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Small Business Crews As High Performance Work Teams: The Role Of Vertical And Horizontal Familiarity

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SMALL BUSINESS CREWS AS HIGH PERFORMANCE WORK TEAMS:

THE ROLE OF VERTICAL AND HORIZONTAL FAMILIARITY

A Dissertation
presented in partial fulfillment of requirements
for the degree of Doctor of Philosophy
in the Department of Business Administration
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by

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ABSTRACT

This research focused on the influence of vertical team familiarity (past work experience between leader and members) and horizontal team familiarity (past work experience between members) on fluid team financial job performance. Utilizing role theory (Foa & Foa, 1974), leader-member exchange (Graen & Scandura, 1984) and team-member exchange (Seers, 1989) theories, within Grant's (2007) relational job design model, a conceptual model is developed and then empirically tested. It is proposed that through vertical team familiarity and horizontal team familiarity resource exchange relationships develop which influence team financial job performance. The effect of vertical team familiarity on team financial job performance is hypothesized to operate through the intervening variables, horizontal team familiarity, team operational job performance, and diverse team competence. The findings from this study indicate that vertical team familiarity positively influences financial job performance through horizontal team familiarity. This suggest that when fluid team leaders' compose a team bases on members past shared teamwork experiences the leader positively influences financial job performance through horizontal familiarity. Furthermore, team competence was found to be negatively related to team financial job performance indicating that when selecting team members, leaders will better serve the organization by focusing on relationships formed between members.

DEDICATION

This dissertation is dedicated to my parents, Jasper and Susan, who continuously motivated me to further myself academically as well as professionally. Their motivation and support served as a primary driver in the successful completion of this challenging task. I also dedicate this dissertation to my brother, Jasper Jr., who through his unwavering commitment to achievement inspired me to excel. Last, but certainly not least I dedicate this dissertation to my wife, Charity, my son, Payton, and my soon to arrive son, Benjamin. Their affection and support provided me the drive to overcome obstacles in the pursuit of this accomplishment. I sincerely thank each of you, for you each are responsible for this achievement.

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CHAPTER 1
INTRODUCTION

In today's global hypercompetitive environment, characterized by intensifying rivalries and fluctuations in customer value expectations, contemporary business organizations are increasingly adopting flexible, project-based structure and utilizing non-traditional forms of teams to meet the related challenging demands for sustained superior performance (Gardner, Gino, and Staats, 2012; Gibson, Waller, Carpenter, & Conte, 2007; Gino, Argote, Miron-Spektor, & Todorova, 2010; Pearce, & Ensley, 2004). Traditionally, a team has been viewed as "a collection of individuals who are interdependent in their tasks, who share responsibility for outcomes, who see themselves and are seen by others as an intact social entity embedded in one or more larger social systems, and who manage their work relationships across organizational boundaries" (Cohen & bailey, 1997: p. 241). Within traditional teams, team members perform differentiated, yet stable roles and responsibilities, while performing a stable set of tasks (Guzzo & Dickson, 1996).

The traditional view of teams implies that teams have stable membership that maintains mutual familiarity between team members within and across a stable set of project tasks that they perform (Mortensen, 2012). However, projects in contemporary organizations are increasingly becoming non-traditionally dynamic and performed by fluid teams, which are "teams that exist only for the duration of a single project and are composed of members who may join or leave a team during the course of the project" (Huckman et al., 2009, 85). Fluid teams, characterized by unstable team membership and a changing set of project tasks, are now common in the fields of

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health care, information technology, software development, defense, construction, oil industry, and relocation services (Bushe & Chu, 2011). The most salient problem created by unstable team membership is the "loss of individual knowledge, lack of shared mental models, low individual commitment to group success, lack of cohesion among group members" (Bushe & Chu, 2011: p. 3) and the overall flux in coordination (Summers, Humphrey & Ferris, 2012). Reagans et al. (2005) identified an important variable, team familiarity, in mitigating the negative effects of unstable team membership. Team familiarity refers to team members past shared teamwork experiences and has been shown to positively influence a team's ability to coordinate and perform teamwork more effectively (Huckman et al. 2009). Particularly due to the changing team membership, it is important for organizations to understand how familiarity is developed not only between team members, but also between the team leader and the team members, in the ways that may beneficially influence performance of projects performed by fluid teams (i.e., fluid team performance. Specifically, it is important to understand how team familiarity fits with the variables that influence fluid team performance.

