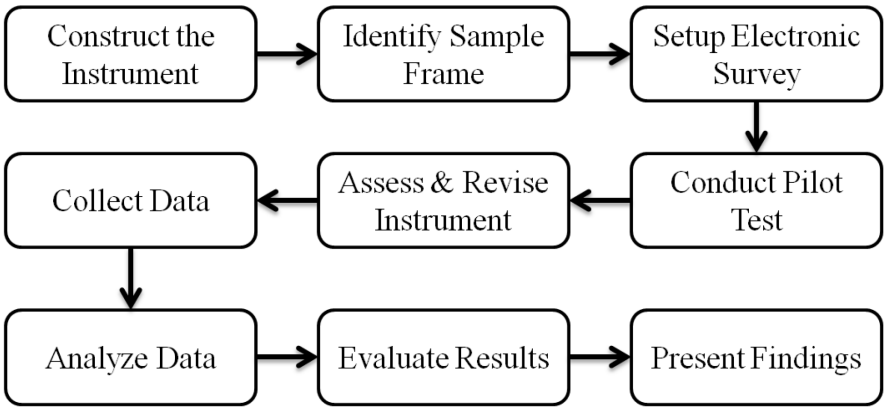

Figure 2. Research design diagram.

Sample

The study sources data from IT professionals who have knowledge of their organization's offshore model and work in the investment banking industry. The population consists of IT professional and technology decision makers who are part of offshore technology teams, have direct interactions with the offshore members, or make decisions impacting offshore organizations. The professional role of elements in the population includes quality assurance analysts, support analysts, system engineering, software development, database administration, business analysts, IT project managers, and IT managers and directors.

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The study utilizes random sampling strategy to target elements who were to be included in the sample (Cooper & Schindler, 2008). The data of the study is sourced from an electronic survey to be conducted among offshore technology professionals within the investment banking industry. The probability sample design will have a sample frame consisting of public listings of IT professionals working in investment banks who are members of LinkedIn. The listings are based on professionals from the top ten investment banks.

The participant characteristics of the sample subjects include: (a) gender; (b) geographical region of the participant's firm; (c) the functional role; (d) the employment type; (e) the highest degree obtained; (f) and the years of IT experience on the job. The inclusion criterion is based on the additional characteristic of industry where the subject is asked whether he or she works in an investment bank. The sample will exclude participants of non-investment banking background.

The recruiting of the participant will occur electronically. Since participants comprise entirely of the IT profession, it is assumed that subjects have computer and Internet literacy. The participants will be part of a list of subjects obtained electronically via a LinkedIn online service. The list is based on pre-identified search criteria submitted to the online service. An email invite will be sent via InMail, LinkedIn's internal email system, to participants containing an invite to participate in the study, a consent form, an overview of the research, and a link to the survey. If the participant gets to the survey website and agrees accordingly, then he or she will be selected to participate.

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The study is intended to detect medium sized effects at the 95% confidence level with a ± 5% level of precision. In addition, the study uses a 5-point scale and has the level of acceptable error at 3%. The population of the study is estimated around 10,000 professionals consisting of the IT members working at the top 10 investment banks. The population is estimated based on the 20% average technology representation of the total number of employees at these banks. The study uses Cochran's sample size, which is appropriate for continuous data (Bartlett, Kotrlik, & Higgins, 2001). Cochran's (1977) formula of sample size is:

$$n = \frac{Z^2 * S^2}{d^2} \quad (1)$$

where,

- n = sample size.
- Z = z-value represents the probability of a sample falling within a certain distribution. It is equal to 1.96 for a 95% confidence level (alpha level = 0.05).
- S = estimate of standard deviation of the population. S is calculated using the number of points on the scale (the study utilize 5-point Likert scale) divided by the number of standard deviations that include approximately 95% of the possible value.
- d = acceptable margin of error for mean being estimated. This is calculated by multiplying the number of points on the scale, *pts*, by the acceptable margin of error, *e*.

Solving for the extended formula, the sample size of the study is approximately 267.

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Finally, the probability-based random sampling method, used to source data from subjects, is appropriate for the study. According to Creswell (2009), the random sampling allows the elements of the population to have a fair chance of being selected, which in turn reduces potential sampling bias. Such randomized sampling strategies imply adequate generalization of the research results to a larger population of IT professionals within offshore organizations (Mertens, 2005). Random sampling has also minimal sampling errors, which increase internal validity (Campbell & Stanley, 1963). In addition, the study uses Cochran's sample size, which is appropriate for continuous data (Bartlett et al., 2001). Thus, the sampling design is fit for the study.

Setting

The study uses a nonexperimental approach to investigate the relationships without changing or manipulating independent variables (Gelo et al., 2008). The study occurs in a natural environment with minimal researcher interference and no work interruption. The field study adopts a noncontrived setting where research is conducted in a natural environment with no interruption or manipulation (Ann, Zailani, & Wahid, 2006). The research setting is the offshore technology organization within investment banks and brokerage firms mainly located in United States and Europe with offshore IT hubs in Asia.

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Constructs and Variables

Constructs

The study attempts to explore the relationship between two distinct constructs: (a) team-member exchange, and (b) team effectiveness. The construct of team effectiveness is multidimensional consisting of attitudinal, behavioral and socio-emotional dimensions. The dimensions of this study are represented by various elements for measurement (see Figure 3).

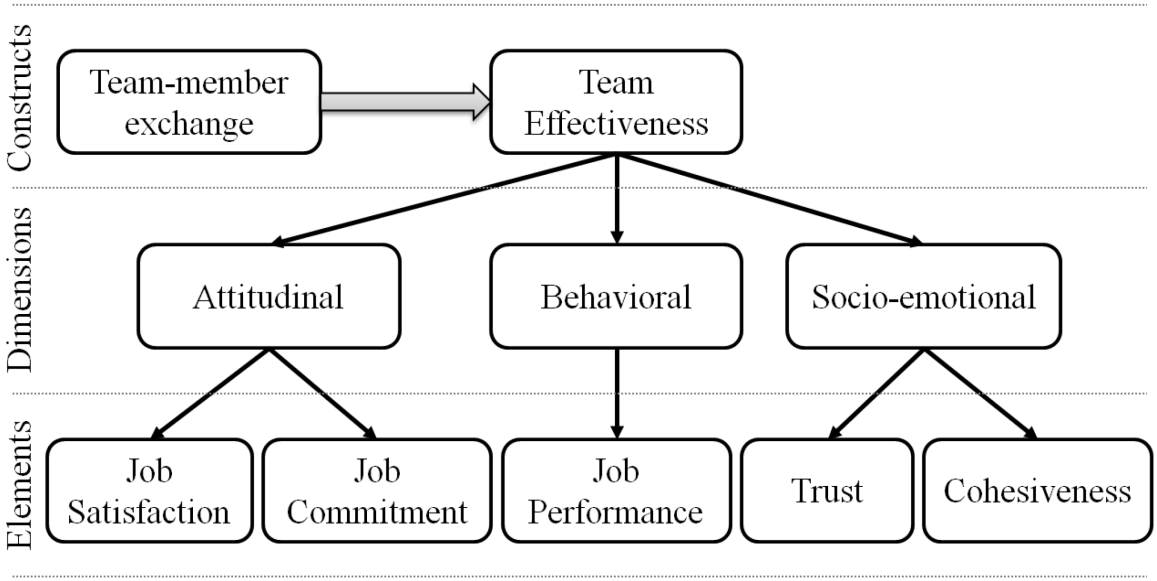

Figure 3. Elements and dimensions of the constructs in the study.

Team effectiveness. The variety of approaches to define team effectiveness suggests no direct way to measure the construct (Martin, 2006; Hong, 2010). Guzzo and Dickson (1996) defined team effectiveness as the representation of the (a) team produced-output, (b) group consequences on its members, and (c) group capacity to

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enhance performance. In terms of dimensional characterization, Cohen and Bailey (1997) suggested that team effectiveness encompasses performance, attitudinal and behavioral outcomes. In another model, Barrick, Stewart, Neubert, and Mount, (1998) used the socio-emotional and performance dimensions to conceptualize team effectiveness. The study develops a team effectiveness typology comprising multiple dimensions derived from various theoretical frameworks. The dimensions of team effectiveness are the attitudinal, behavioral and socio-emotional domains.

- Attitudinal dimension: the dimension captures the attitudinal reactions of the remote team members working in technology teams. The dimension entails the remote worker's attitudinal outcomes such as job satisfaction (Doolen, Hacker, & Aken, 2003) and organizational commitment (Cohen, Chang, & Ledford, 1997).
- Behavioral dimension: the dimension captures the behavioral reactions of the remote team members working in technology teams. The dimension incorporates the job performance (Stewart et al., 2005) of the team member.
- Socio-emotional dimension: the dimension captures the socio-emotional processes required to achieve trust and cohesiveness among remote members of technology teams. The dimension involves the trust (Jarvenpaa & Leidner, 1998) and cohesiveness (Beal et al., 2003) elements.

Team-member exchange. Team-member exchange represents the worker's perception of exchanges existing with members of the team (Liden et al., 2000). Seers (1989) identified team-member exchange as the quality of exchange relationships among working team workers. Elias (2008) refers to team-member exchange as the degree to

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which an employee works effectively with other members of the team including subordinate, supervisor, peer, and project manager interactions. Dierdorff et al., (2011) utilized TMX to measure "team-member self-perception of the willingness to help others, to share ideas and feedback with other team members, and team-member perception of how readily help, information, and recognition are received from others" (p. 250).

Variables

Dependent variables.