In general, four groups of variables have been identified which influence a team's performance (Krech et al., 1962). First, team structural variables may have a facilitating or impeding influence team performance. Team structural variables, such as team size, skills possessed by team members, and the way individuals are nested within the team influence the team's ability to perform effectively. Second, situational variables, such as the purpose and characteristics of the function which the team performs for the organization, may influence a team's performance. Third, task-related variables, including task type, task time duration, and complexity, may be influential to team performance. Finally, several variables which are "directly related to the first three categories" have been identified as particularly important to

teams' performance (Higgs, Plewnia, & Ploch, 2005, p. 227), such as the interpersonal relationships developed among team members, the type of team leadership, and the level of task interdependence requiring interactions among the team members. Other potentially influential variables are highlighted by Hackman and Wageman (2005a) who argue that team leaders can only have an influence on team performance when they possess some control over the resources required by the team, have the ability to determine to some extent the processes for teamwork, and when there is some degree of complexity in the tasks the team needs to complete.

Studies investigating the influence of leadership styles on team project performance have provided varied results. Several empirical studies have found the positive influence of transformational leadership style on team performance (Keller, 2006; Limsila & Ogulana, 2008; Prabhakar, 2005), while several other studies have indicated the positive influence of charismatic and participative (Cheung, Ng, Lam, & Yue, 2001), and consultative (Odusami, Iyagba, & Omrin, 2003) leadership styles on project team performance. However, Thite (2000) found that only when leadership styles interact with contingency factors (project mission, support of top management, and technicality of tasks) that they had the strongest impact on project success and performance of the project teams. Overall, the varied findings of studies examining the influence team diversity and team leadership styles on performance indicate that other variables absent from the above studies may be impacting the relationships under investigation. As this point is even more salient with fluid teams, Staats (2012) suggests that it is more productive to examine the effects of team familiarity on fluid team performance, both in the form of member-member familiarity and leader-member familiarity.

Traditionally, job design research has emphasized the performance benefits of using person-job fit when placing individuals in certain positions (Kristof-Brown, Zimmerman, &

Johnson, 2005). A stream of research shifted to a focus on competency-based perspective of organizing work structures arguing that organizational competency increases as a result filling jobs with the most competent individuals (Lawler, 1994) and individuals are more marketable to organizations due to their diverse competencies (Defillippi, & Arthur, 1994). The competency-based perspective is particularly salient to team based organizational structures as leader-member exchange quality is a function of the competence of team members (Graen & Scandura, 1987). However, recently Grant (2007) proposed a theory based model of designing work around relationships. This model posits that resource exchange between members of a team is governed by a job design that organizes members based on their previous working relationships. Specifically, the frequency, duration, proximity, depth, and breadth of past working relationships will influence not only a members willingness to exchange resources they possess in the form of effort, and helping behavior, but also that individuals feeling of social. These two divergent perspectives, of organizing team members based on member competency or past working relationships is particularly salient to organizations utilizing fluid teams to perform tasks.

The use of fluid teams represents both research and practical problems. Previous research investigating fluid teams has focused on contexts of high knowledge intensity with specialized roles of fluid team members such as surgical teams (Edmondson, Winslow, Bohmer, and Pisano, 2003; Reagans, Argote, and Brooks, 2005), sports teams (Allen, Panian, & Lotz, 1979; Levi & Slem, 1995), software development teams (Espinosa, Slaughter, Kraut, & Herbsleb, 2007; Hinds, Carley, Krackhardt, & Wholey, 2000; Huckman, Staats, & Upton, 2009; Staats, 2012), air traffic control teams (Smith-Jentsch, Kraiger, Cannon-Bowers, and Salas, 2006), and banking (Staats and Gino, 2012) and the dependent variable in all of these studies is operational performance. However, both researchers and practitioners are not informed about the

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functioning of fluid teams in contexts of low knowledge intensity without specialized roles of

fluid team members where financial team performance is of primary relevance to practitioners.

To address this void I have focused on researching these types of fluid teams to examine the

impact of team familiarity and other factors on team financial job performance given the absence

of role specialization in these contexts. Specifically, I am examining fluid teams operating in the

moving industry with the available data of team familiarity and team financial and operational

job performance.

In this dissertation I examine the influence team familiarity on the performance of fluid

teams. Here, team familiarity reflects the extent to which team leaders and team members share

"history of working together in the past and an expectation of working together in the future"

(Hollenbeck, Beersma, & Schouten, 2012: 84). Familiarity in fluid teams is typically developed

from vertical and horizontal resource exchanges that occur in patterned ways between team

leaders and team members and between team members (Crawford & Lapine, 2013). When team

familiarity develops, it may become a valuable team resource that improves the team's explicit

and implicit coordination. This improvement could occur because the familiar team members are

more likely to help each other and to share the varying role demands when the tasks and

membership composition change (Vashli, Bamberger & Erez, 2012). This means that the

development of this resource meets a functional need of a fluid team. Therefore, I argue that the

functional view is the appropriate perspective to examine in depth how team familiarity

engendered in the process of fluid team functioning may influence fluid team performance.

The functional view posits that team leadership is the "process of team need satisfaction

in the service of enhancing team effectiveness" (Morgeson, DeRue, & Karam, 2010: p. 8). In

fluid teams, sources of this process can be both team leaders (hierarchically) and team members

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(horizontally) when they engage in relational exchanges through teamwork aimed at meeting the team's needs and improving the team's outcomes. This aim is however challenging to achieve when the team membership and task complexity change in fluid teams, where "the design of the team's work and the composition of the team itself could play a key role in the relevance of the leadership function" (Morgeson et al., 2010: p. 29) for the team's performance.

The emerging field of fluid team leadership entails the combined influence of leader-member and member-member familiarity on important team outcomes, most commonly performance. The main theoretical proposition related to fluid team leadership is that both vertical and horizontal team familiarity improve team coordination as organizational dynamic and operational capability. The concept of fluid team leadership has been empirically examined in recent studies conducted by Huckman and Staats (2011) and Staats (2012). These studies were however conducted in contexts of high knowledge intensity where team members performed highly specialized roles and where the focus is on operational aspects of team performance. This dissertation complements these studies addressing their contextual void by examining fluid team leadership in the context where team members do not perform specialized roles and where financial aspects of performance are of primary relevance to the organization.

In this regard the findings of my dissertation make two unique and valuable contributions. First, I found that context matters with fluid team leadership. Specifically, I found that in contexts characterized by generalized roles (i.e. low knowledge intensity) horizontal team familiarity mediates the influence of vertical team familiarity on financial team performance, while the previous studies conducted in contexts characterized by specialized roles found that vertical and horizontal team familiarities have independent impacts on operational team performance. Specifically, these studies found that vertical team familiarity positively

influenced a team operating within budgeted time and effort schedules, while horizontal team familiarity positively influenced the quality of the work produced by the team. Second, I found that in this context, characterized by the absence of specialized roles, fluid team leadership influences financial team job performance but not operational team job performance. Moreover, the emphasis of leaders on their familiarity with team members that are most competent had a negative influence on financial team job performance.

The effectiveness of fluid team leadership can be evaluated based on various criteria, but the most common criterion is team task performance. With a focus on team task performance, I examine in this dissertation how fluid team leadership, as a process reflected in vertical (leader-member) and horizontal (member-member) team familiarity, influences team operational and financial performance. For this purpose, I first explain the concept of fluid teams. Second, I review past research studies on fluid team familiarity and leadership. Third, I summarize the findings of these studies to propose an integrated model and formulate hypotheses. Fourth, I describe the sample and methodology that I use to test my hypotheses. Fifth, I present and discuss the results of my analysis. In conclusion, I highlight the contributions of this research, acknowledge the limitations of the study, and suggest avenues for future research which would extend our understanding of fluid teams.