- Job Satisfaction: refers to the perception of team members of what they require from the job versus what the job offers (Locke, 1969).
- Job Commitment: refers to the team members' identification to their teams and their involvement in the organization (Meyer & Allen, 1991).
- Job Performance: refers to the demands of the job, the organizational structure and the team strategy (Murphy & Shiarella, 1997). Campbell et al. (1993) defined job performance as team-member self-perception of the worker's proficiency and contribution level.
- Trust: refers to the intension of team members to depend on each other and live up to the team's expectations (Jarvenpaa & Leidner, 1998). Trust represents an essential antecedent of team effectiveness in virtual organizations (Peters & Manz, 2007).

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- Cohesiveness: refers to the willingness of team members to adapt to the overall goal of the team and task to each other (Goodman et al., 1987).

Independent variables.

- Team-member exchange (TMX): refers to the remote worker's perception of exchanges within the group or project team (Liden et al., 2000).

Participants' variables.

- Gender: refers to the gender of the participant.
- Region: refers to the geographic location of the participant (e.g., North America).
- Organizational Role: refers to the position of the participant (e.g., developer, QA analyst, etc.).
- Employment Type: refers to the working status of the participant (e.g., full-time, contractor, consultant).
- Work in Banking Industry: refers to whether the participants work in the banking industry or now. This will be part of the inclusion criteria.
- Education Level: refers to the educational level of the participant (e.g., associates, bachelor's, master's, etc.).
- IT Experience: refers to the years of experience in the IT field of the participant.

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Instrumentation and Measures

The variables of the study are measured using existing scales from studies with established acceptable psychometric properties. Other generic or new scales will be used to measure the participants' characteristics. These measures are used to build the instrument to be utilized for collecting the data.

Job Performance

The measurement tool used to assess job performance of the offshore team-members is the quality and quantity performance self-assessment from Pettit, Goris, and Vaught (1997). The 3-item tool employs the three measures: (a) quality of performance, (b) quantity of performance, and (c) overall job performance. The tool is designed to capture the perception of the offshore worker of the quality and quantity of own performance. Two questions will be asked to capture the quality and quantity of the participant's own performance on the job. The overall job performance measure is captured by calculating the mean score of quality and quantity of performance (Pettit et al., 1997; Goris, Vaught, & Pettit, 2000; Goris, Pettit, & Vaught, 2002). A five-point response scale is used to determine the job performance scope ranging from 1 *(strongly disagree)* to 5 *(strongly agree)*. The data types generated from the items are interval allowing for statistical operations that are not feasible with ordinal data (Leedy & Ormrod, 2012). The same measurement tool demonstrated adequate reliability of Cronbach's alpha = .90 in the study to examine the relationship between perceived organizational support and job performance (Rutherford, Park, & Han, 2011).

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Cohesiveness

The measurement tool used to capture cohesiveness is derived from the abbreviated version of Perceived Cohesion Scale (PCS) of Chin, Salisbury, and Gopal (1996). The 2-item abbreviated scale captures the two aspects of cohesion: (a) morale, and (b) belonging. The tool aims to measure the perception of offshore team members of their belonging to the overall team and adaptation to the overall goals shared by the team. Participants will respond to each item using a 5-point Likert scale to generate interval data types. The same instrument reported adequate reliability of Cronbach's alpha > .90 in multiple studies (Chin et al., 1999; Teo, Chan, Wei, & Zhang, 2003; Srite, Galvin, Ahuja, & Karahanna, 2007).

Trust

The scale for trustworthiness, developed by Pearce, Sommer, Morris, and Frideger (1992), is used to capture the participants' perception on trust among team members. The abbreviated version of the 4-item trustworthiness scale aims to capture the worker's perception of (a) his or her reliance on other workers, (b) confidence in other workers, (c) other team members being considerate, and (d) other team members being friendly (Jarvenpaa & Leidner, 1998). For example, the instrument includes the item: "I can rely on those with whom I work in this group." Participants will respond to each item using a 5-point Likert scale to generate interval data types. Jarvenpaa and Leidner (1998) utilized the instrument in their various studies on trust in global virtual teams and

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had reported an acceptable reliability ranging from 0.80 to .92 for the instrument (Jarvenpaa et al., 1998; Jarvenpaa & Leidner, 1998; Jarvenpaa et al., 2004).

Job Satisfaction

The measurement tool utilized to measure job satisfaction is the single-item tool indicating the degree of overall job satisfaction. The single-item measure is adopted from Wanous, Reichers, and Hudy (1997). Wanous and Hudy (2001) estimated the reliability of the single-item measures of job satisfaction at an average of .70 and .82 at the individual and group levels of analysis respectively. Wanous et al. (1997) further explained that single-item measures on job satisfaction are robust and reasonable to use. In addition, similar single-item responses of job satisfaction had been common in quantitative studies (Patrician, Shang, & Lake, 2010; Chen et al., 2011; Faller, Gates, Georges, & Connelly, 2011). Participants will respond to each item using a 5-point Likert scale to generate interval data types.

Job Commitment

The Organizational Commitment Questionnaire (OCQ) developed by Porter, Steers, Mowday, and Boulian (1974) is used to capture the organizational commitment measurement. The 3-item abbreviated version of OCQ is adopted from Ting (2011) to assess the degree of the team-member's identification and dedication to his or her organization. The scale aims to capture the employee's perception on: (a) the team's worthiness of his or her devotion, (b) the willingness on spending extra time, and (c) the

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willingness to do any assignment for the team. Ting's (2011) study has revealed a modest reliability of Cronbach's alpha = .80 for the instrument. Similarly, participants will respond to each item using a 5-point Likert scale to generate interval data types.

TMX

The study utilizes a modified version of Seers (1989) instrument to measure TMX, which is adopted from Liden et al. (2000). TMX is the measure selected to assess the communication effectiveness at peer level in offshore technology teams. The instrument aims to assess the degree of mutual exchange among team members in terms of information and efforts. The instrument includes items like "I respect my coworkers as professionals in our line of work", and "my coworkers have asked for my advice in solving a job-related problem of theirs". The instrument demonstrated reasonable level of reliability of .88 (Liden et al., 2000), .84 (Liao et al., 2010), and .85 (Anand et al., 2010). The 9-item instrument will utilize a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*).

Participants' Characteristics

Demographic characteristics are also obtained for the study. Gender will be measured using a dichotomous scale with 1 *(male)* and 2 *(female)*. Similarly, work in banking industry will be using a dichotomous scale with 1 *(yes)* and 2 *(no)*. To capture variability, region will be measured using five categories: 1 *(North America)*, 2 *(Europe)*, 3 *(Asia)*, 4 *(MENA)*, and 5 *(Other)*. Similarly, the rest of the variables use category

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scales: Organizational role *(system engineer, software engineer, support analyst, QA analyst, technical lead, IT project manager, IT manager, IT director/executive, other)*, employment status *(full-time, part-time, contractor, consultant)*, educational level *(high school, some college, associates, bachelor's, master's, doctorate, other)*, and years of IT experience *(0-2, 3-5, 6-10, higher than 10)*.

Data Collection

The researcher will setup an online survey using an online survey service provider (i.e., Survey Gizmo web-based software tool). The electronic survey consists of various sections including consent form, demographic characteristics, team-member exchange, and team effectiveness questionnaires. An email is sent to all offshore IT professionals on the list. The email contains an overview of the study, invitation to participate, and a link to the survey. The invitation also includes a recommendation to use the participants' personal electronic account to complete the survey. The same electronic survey is distributed to subjects of the study. Subjects who choose to participate can follow the link to continue to the online survey site. After reading the electronic consent information, the subject is directed to proceed to the survey questions and thus consenting to participate in the research. The electronic consent section includes information pertaining to the following:

- To ensure confidentiality, participants are not asked for their name, email, or any other personal details.

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- The survey is totally voluntary. Participants have the option to exit at any page of the survey. Responses are recorded only after all sections are answered and eventually submitted. Once the survey is submitted, participants should not have the option to go back to change any of the responses.
- The process of completing the entire survey takes around 10-15 minutes.
- To ensure anonymity, the identity of the participants is not disclosed to anyone. The IP address, network location, or any other technical profiles should not be stored or disclosed to ensure privacy.
- There is no cost or material reward for participating in the study.
- If the participants have any questions for further clarification, they may contact the researcher or the doctoral advisor. Contact information (e.g., email) is provided.

All recipients of the survey receive a reminder email two weeks after the initial invitation. The subjects have additional two weeks to respond to the survey. All responses are downloaded from the online survey provider after 4 weeks of the initial survey kickoff. Responses data are stored on a removable storage device with two levels of encryption. After all questionnaires are received, the researcher accurately records findings, organize the data, and prepare for statistical analysis.

Data Analysis

The study employs SPSS software to conduct statistical analysis on the collected data. Descriptive statistics are computed to analyze the demographic data, which helps in

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graphing possible patterns among participants. Pearson product moment correlational analysis is also employed to determine the magnitude and direction of the relationships between the team-member exchange (independent variable) and team effectiveness (dependent variables).

Once the responses are collected, the first step of the analysis begins with editing to ensure the quality and integrity of the data (Cooper & Schindler, 2008). The raw codified data is edited to detect any obvious errors possible. After loading the data into SPSS 18.0 software, descriptive statistics are used to provide preliminary analysis for the sample and measures. The use of scatter plots is included in the analysis as it is helpful in exploring the data patterns and understanding the relationships between variables. The next step is hypothesis testing using correlational analysis, testing for statistical significance, and providing the interpretation of results.

To test the hypotheses of the study, the researcher conducts correlation analysis using the product moment correlation coefficient. The calculation of Pearson coefficient is used for determining the direction of association in each of the research questions based on the continuous data generated by the scales. The level of significance of .05 is used to assess the degree of significance of factors of interest. The parametric technique makes the assumption of linearity of the continuous data where relationship between the variables is considered linear.