Literature Review of Fluid Team Studies

In organization studies, teams have been typically conceptualized in terms of their members' task interdependence and their shared accountability for the team performance of tasks (Alderfer, 1977; Hackman, 1987; Guzzon and Dickson, 1996). Specifically, Cohen and Bailey (1997) define a team accordingly as "a collection of individuals who are interdependent in their tasks, who share responsibility for outcomes, who see themselves and are seen by others as an

intact social entity embedded in one or more larger social systems, and who manage their work relationships across organizational boundaries" (p. 241). Implied in this definition is the understanding that teams are composed of the same individuals (stable membership) within and across a stable set of tasks that the team performs. However, this definition does not capture fluid teams where members are assembled together to form a unique skill mix to perform a specific project, after which they are broken apart and reassigned to different teams (Staats, 2012).

Recognizing the Specificity of fluid team performing fluid tasks, Mortensen (2012) suggests that researchers begin examining (in)stability in teams as a factor of team performance that varies across teams and tasks. Specifically, Mortensen (2012) suggests that this examination requires the following shift to occur in the researchers' mindset, "first, from approaching and differentiating teams on the basis of their membership to doing so on the basis of their task; second, from viewing teams as stable entities to viewing them as states in an ongoing process; and third, from viewing them as self-contained to viewing them as inextricably linked to the broader social system in which they are situated" (p. 4). This shift implies a heightened emphasis on team fluidity.

Team fluidity, characterizing teams with unstable membership, has for a long time been viewed as a factor contributing to team dysfunction and inability to perform the assigned task or function effectively (Bushe & Chu, 2011). This view is stems from the findings of past research studies that have provided evidence that stable team membership has a positive effect on adoption of new procedures requiring tacit knowledge (Edmondson, Winslow, Bohmer, and Pisano, 2003), new product speed-to-market and performance (Akgun and Lynn, 2002) and team learning (Argote, 1993; Edmondson et al. 2001; Akgun and Lynn, 2002). For example,

Edmondson et al. (2003) conducted a study of surgical teams adopting new technology and found that the success of adopting new technology depended upon tacit knowledge of team members for which team stability was a significant predictor during new technology implementation success. Also, research on new product development teams in technology firms has provided evidence that team stability increases the team's ability to develop a new product quickly and contributes to the success of the product once it is introduced. Despite these general findings, it should be noted that certain specific conditions engender the need to adjust team membership between different tasks thus indicating potential negative effects of team stability and potential benefits of using fluid teams (Bushe & Chu, 2011).

Several particular situations necessitating the use of fluid teams in organizations as well as potential benefits are provided by Bushe and Chu (2011). First, one such benefit is that different jobs and/or tasks require different skills and experience, thus creating the need to adjust team membership between jobs, and in some instances while performing particular jobs to most appropriately match the skill mix possessed by team members to the demands of a particular job or task. Second, the limited availability of employees to respond to the mounting pressures of assembling teams to fulfill the requirements of performing multiple tasks, particularly during periods of high demand, contributes to the increasing use of fluid teams. Third, fluid team membership may be necessary and actually can benefit an organization if used for training and skill development of new employees, as well as for the development of those employees for whom the organization feels that they have the ability to quickly expand their skill set and provide greater value to the organization. Fourth, fluid team membership contributes to the mitigation of negative collusive behaviors which may come to fruition as teams work together

for longer periods of time and develop lax norms. Fifth and finally, fluid team membership promotes vigilance in communication among team members.

These five benefits of using fluid teams indicate the primary reasons for organizations to practice unstable team membership, particularly in times of environmental turbulence that entails demand shifts and employee turnover (Bushe & Chu, 2011). In these times, team stability is likely to restrict innovation and creativity in teams through "excessive socialization" (Levinthal and March, 1993; Morris, Davis, & Allen, 1994). Fluid teams are also practiced when unexpected problems require temporary task teams to be formed with the specific purpose of finding solutions (Abernethy and Lillis, 1995). However, before relying on fluid teams, organizations should check for specific problems that sometimes accompany unstable membership within teams.