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Pilot Test

The goal of conducting a pilot test is to address any concerns related to the instrument and ensure appropriate psychometric properties of the measures. The study involves instruments and measurement tools that have been used in previous studies and have demonstrated satisfactory validity and reliability. Sproull (2002) indicates that pilot testing is not common when instruments are standard. However, the pilot test is required for modified or combined instrument which is the case for the study. In addition, pilot tests are beneficial as they reduce any ambiguity around format, responding, directions, comprehension and timeliness of the instrument (Aripin et al., 2011). After obtaining the Institutional Review Board (IRB) approval, the researcher conducts a pilot test with 20 participants who are knowledgeable on the offshore management. The electronic surveys are sent via email to participants along with an informed consent form. The responses are then reviewed, coded and entered into SPSS. Next, the collected data are analyzed using descriptive analysis and reliability analysis including Cronbach's alpha. Moreover, reliability measures are compared to the existing studies using the same parts of the instrument. Based on the pilot test results, the researcher makes necessary changes to the questionnaire as needed.

Validity and Reliability

The threats to internal validity are considered carefully in this study. The study employs nonexperimental design, which according to Sekaran and Bougie (2010), has a low internal validity as it does not infer any causal relationships. Mitchell (1985)

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described internal validity as the extent to which the outcome of the study has been influenced by variables that might be manipulated, measured or observed. Campbell and Stanley (1963) list the threats to internal validity including maturation, instrumentation, statistical regression, history, biased selection, and experimental mortality. Because of the nonexperimental nature of the study, such threats have less impact on judgment of the validity of results. In addition, the participants of the pilot study subjectively scrutinize the survey items that can cause differentiation between respondents and non-respondents. The pilot study also helps in reducing the threats of researcher's bias and instrumentation to internal validity.

Reliability is another necessary component contributing to the goodness of data. It pertains to the extent of measurement consistency of the research instrument (DeVon et al., 2007). Although the study utilizes previously established and tested instruments and measurement tools that have demonstrated satisfactory reliability, the researcher has implemented additional steps to ensure the soundness of reliability. The pilot test results have demonstrated acceptable equivalence reliability (Cronbach's alpha > .78), which is in line with previous studies using the same measurement tools. In addition, the researcher conducted test-retest reliability for the single item measure as part of the pilot study.

Ethical Considerations

The study involves human subjects where data are sourced from IT professionals working in offshore organizations of the financial banking industry. Thus, participants

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should have the highest degree of ethical treatment to ensure aspects of privacy, equity, confidentiality, and respect. The data collection process occurs electronically using an online survey service that includes an electronic consent feature. Although, both of the researcher and the survey service provider will take stringent steps towards protecting the confidentiality of the subjects, there are still no guarantees to confidentiality or anonymity. However, breaches to security during electronic transmission or storage of data are extremely unlikely for similar type of studies.

The study follows certain procedures to ensure that participants are comfortable with the study and facilitate their cooperation. No participant is forced to take part in the study. Since the research does not involve face-to-face interviews or lab experiments, no physical or psychological harm is likely to occur. In addition, the study should not obtain any data using deceptive means.

Since the study employs probability sampling techniques, the representativeness cannot be assured (Hasson, Keeney, & McKenna, 2000), and the subjects of the study will not have an equal chance of being selected. However, the nature of the phenomenon being investigated requires individuals who are knowledgeable about the topic under consideration. To address potential conflict of interest, the researcher will not recruit any subjects with prior relationship. Thus, the study should have clear criteria for selecting participants with the appropriate expertise to ensure fair enclosure in the web-search process of eligible members. Moreover, the study provides no incentives and is totally voluntary to participants.

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Expected Findings

The study aims to identify the relationships between team-member exchange and the antecedents of team effectiveness in offshore teams within financial firms. An improved understanding of relationships between team dependencies presents an opportunity of building successful remote teams (Bell & Kozlowski, 2002). The following are the anticipated outcomes of the hypotheses testing:

- It is expected that there will be a statistically significant correlation between team-member exchange and job performance, at the $p = < .05$ level.
- It is expected that there will be a statistically significant correlation between team-member exchange and job satisfaction, at the $p = < .05$ level.
- It is expected that there will be a statistically significant correlation between team-member exchange and job commitment, at the $p = < .05$ level.
- It is expected that there will be a statistically significant correlation between team-member exchange and trust, at the $p = < .05$ level.
- It is expected that there will be a statistically significant correlation between team-member exchange and cohesiveness, at the $p = < .05$ level.

Summary

The purpose of this study is to explore the nature of the relationship between the independent variable (team-member exchange) and the dependent variables (elements of perceived team effectiveness including job performance, job commitment, job satisfaction, cohesiveness, trust) through hypotheses testing. This chapter outlined the

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overall methodology and research design that guided the study. A detailed description of the population, sample design, and ethical considerations is provided. The plan for measurement and instrumentation is followed by a discussion of data collection procedures and statistical analyses techniques for the data. The actual results of the study will be presented in Chapter 4.

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CHAPTER 4. RESULTS

Introduction

The purpose of this chapter is to provide a summary of the results and analyses of the data collected from the study using descriptive and correlational statistics. The correlational study uses a quantitative nonexperimental approach to explore the associations between coworkers' exchanges and indicators of team effectiveness. The chapter includes the outcome of the reliability tests for each of the adopted scales, and then moves to provide a summary of the participants' demographics by providing descriptive statistics of the data. After computing the correlational tests to examine the direction and magnitude of the relationships between the variables, the hypothesis testing was performed to answer each of the above research questions.

The aim of the current study is to advance the understanding of the relationship between the independent variable (team-member exchange) and the dependent variables (perceived team effectiveness) through hypotheses testing. Correlations between TMX and perceived team effectiveness experienced by offshore technology workers are examined based on the responses collected. To determine the hypotheses' validity, the study was guided by the following research questions:

1. Does team-member exchange relate to the performance of IT offshore team members within financial firms?

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2. Is the team-member exchange between offshore workers related to establishing cohesiveness?
3. To what extent does team-member exchange relate to building trust within offshore workers?
4. What is the relationship between team member exchange and perceived job satisfaction of offshore workers?
5. To what extent does team-member exchange relate to building job commitment among offshore workers?

Reliability Analysis

The study utilized measurement scales (OCQ, OJS, QQPA, PCS, TW, TMX) that have been used in previous research and have demonstrated satisfactory validity and reliability. In this study, the Cronbach's alpha reliability test was performed to assess the reliability of the instrument. Table 2 displays the Cronbach's alpha reliability coefficients for the six derived scales used in this study.

The JC (job commitment) items produced a reasonable Cronbach's alpha of .78 which is slightly higher than the alpha obtained in the pilot study. Similarly, the JS (job satisfaction) items demonstrated a Cronbach's alpha of .83 which is considerably higher than the results of the pilot test. The JP (job performance) items demonstrated a Cronbach's alpha of .90 which is in line with the study of Rutherford et al. (2011). In addition, the TC (cohesiveness) scale produced a Cronbach's alpha of .89 which is close to the range of previous studies (Chin et al., 1999; Srite et al., 2007; Teo et al., 2003).

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Table 2

Psychometric Characteristics of Measurement Scales

Scale	Study Label	Items	Measure	*n*	α (*cs*)	α (*ps*)	α (*as*)
OCQ	JC	3	Job Commitment	102	.78	.76	.80
OJS	JS	2	Job Satisfaction	102	.83	.72	.70
QQPA	JP	3	Job Performance	102	.90	.94	.90
PCS	TC	2	Cohesiveness	102	.89	.96	> .90
TW	TW	5	Trust	102	.90	.92	.80 to .92
TMX	TM	9	Team-Member Exchange	102	.94	.93	.84 to .88

Note: α (*cs*) = alpha of the current study, α (*ps*) = alpha of the pilot study, α (*as*) = alpha of studies adopting the same scales (Anand et al., 2010; Chin et al., 1999; Jarvenpaa et al., 1998; Jarvenpaa, & Leidner, 1998; Jarvenpaa et al., 2004; Liao et al., 2010; Liden et al., 2000; Pearce et al., 1992; Pettit et al., 1997; Rutherford et al., 2011; Srite et al., 2007; Teo et al., 2003; Ting, 2011; Wanous et al., 1997).

Similarly, the TW (trust) items demonstrated a strong Cronbach's alpha of .90 which is consistent with the studies of Jarvenpaa et al. (1998; 2004). Finally, the TMX scale showed a high alpha of .94 which exceeded the average of .86 of previous studies (Anand, et al., 2010; Liden et al., 2000; Liao et al., 2010).

The overall reliability of the study was .94 which is relatively high. The most common rule of thumb is that alpha should be higher than .80. Item discrimination varied between .772 and .878, which is reasonably higher than .30. Thus, all items contributed to

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the overall alpha, and there is no need to delete any of the items. Item difficulties vary between 3.34 and 3.63, which reveal moderate difficulty using the 5-points Likert scale. The study's feedback demonstrated the clarity and accuracy of the survey questions. The modified parts of the scales and the changes in the rating scales did not have negative effects on the scale reliability measure. Similarly, the combination of the adopted scales into one instrument did not lead to a considerable drop in overall reliability.

Description of the Sample

The survey was administered to a sample of IT team members from global financial firms known to use virtual offshore teams. Using the LinkedIn advanced premium search module, potential participants were randomly identified and then recruited. The sampling procedures included the distribution of the online survey to the recruited individuals who voluntarily agreed to participate in the study. The data was collected over a four-week period using the online survey provider *Survey Gizmo*.

Response Rate

Of the 257 recruited participants, surveys from 113 respondents were completed, for an overall response rate of 44%. Additionally, 11 participants were disqualified for not meeting the criteria of inclusion. The inclusion criteria of participants were based on: (a) working primarily in an information technology role, and (b) working directly or indirectly through providing consulting services to a *capital markets* firm (e.g., brokerage, securities, investment banking, etc.). The final total was 102 usable surveys

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used for testing ($N = 102$). The non-response rate did not appear to induce non-response bias for the research as low response rates are typical for online surveys (Cunningham, Miner, & McDonald, 2012).

Demographics

General demographic data was gathered from respondents as part of the conducted electronic surveys. The demographic data for each participant include (a) the gender of the participant; (b) the region in which the participant is based; (c) the type of employment; (d) the level of educational attainment; (e) the functional role within the organization; and (f) the number of years of IT experience. Tables 3 through 8 below present the demographic frequency and percentages pertaining to participants of the study.

Table 3

Demographic Characteristics of Participants – Gender

	Frequency	Percentage	Cumulative Percent
Male	67	65.7	65.7
Female	35	34.3	100.0
Total	102	100.0	

Note. The variable "gender" refers to the sex of the respondent.

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Table 3 shows the number of the male respondents (65%) is higher than the female (35%) with the total of 67 for male and 35 for female. Based on the collated questionnaires, the majority of the population is composed of male respondents while 35% are females. This is in line with the gender proportionality of the workforce of the high-tech industry where males occupy more positions in technology-based professions.

For the organizational region defined by the banking location where the participant works, the results in Table 4 show slightly more than three-fifths (61.8%) of the respondents work in Asian region. Asia enjoys prominence as the destination of choice for offshoring consisting mainly of the IT hubs in India and China. In addition, around one-fifth (20.6%) are from North America, one-eighth (12.7%) are from MENA (Middle East and North Africa) region, and the remainder (4.9%) are from Europe.

Table 4

Demographic Characteristics of Participants – Region

	Frequency	Percentage	Cumulative Percent
North America	21	20.6	20.6
Europe	5	4.9	25.5
Asia	63	61.8	87.3
MENA	13	12.7	100.0
Total	102	100.0	

Note. The variable "region" refers to the banking region where the participant works.

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Participants were asked to elicit their employment status at the time of the survey. Table 5 shows the employment characteristic defined as the type of employment of the participant where the majority of the respondents (64.7%) work as full-time employees, followed by the contractors group (28.4%), and the remainder participants (6.9%) are consultants providing professional services. Almost one in three of the respondents have a permanent status (e.g., full-time). There were no part-time respondents reported which is considered low in the banking high-tech industry.

Table 5

Demographic Characteristics of Participants – Employment

	Frequency	Percentage	Cumulative Percent
Full-Time	66	64.7	64.7
Part-Time	0	0.0	0.0
Contractor	29	28.4	93.1
Consultant	7	6.9	100.0
Total	102	100.0	

Note. The variable "employment" refers to the employment status of the participant.

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In terms of educational attainment, the survey data indicate that there is a minor difference between holders of a bachelor's degree and a master's degree across all respondents. Data in Table 6 show that 49 percent of respondents have completed bachelor's degree, while the corresponding proportion for respondents holding master's degree is 44.1 percent. Furthermore, few respondents have high school diploma (3.9%), some college education (1%), and associate degree (2%). The results illustrate the maturity of the respondents particularly in terms of educational background.

Table 6

Demographic Characteristics of Participants – Educational

	Frequency	Percentage	Cumulative Percent
Graduated HS	4	3.9	3.9
Some college	1	1.0	4.9
Associate degree	2	2.0	6.9
Bachelors degree	50	49.0	55.9
Masters degree	45	44.1	100.0
Total	102	100.0	

Note. The variable "education" refers to the highest educational level of the participant.

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For length of IT experience of the participant, results in Table 7 were reported in four groups. These groups included less than 2 years of experience, 3 to 5 years of experience, 6 to 10 years of experience, and more than 10 years of experience. For the less than 2 years of experience group there were 14 respondents (13.7%), while the 3 to 5 years of experience group reported 22 respondents (21.6%). The group with 6 to 10 years of experience contained 38 respondents (37.3%), and more than 10 years of experience group reported 28 respondents (27.5%).

Table 7

Demographic Characteristics of Participants – Experience

	Frequency	Percentage	Cumulative Percent
0-2 years	14	13.7	13.7
3-5 years	22	21.6	35.3
6-10 years	38	37.3	72.5
>10 years	28	27.5	100.0
Total	102	100.0	

Note. The variable "experience" refers to the years of IT experience the participant has.

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Table 8

Demographic Characteristics of Participants – Role

	Frequency	Percentage	Cumulative Percent
System Engineer	4	3.9	3.9
Software Engineer	22	21.6	25.5
Support Analyst	4	3.9	29.4
QA Analyst	25	24.5	53.9
Technical Lead	16	15.7	69.6
IT Project Manager	6	5.9	75.5
IT Manager	11	10.8	86.3
IT Director/Executive	9	8.8	95.1
Other	5	4.9	100.0
Total	102	100.0	

Note. The variable "role" refers to the organizational functional role of the participant.

Respondents were also asked to describe their role within the technology organization in which nine categories were specified. Table 8 shows that the majority of

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the participants' functional roles was from the QA analyst category (24.5%), followed by software engineers (21.6%), technical leads (15.7%), IT managers (10.8%), IT directors (8.8%), IT project managers (5.9%), and system engineers and support analysts with 3.9 percent each. The remaining (4.9%) was from the "Other" category.

Data Analysis

The study gathered data from 257 IT professionals working in the offshore teams of financial organizations. One hundred and thirteen IT professionals agreed to participate in the study. The participants answered all the required questions listed on each survey. The collected responses were checked for missing values. The only missing values occurred where the participant discontinued the survey entry which in turn invalidated it. All other variables were populated as expected. Submissions that met the criterion for this research study were, therefore, usable for the data analysis.

After coding the collected data, reliability analysis was completed to determine the internal consistency of each subscale utilized in this study. Descriptive statistics were then conducted to provide general information regarding the characteristics of the participants included in a study. The measure of central tendency was tabulated to describe the demographics data of the respondents. The means were conducted to compute the average of all the responses while the standard deviation determined the spread of the collected scores. The range measured the difference between the highest and lowest scores collected. Furthermore, the Pearson product-moment correlation coefficient was utilized to assess the strength and the direction of the linear relationship

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between the independent and dependent variables. Scatter plots were also used to help reflect the relationship in a graphic fashion.

The assumptions underlying the significance test of the Pearson correlation coefficient are concerned with the linearity and bivariate normal distribution. The linearity assumption was assessed visually by examining a scatter plot of the two variables. The normality assumption involves data from a random sample where the two variables in the bivariate analysis are normally distributed. The bivariate normality assumption is met as the statistical relationship existing between the independent and dependent variables is linear.

Summary of Results

Bivariate analyses were conducted to ascertain whether there is a relationship between team-member exchange and perceived team effectiveness. Based on the obtained results, there is a significant relationship between the variables of the study. The presentation of the correlation data collected is shown in Table 9 along with the corresponding mean (*M)*, range (*R)*, and standard deviation (*SD)*.

The computed means of the variables ranged from 3.34 to 3.63, while the standard deviations ranged from .814 to .999. The Pearson's correlation coefficient *r* among the variables ranged from .662 to .959. Wrenn, Stevens, and Loudon (2006) asserted that the linear relationship between the variables is determined by the magnitude of Pearson product moment correlation coefficient *r* ranging from (a) .2 to .40 depicting a weak relationship, (b) .41 to .60 depicting a moderate relationship, (c) .61 to .8 depicting a

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moderate to strong relationship, and (d) .81 and higher depicting a very strong relationship. Therefore, the obtained correlations presented below show a positive moderate to very strong associations.

Table 9

Correlations of the Study Variables

	M	SD	R	TMX	JP	JS	JC	TC	TW
TMX	3.63	.815	4	1					
JP	3.54	.959	4	.710	1				
JS	3.34	.814	4	.674	.699	1			
JC	3.44	.850	4	.784	.750	.700	1		
TC	3.54	.999	4	.736	.709	.662	.875	1	
TW	3.59	.839	4	.861	.708	.740	.748	.746	1

Note. TMX (Team-Member Exchange), JP (Job Performance), JS (Job Satisfaction), JC (Job Commitment), TC (Cohesiveness), TW (Trust). $N = 102$.

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Results

RQ 1 Results

A Pearson's correlation analysis was conducted to test whether there is a significant relationship between TMX and job performance. As observed in Table 10, the Pearson's *r* coefficient is .710, which indicates a moderate to strong association between the two variables. In addition, the scatter-plot in Figure 4 illustrates an upward pattern that suggests a positive slope of the increasing trend. The coefficient of determination ($r^2 = .50$) reveals that TMX is explained by 50% of the variance in job performance. Thus, the results reveal that there is a moderate to strong, positive correlation between TMX and job performance ($r = .710$, $p < .001$). This finding is consistent with the research of Kamdar and Van Dyne (2007) that suggests quality exchanges between team members are related to their performance on the job.

Table 10

TMX and Job Performance Correlation

		TMX	JP
TMX	Pearson Correlation	1	.710**
	Sig. (2-tailed)		.000
	N	102	102
JP	Pearson Correlation	.710**	1
	Sig. (2-tailed)	.000	
	N	102	102

Note. ** Correlation is significant at the 0.01 level (2-tailed).