The most salient problem created by unstable team membership is the "loss of individual knowledge, lack of shared mental models, low individual commitment to group success, lack of cohesion among group members" (Bushe & Chu, 2011: p. 3) and the overall flux in coordination (Summers, Humphrey & Ferris, 2012). The problems of unstable team membership can be mitigated by "creating a few stable roles which act as knowledge resources for other, increasing understanding of coordination needs of other roles, design motivating roles, and building loyalty to higher level groups and the organization as a whole" respectively (Bushe & Chu, 2011: p. 3). However, organizational management should be aware that team members in collectivist cultures, such as those found in many Asian countries, as compared to individualistic cultures, such as those found in the United States, have much more difficulty adjusting to changes in team membership (Harrison, McKinnon, Wu, and Chow, 2000). Therefore, the creation of stable team leadership roles, directed at stabilization of knowledge resources and enhanced member

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motivation, has been employed to facilitate team adjustment upon membership change (Summers et al., 2012).

Stable team leadership is crucial in fluid teams because those are the "roles that are strategically core to the extent that role holders encounter more of the problems a team needs to overcome, have a greater exposure to the tasks that the team is performing, and/or are more central to its work flow" (Summer, Humphrey & Ferris, 2012: p. 315). Fluid teams need leadership stability in its membership because change in such position result in greater flux in coordination among the team and lead to poorer team performance (Humphrey, Morgeson, & Mannor, 2009). Team leadership change is likely to engender flux in coordination that is defined as diminished stability in the pattern of interactions among a group as a whole pertaining to the composition of interdependent activities (Marks, Mathieu & Zaccaro, 2001; Summer, Humphrey & Ferris, 2012).

Team leadership change has been a focus of multiple studies conducted since the 1930s. The earliest of these studies have provided initial evidence of the negative impact of team leader change on team effectiveness, particularly in manufacturing and plant operations (Smith and Nyman, 1939; Guest, 1962), and among sports teams (Grusky, 1963; Eitzen & Yetman, 1972). The studies related to sports teams have indicated that the in-process changes (changes occurring within an ongoing season) in team membership have a detrimental impact on team performance. However, the between process changes (changes occurring during the off-season) in team leadership and membership do not have a significant negative effect on performance (Allen, Panian, & Lotz, 1979). The likely explanation for these differences is that, as the complexity and interconnectedness of tasks increase, the disruption created by changing team leadership and membership is greater resulting in lesser team effectiveness (Levi and Slem, 1995; Lichtenstein

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et al., 1997). As sports teams progress through a season, each team member fills a specific role which supports the overall team plans and goals, whereas plans and goals are adjusted between seasons to facilitate performance in the following season, thus also allowing planning for team member personnel changes.

In summary, past studies examining fluid teams have found that fluid team membership, which is characteristic of teams with membership instability, may have both negative and positive effects on team performance. The variation of the effects of team membership fluidity on team performance has been shown to depend likely on coordination needs among team members and the type of knowledge needed to perform the assigned task. Also, varying criticality of the role played by the member being replaced impacts the fluidity effect size on team performance. The studies conducted in recent years have indicated that fluid team familiarity may explain this effect (Staats, 2012).

Literature Review of Fluid Team Familiarity

The concept of familiarity was first introduced in organizational studies investigating how absenteeism among workers affects accident rates in coal mines (Goodman & Garber, 1988). In this investigation, Goodman and Garber (1988) defined familiarity as "the level of specific knowledge one has about the unique aspects of the workplace" (p. 81). This broad definition includes "knowledge about the unique characteristics of particular machinery, materials, physical environment, people, and programs that exist in a particular section (of a coal mine) at a particular time" (p. 82). The investigation found evidence that those employees who were absent and then returned to work were less familiar with the unique aspects of work mentioned above and would be more prone to accidents. Also, the replacement worker working during such absence was unfamiliar with these work aspects and contributed to more accidents

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occurring. Goodman and Leyden (1991) built on this line of research and found that lower levels of familiarity, as defined above, resulted in lower productivity, in term of the amount of coal excavated by a specific unit on a particular day. While these initial studies focused on the familiarity of team members with multiple aspects of work, later research studies began focusing on the familiarity that formed between team members.