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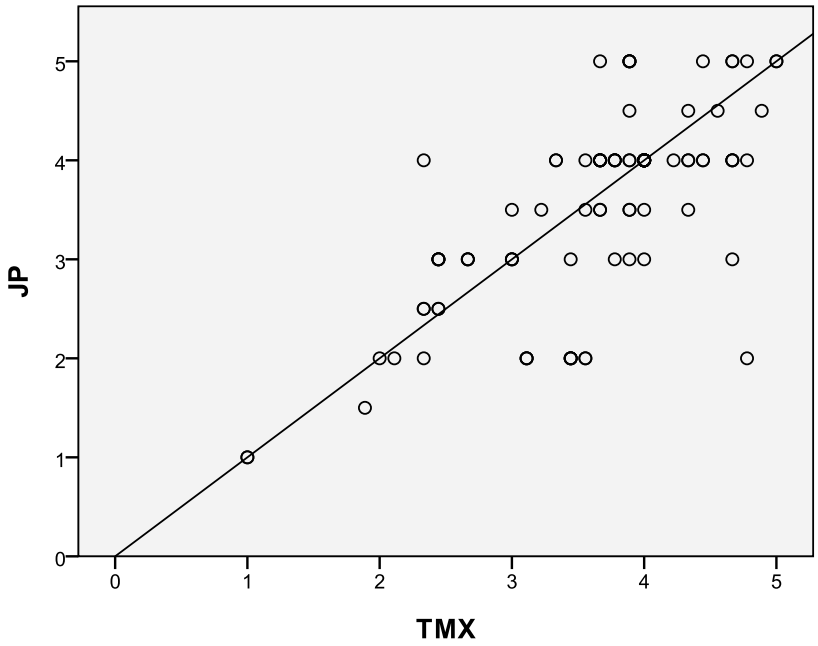

Figure 4. Scatter-plot of TMX and job performance variables.

RQ 2 Results

The goal of second research question is to identify whether TMX and cohesiveness scores are linearly associated. Based on the results outlines in Table 11 and Figure 5, the Pearson's *r* coefficient is .736 and it reveals that TMX is explained by 54% of the variance in cohesiveness (r^2 = .54). Therefore, the findings show that there is a positive and moderate to strong correlation between TMX and cohesion (r = .736, p < .001). These results are similar to previous research of Seers et al. (1995).

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Table 11

TMX and Cohesiveness Correlation

		TMX	TC
TMX	Pearson Correlation	1	.736**
	Sig. (2-tailed)		.000
	N	102	102
TC	Pearson Correlation	.736**	1
	Sig. (2-tailed)	.000	
	N	102	102

Note. ** Correlation is significant at the 0.01 level (2-tailed).

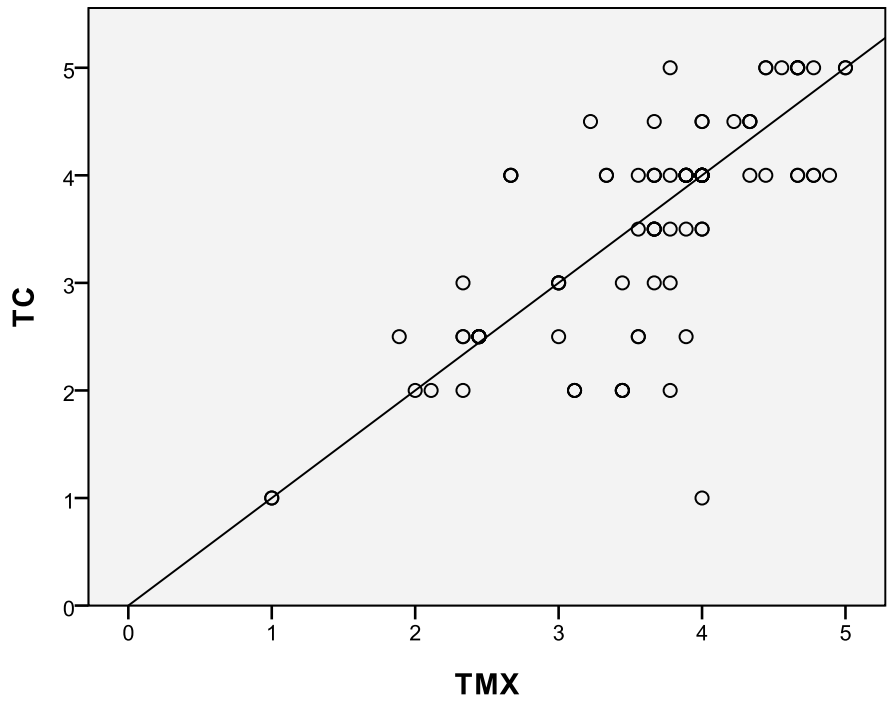

Figure 5. Scatter-plot of TMX and cohesiveness variables.

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RQ 3 Results

For the third research question, an evaluation was made for the linear relationship between TMX and trust using Pearson's correlation. As observed in Table 12 and Figure 6, the Pearson's *r* coefficient is .861 which indicates that increases in TMX are correlated with increases in rating of trust. Therefore, there was a strong and positive correlation ($r = .861$, $r^2 = .74$, $p < .001$) between TMX and trust. In addition, the results obtained here are comparable to those achieved in the research of Jarvenpaa et al. (1998).

Table 12

TMX and Trust Correlation

		TMX	TW
TMX	Pearson Correlation	1	.861**
	Sig. (2-tailed)		.000
	N	102	102
TW	Pearson Correlation	.861**	1
	Sig. (2-tailed)	.000	
	N	102	102

Note. ** Correlation is significant at the 0.01 level (2-tailed).

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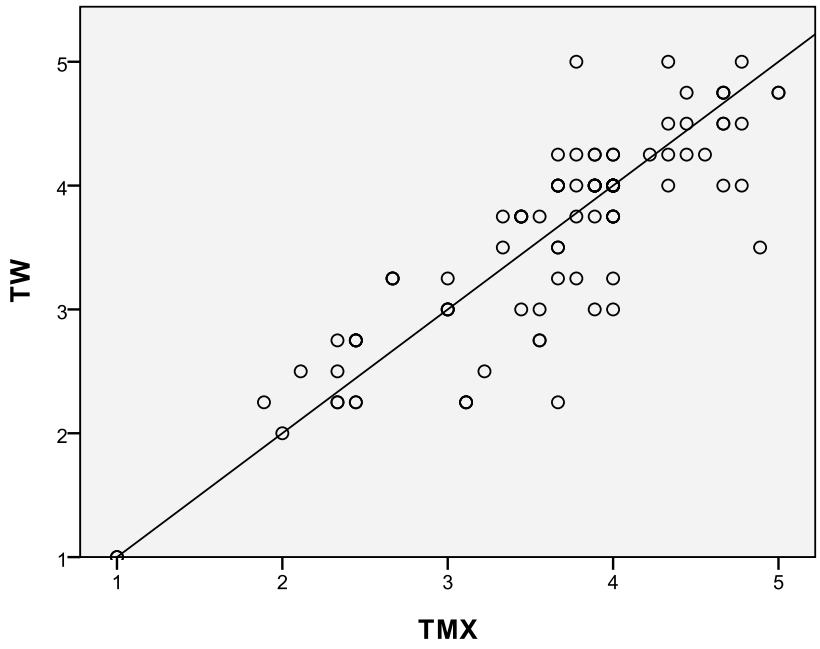

Figure 6. Scatter-plot of TMX and trust variables.

RQ 4 Results

A Pearson's correlation analysis was conducted to test whether there is a significant relationship between TMX and job satisfaction. Based on the upward pattern in Figure 7 and the Pearson's coefficient $r = .674$ (Table 13), the two variables demonstrate a moderate association. Furthermore, the coefficient of determination ($r^2 = .45$) reveals that TMX is explained by 45% of the variance in job satisfaction. Therefore, the results reveal a moderate and positive linear correlation between TMX and job satisfaction ($r = .674$, $p < .001$). The findings are in line with the study conducted by Seers et al. (1995) demonstrating a positive relationship between high quality exchanges and job satisfaction.

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Table 13

TMX and Job Satisfaction Correlation

		TMX	JS
TMX	Pearson Correlation	1	.674**
	Sig. (2-tailed)		.000
	N	102	102
JS	Pearson Correlation	.674**	1
	Sig. (2-tailed)	.000	
	N	102	102

Note. ** Correlation is significant at the 0.01 level (2-tailed).

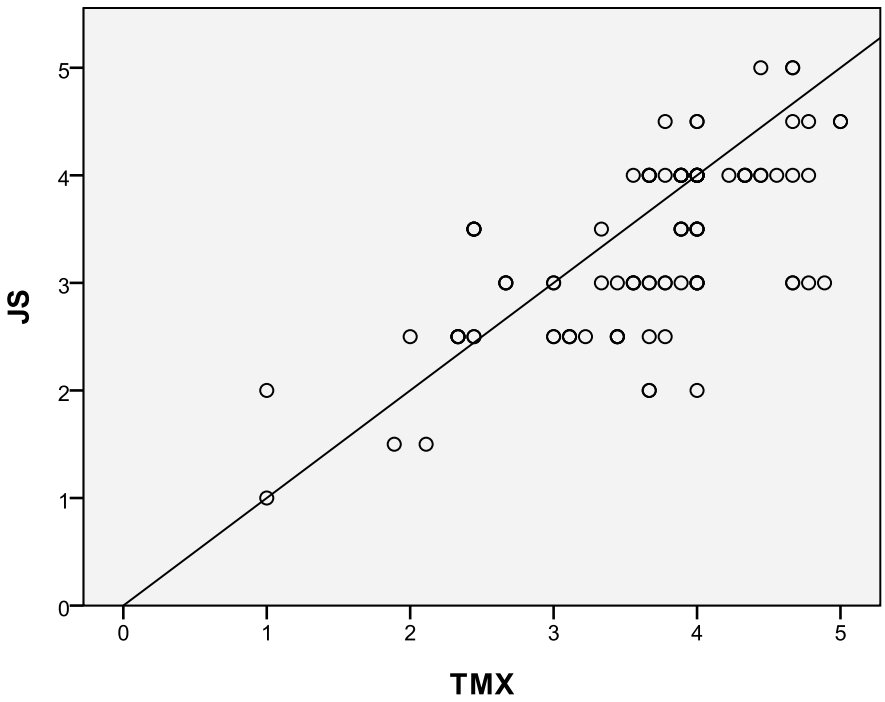

Figure 7. Scatter-plot of TMX and job satisfaction variables.