Team familiarity is defined as "the degree to which team members have worked with one another in the past" (Huckman, Staats, and Upton, 2009, p. 87). An important distinction should be made between team familiarity and team tenure. While team tenure is the length of time team members have operated together on the same team, and therefore is more applicable to teams where membership is stable (Hackman, 2002), team familiarity is an average of the number of times dyads of members working within a team have worked together regardless of whether this team membership has been continuous (Huckman and Staats, 2008). In other words, if some team members have had a long joint team tenure spanning many projects they will have a high level of team familiarity. However, when a group of workers has a high level of team familiarity this does not necessarily imply that this group has long team tenure rather, it merely indicates that on average the dyads within the group have worked on the same team for many projects in the past.

The studies conducted by Huckman et al. (2009) indicate the relevance of researching team familiarity as a factor contributing to increases in team performance. The positive impact of team familiarity on performance can be attributed to both better coordination among team members and an increase in the willingness of team members to actively participate in relationships with other team members (Reagans, Argote, and Brooks, 2005). This positive impact of team familiarity on coordination and further performance can occur through the

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development of team human capital as a result of members sharing work experiences (Chillemi and Gui, 1997). This implies that team familiarity contributes to the development of a collective mind, "conceptualized as a pattern of heedful interrelations of actions in a social system" (Weick & Roberts, 1993, p. 357), and to the development of an effective transactive memory system, which is "a set of individual memory systems in combination with the communication that takes place between individuals" (Wegner, 1987, p.186). The development of a transactive memory system becomes particularly important in novel tasks where the fluid team needs to locate knowledge among individual team members to match them to the most compatible tasks (Faraj and Sproull, 2000).

Team familiarity may affect team performance not only through increases in coordination but also through team members' willingness to actively participate in exchange relationships with teammates. Rich exchange relationships in fluid teams contributes to psychological safety, which is defined as "a shared belief held by members of a team that the team is safe for interpersonal risk taking" (Edmondson, 1999). For example, Edmondson (1999) found that psychological safety can facilitate information exchange and learning behavior which further positively impacts team performance. Several other studies found evidence that individuals' shared work experiences may positively impact the development of trust between fluid team members, which in turn leads to increases in quality information exchange (Uzzi, 1997; McEvily, Perrone, & Zaheer, 2003).

Early studies of team familiarity focused on examining how team familiarity may impact individuals' (students') preferences when choosing team members to work jointly on assigned group projects involving software development (Hinds, Carley, Krackhardt, & Wholey, 2000). This research study provided evidence that individuals prefer working with other individuals

with whom they have worked on group projects in the past, particularly when that past work had successful results. The investigation of familiarity among team members requires both measuring the number of times these members have worked together in the past and measuring the interaction between them in a particular team (Lott & Lott, 1965). Experience of working together and number of interactions were assessed as particularly important in the work of Hinds et al. (2000) who examined students' tendencies to minimize interaction during group work by dividing the tasks required by a particular exercise and coming together just to integrate the individual pieces of the work. Similarly, Smith-Jentsch, Kraiger, Cannon-Bowers, and Salas (2006), in their study of air traffic controllers' propensity to request and accept back-up from team members, found that teammate familiarity positively influenced controllers' willingness to request and accept backup from their teammates. They found that this relationship was mediated by the interaction of shared team identity and individual perceptions of team efficacy (members' perception of the teams' skills and coordinative abilities).

The works mentioned above focus primarily on how familiarity impacts the choice of individuals to work with others in a team setting. However, in most work teams in organizational contexts, team members are assigned work as a unit to perform tasks. Team assignments in organizations also typically require members to work interdependently throughout the process, as opposed to dividing individual pieces of the work and completing them autonomously.