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RQ 5 Results

In order to examine the linear relationship between the TMX and job commitment variables, a Pearson correlation and visual scatter-plot (Figure 8) analyses were completed. Table 14 shows that team-member exchange is significantly correlated to commitment with a moderate to strong Pearson correlation (r = .784) and coefficient of determination (r^2 = .61). Therefore, the variable TMX is found to have a positive linear relationship with job commitment (r = .784, p < .001). The findings are consistent with initial research (Liden et al., 2000; Major, Kozlowski, Chao, & Gardner, 1995) supporting a positive relationship between team-member exchange and commitment.

Table 14

TMX and Job Commitment Correlation

		TMX	JC
TMX	Pearson Correlation	1	.784**
	Sig. (2-tailed)		.000
	N	102	102
JC	Pearson Correlation	.784**	1
	Sig. (2-tailed)	.000	
	N	102	102

Note. ** Correlation is significant at the 0.01 level (2-tailed).

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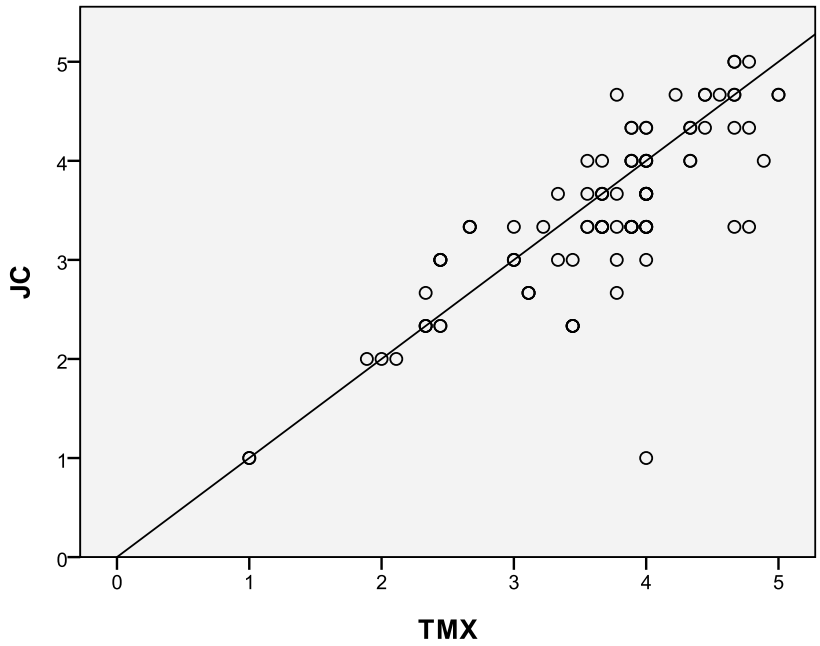

Figure 8. Scatter-plot of TMX and job commitment variables.

Hypotheses Testing

The main interest of the research is to examine how team-member exchange relates to perceived team effectiveness. The correlational statistical analyses were used to perform hypotheses testing needed to answer the research questions. The standard for statistical significance that was used is at the 2-tailed .05 level of confidence. Table 15 summarized the *p* values of tests conducted along with the outcomes of hypotheses tests. The correlations between the TMX and measures of perceived team effectiveness ranged from .673 to .861, at the 2-tailed .01 level of confidence, and were significant ($p < .001$). Based on the .05 statistical significance level and the obtained results ($p < .001$), the null hypotheses can be rejected. Therefore, the alternative hypotheses are supported as they

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represent a significant moderate to strong positive relationship between the variables measured ($r > .672$, $p < .001$, 2-tailed).

Table 15

Results of Hypotheses Testing for the Study Variables

Hypothesis	Description	Result	*p*
$H_0 1$	TMX has no relationship to job performance	Rejected	< .001
$H_A 1$	TMX is positively related to job performance	Supported	< .001
$H_0 2$	TMX has no relationship to cohesiveness	Rejected	< .001
$H_A 2$	TMX is positively related to cohesiveness	Supported	< .001
$H_0 3$	TMX has no relationship to trust	Rejected	< .001
$H_A 3$	TMX is positively related to trust	Supported	< .001
$H_0 4$	TMX has no relationship to job satisfaction	Rejected	< .001
$H_A 4$	TMX is positively related to job satisfaction	Supported	< .001
$H_0 5$	TMX has no relationship to job commitment	Rejected	< .001
$H_A 5$	TMX is positively related to job commitment	Supported	< .001

Note. Results statistically significant at the .05 level.

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Summary

This chapter presented the data that was collected to answer research questions seeking to determine the significance of the relationship between team-member exchange and the antecedents of team effectiveness among the offshore technology professionals within financial organizations. The chapter started with a presentation of the descriptive statistics of the sample demographics including the response rate and sampling procedures. Compared to total participants, the profile of the respondent from the collected surveys was more likely a full-time Asian holding a college degree with more than six years of experience. The chapter then moved to describe the different testing that was conducted for the analysis of the data including the correlation Pearson's test, which examined the direction and magnitude between TMX and perceived team effectiveness. Finally, the results of each hypothesis were presented to test for the significance of associations.

Reported data from the conducted statistical procedures indicated a correlation between TMX and each of the elements of perceived team effectiveness. Factors of TMX and job performance showed moderate association, while TMX and each of job satisfaction, job commitment, trust and cohesiveness revealed strongest associations. Moreover, the hypotheses testing revealed that all of the five postulated null hypotheses could be rejected as the data supported the alternative hypotheses. The next chapter discusses the above results in relation to a broader context of the literature.

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CHAPTER 5. DISCUSSION, IMPLICATIONS, RECOMMENDATIONS

Introduction

The purpose of this chapter is to discuss the results of the quantitative study examining the relationship between team-member exchange and perceived team effectiveness. The chapter presents an overview of the entire study including the purpose and significance of the study as well as the research hypotheses, methodology and summary of findings. The chapter also provides a discussion of the results reported in Chapter 4 as well as how they relate to the literature. The researcher then moves to draw conclusions and make recommendations in the light of findings. The remaining portions of the chapter cover the implications and possible future research to be performed.

Summary of the Results

Due to the recent slowdown of the global economy, financial organizations find strategically offshoring services to be an unswerving solution to drive down technology costs based on economies of scale. Despite the growth of offshoring services, there is still a lack of understanding by IT banking leadership concerning effective management practices that help overcome the challenges of managing across time and space. There have been a myriad of studies on the link between social exchange relationships and team effectiveness in organizations, but researchers have little explored the connection

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between communication exchanges and overall team functioning. Consequently, managers may not make evidence-based decisions pertaining to offshore team members.

The objective of this research is to better understand the relationship between team-member interactions and the effectiveness of offshore technology teams within investment banks. The study addresses the need of more research on communication effectiveness, particularly, in offshore technology organizations. The study stands as one of the first attempts in providing a model that examines the association between coworkers exchange relationships and effective teams within the capital markets industry. Moreover, the results provide practitioners with insight into one of the major challenges faced by IT managers dealing with offshore workers.

The genesis of studies in the extant literature on workplace social exchange theory was based on vertical relationship (Eisenberger, Huntington, Hutchinson, & Sowa, 1986; Graen & Cashman, 1975) where the focus was on the supervisor-worker exchange (also conceptualized as leader-member exchange) and the organization-worker exchange (also conceptualized as organizational-member exchange or perceived organizational support). While the vertical relationships are vital for team members, exchange dynamics are not complete without the consideration of the horizontal element illustrated by coworkers' exchanges. The empirical research of Seers et al. (1995) has examined horizontal exchange theory in relation to organizational outcomes such as performance and satisfaction using team-member exchange (TMX), the quality of interpersonal exchanges among coworkers, to understand the individual's perceptions of exchange workplace relationships. Furthermore, scholars and practitioners have increasingly posited that team

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effectiveness is related to social workplace exchanges among individuals (Halbesleben, 2012; Muñoz-Doyague & Nieto, 2012; Roth & Markova, 2012; Van Breukelen, Van der Leeden, Wesselius, & Hoes, 2012).

Reviews of literature have noted a significant growth of studies examining the importance of team-member exchange (TMX) in relation to team outcomes. Many studies have analyzed TMX and group effectiveness investigating attitudinal, behavioral and socio-emotional elements such as performance (Alge et al., 2003; Haynie, 2012, Liden et al., 2000; Liu et al., 2011), commitment (Keup et al., 2004; Liu et al., 2011), creativity (Lee, Lee & Jo, 2012; Muñoz-Doyague & Nieto, 2012), satisfaction (Agrifoglio & Metallo, 2010; Golden, 2006), cohesion (Jordon et al., 2002; Susskind et al., 2006), trust (Halbesleben, 2012; Jarvenpaa et al., 1998), and work engagement (Liao, Yang, Wang, Drown, & Shi, 2012). For instance, Lee et al. (2012) demonstrated that team members with high measures of TMX are more likely to interact sufficiently, share knowledge and contribute ideas. Halbesleben (2012) posited that measures of helping behavior tend to be higher in autonomous teams engaging in positive coworker exchanges. He further suggested that exchanged support between employees fosters perceived trust and cohesiveness. Another study showed that TMX can increase commitment to the job as well as relate to performance and innovativeness (Liu et al., 2011). Although prior research has focused mainly on investigating the association of the quality of workplace interactions and team antecedents in traditional groups, there is a dearth of literature examining the relationship in non-traditional offshore teams. This quantitative study seeks to add to the emerging research literature on offshore groups by

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investigating the link between team-member exchange and antecedents of perceived team effectiveness of offshore technology employees within financial firms.

Quantitative correlational design was most appropriate for this study as it conforms to the purpose of investigating the relationships and interrelationships between phenomena (Brewerton & Millward, 2001). The cross-sectional study utilized a quantitative instrument to source data needed to measure the significant degrees of associations among the study variables. The participants of the study were employees in the IT business function of large, global, capital markets firms who provided inputs based on their perceptions associated with team effectiveness and workplace exchanges within offshore technology organizations. Survey items were based on valid scales from the literature, and the instrument was pilot tested with a group of professionals. The data was collected over a four-week period, and it was then analyzed using SPSS 18.0 (Statistical Package for Social Sciences) software. Finally, the research hypotheses were tested using correlational analyses involving Pearson's product-moment correlation coefficient.

The results from the quantitative study found a significant correlation between the five antecedents of team effectiveness and the quality of workplace exchanges of offshore IT coworkers. Interestingly, the relationships were positive for all the research questions that guided the study (see Figure 9 below). The results using correlational analysis indicated that team-member exchange (TMX) has a moderate to strong, positive association with job commitment ($r = .784$, $p < .001$), job performance ($r = .710$, $p < .001$), cohesiveness ($r = .736$, $p < .001$), and job satisfaction ($r = .674$, $p < .001$), while it is strongly positively related to trust ($r = .861$, $p < .001$).

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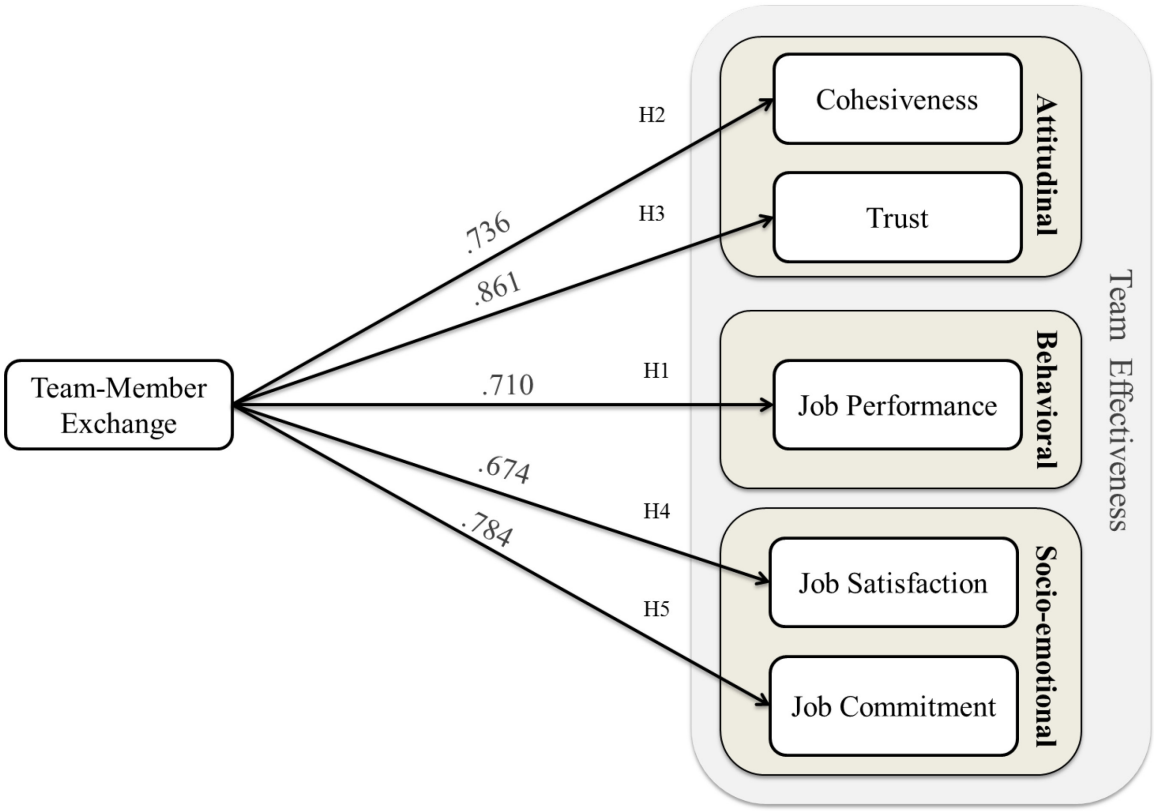

Figure 9. Results of testing the hypothesized model.

Discussion of Results

The current study attempts to address the management question that whether team-member exchange in technology organizations contributes to the overall success and growth of the offshore teams. Communication effectiveness, including workplace peer exchanges, has become more imperative in achieving better team member performance in managing offshore teams. The conceptual framework consists of one independent variable (team-member exchange) and five dependent variables (job satisfaction, job performance, trust, job commitment, and cohesiveness). The research questions asked if job satisfaction, job performance, trust, job commitment, and

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cohesiveness are positively correlated to the quality of team-member exchange. The results of the data analysis are discussed by each research question.

TMX and Job Performance

The first hypothesis of the study stated that there would be a significant relationship between team-member exchange and perceived performance of IT offshore workers within financial firms. Based on the obtained results, the results suggest that high quality of team-member exchanges is related to high scores of perceived job performance. In other words, coworkers with higher degree of quality interactions are more likely to have higher levels of job performance. Although the support of managers is salient to the individual's empowerment on the job, team-member support and feedback appear to generate higher rates of performance. When witnessing high TMX quality, coworkers may react by attempting to respond to these social exchanges through believing that they are more effective at performing and participating in team tasks. Seers (1989) explained that the development of quality exchange relationships takes place in an environment of information sharing, teamwork, and coworkers' assistance. Furthermore, the suggested results support the work environment of the technology development processes where workers need to engage in more exchanges to complete their assignments. For example, the agile development methodology, adopted by many capital markets IT teams, require software developers, quality assurance testers, and analysts to have good working relationships for successful delivery.

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The findings of the study also support previous research related to performance (Alge et al., 2003; Jordan, Feild, & Armenakis, 2002; Kamdar & Van Dyne, 2007; Liden et al., 2000; Liu et al., 2011). Liden et al. (2000) found that TMX is positively related to employee performance, while Jordan et al. (2002) found a significant positive association between TMX and group performance. Additionally, TMX has been found to be a strong predictor of job performance (Hellman et al., 1993).

TMX and Cohesiveness

The second hypothesis stated that there would be a significant relationship between team-member exchange and perceived cohesiveness within IT offshore workers in financial firms. The results were consistent with the study of the hypothesis and suggest a positive association between TMX and cohesion. Consistent with previous research on relationship cohesion (Ford & Seers, 2006; Seers, 1989; Seers, Ford, Wilkerson, & Moormann, 2001; Susskind et al., 2006), the findings of the study show that the quality of relational interactions between coworkers is likely to be an important cue to individuals in formulating perceptions of the team cohesiveness. Workplace exchange ties enhance the team's ability to establish normative expectations about tasks, collaborating, and understandings, which in turn contribute to similar attitudes and goals of the group. In support of this notion, the seminal work of Festinger and his colleagues (1950) found that interpersonal and friendship relations may confer cohesiveness among group members and lead to better compliance to group norms. Furthermore, cohesion

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seems to be an important factor for offshore teams where information and effort sharing are strongly related to binding social workplace forces (Susskind et al., 2006).

TMX and Trust

The third hypothesis sought to determine if there would be a positive correlation between TMX and trust within IT offshore workers in financial firms. The finding was consistent with the hypothesis and suggests that high quality of TMX among coworkers is correlated to high levels of perceived trust. One possible explanation is that with the development of workplace relationships, coworkers would engage in more active style illustrated by social support, information sharing, and friendship. Specifically, this notion of cooperation and collaboration among coworkers relates to trust and horizontal solidarity behavior. Trust is high when a team exhibits favorable behaviors such as free exchange of information, increased interpersonal communication, and involvement in team's activities.

Previous studies have also suggested that trust is important for developing and maintaining workplace social exchange relationships (Halbesleben, 2012; Jarvenpaa et al., 1998; Seers et al., 1995). Seers et al. (1995) observed that high trust within a team of peers results in a high-quality TMX relationship. In support of this notion, Halbesleben (2012) found that workplace relationships including exchanged support foster trust. Additionally, although traditional (face-to-face) teams experience higher TMX than non-traditional (offshore and virtual) teams (Alge et al., 2003), it has been found that offshore

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technology workers having high quality of workplace peer exchanges exhibited higher levels of openness and trust.

TMX and Job Satisfaction

The fourth hypothesis of the study stated that there would be a significant relationship between team-member exchange and perceived job satisfaction within IT offshore workers in financial firms. As hypothesized, the present results suggested that high TMX was positively related to job satisfaction. In other words, coworkers with higher degree of the quality of interactions are more likely to have higher perceptions of job satisfaction. This corresponds to the existing research that examined the TMX-employee satisfaction relationship (Keup et al., 2004; Seers, 1989; Sherony & Green, 2002). The existing research has attributed such association to the level of peer support, interpersonal interaction, and mutual assistance which all reflect high quality TMX (Golden, 2006; Major et al., 1995; Seers, 1989, Wech, 2003). For example, one study found that interpersonal work relationships are among several organizational factors relating to job satisfaction (Keup et al., 2004), whereas another one found that individuals with high TMX are more likely to facilitate work and experience more flexibility, hence tend to have higher job satisfaction (Wech, 2003). Other studies have also reported a relationship between workplace social support and employee satisfaction (Bradley & Cartwright, 2002; Ducharme & Martin, 2000; Hulbert, 1991). Workplace relationships between colleagues can involve affective and instrumental support to each other, which in turn helps mitigate negative factors such as the relative lack of intrinsic or extrinsic

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work rewards (Ducharme & Martin, 2000). Thus, it appears that the quality of social exchanges among peers plays a significant role in shaping the offshore worker's perceptions of satisfaction towards the job.

TMX and Job Commitment

The last hypothesis stated that there would be a positive relationship between team-member exchange and perceived job commitment within IT offshore workers in financial firms. Closer examination of the data supported the hypothesis and revealed a significant association between TMX and job commitment. This is because work attitudes, like commitment, are partially derived from the quality of interpersonal relationships that entail the support and guidance the employee receives from his or her coworkers. The TMX quality involves the intention to share knowledge and provide peer assistance that can be vital to task success. Increasing the prospects of success on the job enhances employees' commitment to the job. In addition, informal communications (e.g., after work gatherings, lunch meetings, hallway conversations) between employees nourish the workplace relationships and networks.