Team projects requiring team members to function interdependently throughout the entire process typically demands effective coordination among the individual members. In such situations of task interdependence, team familiarity acts as a catalyst to effective coordination. Specifically, Huckman, Staats, and Upton (2009) suggest that "if a team is involved in a task that

requires joint activity and the knowledge to be shared is tacit (Polanyi, 1967), familiarity may improve the ability of the group to act in a coordinated manner (Moreland et al., 1998)" (p.87). Reagans, Argote, and Brooks (2005), in their study of surgical teams performing total joint replacement procedures, provided evidence that team familiarity, operationalized as the average number of time dyads within the team had performed procedures together in the past, increases a team's capability to coordinate activities required for efficient performance. Such coordination resulted in a decrease in the completion time of these procedures, which was the performance factor under investigation.

While team familiarity facilitates effective coordination among team members, evidence has also been provided to the positive effects of familiarity on group processes and decision making of a team when complete coordination and information sharing is constrained. Gruenfeld, Mannix, Williams, and Neale (1996), in their experiment of student teams trying to solve a murder mystery, found that when information sharing is incomplete familiar team are more effective in solving the problem (i.e. murder mystery). Through group process analysis they found the reason for this problem solving capability was due to familiar team being better able to pool information when making decisions. The constraint of operating with limited information sharing in the study mentioned may be seen as an initial attempt to introduce complexity of the task when investigating team familiarities effect on performance, although complexity may take many different forms, particularly in the study of groups and teams (Vakkalanka & Engu, 2012).

Espinosa, Slaughter, Kraut, and Hebsleb (2007) focused on investigating how team and task familiarity impact team performance in the face of task complexity and team member geographic distribution. Their research examined software development teams fulfilling

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"modification requests" to current software that is under ongoing development. The team

coordination complexity components used in their study were team size and geographic

dispersion (all developers working on the modification request did so from separate locations).

They found evidence that when team members are operating in separate locations on the same

tasks and as team size increases team familiarity has greater positive effects on performance,

operationalized as "the length of time to complete an error-free modification request project"

(Espinosa et al., 2007, 619). However, Staats (2012) found that team familiarity has a greater

effect on performance when members of the team are working in the same location. While this

research was aimed at uncovering the benefits of team familiarity as the complexity of task

became greater, recent work has begun focusing on how familiarity of team members operates to

improve performance in the face of diversity among team members as well as differences in

roles team members play.

One plausible explanation for these findings is that familiarity is an antecedent to

psychological safety (Staats, Gino, and Pisano, 2009) that is positively related to information

exchange facilitating team learning (Edmondson, 1999). Staats, Gino, and Pisano (2009) suggest

familiarity may improve effectiveness of teams when members experiences vary because

repeated work together builds social capital (Adler & Kwon 2002), thus improving the team's

coordination (Faraj & Soroull 2000; Espinosa et al. 2007), and the identification of expertise

within the team (Trotman, Yetton, and Zimmer 1983; Littlepage, Robison, & Teddington 1997;

Bunderson 2003. Social capital also supports the transmission of knowledge among team

members (Monteverde 1995; Szulanski 1996; Weber & Camerer 2003) and helps individual

team members to successfully apply newly acquired knowledge (Lewis, Lange, & Gillis 2005;

Reagans et al. 2005). In their study, Staats, Gino, and Pisano (2009) found evidence that team

familiarity increases psychological safety within the team and that this psychological safety results in increases in team learning. Singh, Dong, and Gero (2009) provide further evidence for the relationship between team familiarity and social learning and team performance. In their experiment, they found that as "domain experts" (individuals who have a specific competency over an assigned task) worked together, increasing familiarity; they learned who knew what and formed a team mental model allowing them to function properly and increase team performance.