The findings also corroborate existing research which has linked team-member relationships to team outcomes including commitment (Ismail et al., 2012; Keup et al., 2004; Liden et al., 2000; Major et al., 1995). Lam (2003) indicated that individuals who have better interrelationships with their colleagues are more engaged in their work, and in turn, are committed to the job. Similarly, Major et al. (1995) found that the contribution and the support of employees to their coworkers augment the sense of commitment.

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To summarize, this study confirms potential effect of TMX on perceived offshore team outcomes. TMX plays an important part in shaping the perception of attitudinal outcomes such as job satisfaction and job commitment. Also, the quality of TMX conveys significant relation to behavioral outcomes such as job performance. In addition, TMX is central to explaining employees' socio-emotional outcomes such as trust and cohesion.

Implications of the Study

The objective of this study is to understand whether the quality of social exchange relationships that a team member develops with his/her peers relates to antecedents of team outcomes. Using multiple theoretical underpinnings pertaining to communication effectiveness, the study proposed a positive link between team-member exchange (TMX) and perceived team effectiveness. The findings of the study have several research, theoretical, and managerial implications.

Implications for Research

The study advances extant research on team-member exchange by contributing to the literature on social workplace theory in two ways. First, the findings extend the TMX literature by identifying the nature of the relationship between the quality of coworkers' exchanges and perceived team effectiveness. There is a copious stream of studies examining the link between workplace interactions and individual factors contributing to team effectiveness (Alge et al., 2003, Liden et al., 2000; Major et al., 1995; Seers et al.,

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1995; Tse & Dasborough, 2008). However, there has been no effort to link these factors in a unified theoretical framework. One major omission in the extant research is the examination of the mechanics of TMX in relation to the concept of team effectiveness as a typology comprising multiple dimensions (i.e., attitudinal, behavioral and socio-emotional domains). This study shed new light on the holistic notion of perceived team effectiveness in relation to the team member interactions in organizations.

Second, prior research on TMX has largely investigated workplace exchange network in traditional work context characterized by face-to-face (FTF) interactions and close proximity. There is a plethora of studies (Golden, 2006; Hellman et al., 1993; Jordon, et al., 2002; Seers et al., 1995) that examined the association of TMX and various concepts of team dynamics such as job satisfaction, performance, trust, and creativity. However, the understanding of offshore teams in relation to interpersonal workplace relationships is inadequate as far as past literature is concerned. The work group context can pose as an impediment to establishing exchange relationships by team members. The findings of this study upheld the constructive role that peer relationships have in amplifying work outcomes from the perspective of non-traditional work context (e.g., offshore and remote context).

Theoretical Implications

A number of theoretical implications may be derived from the findings. The current study provides support for the social exchange theory (Blau, 1964), where the association between team members' interpersonal interactions and work outcomes

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derives from social rewards of exchange relationship. When coworkers enhance social exchange relationships, they reciprocate cost for reward, resulting in a mutual benefit (Seers, 1989). Therefore, as individuals maximize the gains of peer-exchange relationships, their perceptions of work outcomes (e.g., satisfaction, commitment, and performance) increase.

The results of the study are also congruent with the time, interaction and performance (TIP) theory (McGrath, 1991). The TIP theory suggests that a supportive team environment, including interpersonal communications and coworkers' support, leads to working together towards common goals of the group. In addition, the TIP theory demonstrates that a supportive team ethos entailing shared common goals and team well-being, contributes directly to building relationships (Lin et al., 2008). The relationship found in the study shows that higher degree of peer exchange interactions is related to team cohesion.

Managerial Implications

To maintain effective teams in the increasingly complex and globalized landscape, financial firms need to capitalize on the constructive role of workplace interactions (Miller, 2012). The results of this study offer concrete implications for practitioners on how to leverage workplace exchange relationships to enhance team effectiveness through increasing the reciprocity of coworkers' interactions. This study suggests that managers can improve the effectiveness of offshore groups by facilitating, supporting and maximizing relationship-oriented exchanges among coworkers. Initial

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strategies might range from actions like providing employees training to sharpen their interpersonal skills and scheduling interactive opportunities including social activities. Seers et al. (1995) suggested that training employees to better develop reciprocal communicative relationships is the catalyst to the success of self-directed work teams.

These actions help to promote greater job autonomy in terms of establishing formidable relationships and collaborative atmosphere that are salient to effective teams. Similarly, working to strengthen workplace employees' relationships via TMX can mitigate the negative effects of communication breakdown among offshore technology workers. Therefore, practitioners who hope to maximize team functioning should support horizontal solidarity behaviors among team members that foster a peer exchange relationships.

Limitations

The study has several limitations that can be addressed in future studies. The first limitation entails the cross-sectional nature of the study. Rindfleisch, Malter, Ganesan, and Moorman (2008) suggest that this form of survey is more prone to bias of the common method variance (CMV). The relationship between the quality of workplace exchanges and perceived team effectiveness may reflect some artificial variance due to CMV. Using longitudinal surveys can ameliorate such threat to the validity. In addition, the study assesses responses in a single point of time, which may fail to capture changes that occur throughout the development of the relationship.

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The second limitation is related to the application of generalization of the results. This has to do with the nature of the sample. This research investigated only the investment banking sector. In addition, all of the respondents of the study worked in the information technology (IT) area of their organizations as they shared various technology roles. The homogeneity of the domain and sector of participants poses a challenge for generalization. To remedy this limitation, replication in other industries and domains may be needed prior to drawing broad generalizable conclusions.

Recommendations for Future Research

The current study provides a meaningful input for accumulation of scholarly knowledge in the area of offshore workplace-oriented relationships. The findings of the study put forward a number of intriguing avenues for future research. First, given the positive relationship between TMX and elements of effective teams, the results suggest that it is worthwhile for future researchers to investigate how TMX is related to role modeling among peers, which can be connected to team effectiveness.

Second, as this research study has presented a theoretical framework of unified factors of perceived team effectiveness and the quality of workplace interactions among peers, the results suggested a positive relationship between the variables. It remains an interesting question of how the supervisor-employee and organization-employee social exchanges relate to the holistic concept of team effectiveness. Future research may integrate the three social exchange notions (e.g., team-member exchange, leader-member

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exchange, organization-member exchange) to examine them concurrently in relation to team effectiveness.

Third, the current study has addressed the offshore technology groups where cultural diversity is of prominence importance to the communication process. The degree of culture assimilation and sharing throughout the organization has an impact on workplace exchanges (Cole, Schaninger, & Harris, 2002). Future research may explore whether the findings can be replicated in other cultural contexts. Such research can further the investigation of workplace interactions among peers in heterogeneous cultures and open the door to cross-cultural validity of these social relationships.

Conclusion

The purpose of this research is to identify and examine the relationship between team-member exchange and the effectiveness of offshore technology teams within investment banks. To achieve this objective, a correlational study was conducted. The results provided evidence on the positive link between team-member exchange and elements of perceived team effectiveness (i.e., job satisfaction, job performance, trust, job commitment, cohesiveness). The main contribution of this study is that it amplifies the understanding of the significance of workplace lateral interactions and their beneficial effects on team functioning. Specifically, the findings of the study reinforce the notion that peer-level social exchanges are an important feature of the offshore technology environment and suggest that offshore workplace relationships are positively correlated to group-related outcomes. Meanwhile, the study expanded on the social exchange theory

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and streams of research by suggesting the positive relationships between the quality of coworkers' interactions and the attitudinal, socio-emotional and behavioral elements of team effectiveness. Furthermore, the findings highlight the need for recommended future examination of factors affecting coworkers' exchange relationships.

Given the importance of workplace peer interactions, organizations should encourage their management to promote a culture characterized by high team-member exchange. As the world economy becomes increasingly globalized, businesses will continue to leverage offshoring as part of their portfolio of strategies. Thus, the implications of managing offshore team members effectively will persist as a fruitful topic for both practitioners and scholars.

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APPENDIX. QUESTIONNAIRE ITEMS

The following questionnaire items are used in the web survey. The research instrument is a combination of multiple amended versions of adopted measurement scales (OCQ, OJS, QQPA, PCS, TW, and TMX) from previous studies (Chin, 1999; Pearce et al., 1992; Liden et al., 2000; Pettit et al., 1997; Ting, 2011; Wanous et al., 1997).

Job Performance

- How would you rate the quality of your own performance in your job?
- How would you rate the quantity of your own performance in your job?
- How would you rate your overall job performance?

Cohesiveness

- I feel that I belong to my technology team. Questionnaire
- I am content to be part of my technology team.

Trust

- I can rely on those with whom I work in my team.
- We have confidence in one another's feelings in my team.
- We are usually considerate of one another's feelings in my team.
- The coworkers in my technology team are friendly.
- There is no team spirit in my technology team.

Job Satisfaction

- Overall, I am satisfied with my current job.

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Job Commitment

- My technology team is worthy of my devotion.
- I am willing to spend extra time in promoting my team.
- In order to stay with the team, I would be willing to any work.

Team-Member Exchange

- When I am in a bind, my coworkers will take on extra work to help ensure the completion of my important tasks.
- My coworkers have asked for my advice in solving a job-related problem of theirs.
- I would come to a co-worker's defense if he/she were being criticized.
- I respect my coworkers as professionals in our line of work.
- My coworkers create an atmosphere conducive to accomplishing my work.
- My coworkers are the kind of people one would like to have as friends.
- Even when they disagree with me, my coworkers respect the value of my judgments and decisions.
- I feel that I am loyal to my coworkers.
- My coworkers value the skills and expertise that I contribute to our work group.

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