The research on team familiarity reviewed thus far investigates the impact of overall team familiarity on team learning and performance in different context and considering differences among team members. However, not until recently has research begun investigating the differential effects of team familiarity with respect to the roles individuals have within teams. A recent study by Staats (2012) has examined how hierarchical team familiarity, defined as "a manager's experience with front-line team members," and horizontal team familiarity, defined as "front-line team members' experience gained with one another" (p. 619) and their differential effects on project team performance. Staats (2012) suggests that hierarchical and horizontal team familiarities have differential effects on performance due to the different behaviors that familiarity facilitates in the vertical supervisor-subordinate and horizontal peer relationships. Specifically, as a manager becomes familiar with team members, she/he is better able to locate knowledge within the team, thus allowing for successful work allocation which improves coordination (Cummings, Espinosa & Pickering, 2009). Further, as comfort levels between the manager and front-line employees increases, it facilitates higher quality of information exchanges (Hofmann, Morgeson and Gerras, 2003). Whereas, horizontal team familiarity increases comfort in team members exerting peer pressures to facilitate performance (Kandel and Lazear, 1992) and enables the development of informal networks for help and advice seeking

(Leonardi, 2007). Staats (2012) did find that hierarchical and horizontal team familiarities had differential effects on performance. Specifically, he found that hierarchical familiarity was significantly positively related to measures of performance related to schedule and effort adherence, while horizontal familiarity was not significantly related to these aspects of performance. This author further found that horizontal familiarity was significantly and negatively related to the number of defects of the finished product. In other words, Staats (2012) found that hierarchical familiarity facilitates projects being performed on time with the anticipated amount of effort, where horizontal familiarity is positively related to the quality of the work produced.

In summary, the research on team familiarity and its relationship to valuable team outcomes, such as team learning and team performance, is offering valuable insights for organizations, particularly in environmental domains where maintaining stability of membership within teams is difficult, if not impossible. Specifically, the positive impact of team familiarity on the development of psychological safety, information sharing, team learning, knowledge locating, and coordination is likely to translate into improved team performance in organizations that rely on teams for the execution of their projects. Team familiarity may particularly increase team performance in the case of complex, diverse members' experiences, and geographically disperse team members performing teamwork. Recently, research studies have provided initial support for the relevance of familiarity between managers and front-line workers (i.e., leader-member or hierarchical team familiarity) and between front-line workers (i.e., member-member or horizontal team familiarity) that have differential effects on different operational performance matrices. This implies significant potential effects of team familiarity (both hierarchical and horizontal) on both operational and financial team performance of projects. This call for further

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investigation of the role of team leaders and the effect that team leadership may have on team performance of fluid teams.

Literature Review of Fluid Team Leadership

Traditionally, performance of organizations and teams has been seen as a consequence of the behaviors displayed and decision made by their leaders (Fiedler, 1967). Leadership can be defined as "a process of social influence in which one person can enlist the aid and support of others in the accomplishment of a common task" (Chemers, 1997, p. 1). Team leaders are "individuals primarily responsible for defining team goals and for developing and structuring the team to accomplish these missions" and the "success of the leader in defining team directions and organizing the team to maximize progress along such directions contributes significantly to team effectiveness" (Zaccaro, Rittman, & Marks, 2001). Almost all teams have some form of a leader who can typically be identified by his or her a) accountability to those managers above them (outside the team), b) discretion in the selection and organization of team members, c) the ability to allocate resources within the team, and d) responsibility to developing norms to be followed within team processes and functions (Nygren & Levine, 1996). There is a consensus among researchers about the reasons why team leaders are assigned to have performance accountability and to ensure facilitation of effective team functioning, but how and when leaders may affect functioning and performance of teams is a matter of controversy (Hackman, 2002).

The functional approach to team leadership has drawn considerable attention by scholars in studies ranging from those investigating leadership functions in historical work context (Novicevic et al., 2011) to those focused on more modern work context (Fleishman et al., 1991). The functional view of team leadership (Morgeson, DeRue, & Karam, 2010: p. 8) posits that it is the "process of team need satisfaction in the service of enhancing team effectiveness." The

functional approach also posits that the team leader's "main job is to do or get done, whatever is not being adequately handled for group needs" (McGrath, 1962, as cited in Burke et al., 2006, p.289). According to the functional approach "team leadership can be described as a dynamic process of social problem-solving accomplished through generic responses to social problems" (Burke, et al., 2006, p.289). The sources of this process can be both hierarchically team leaders and horizontally team members who engage in relational exchanges to meet the team's needs or functions. For example, "the design of the team's work and the composition of the team itself could play a key role in the relevance of the leadership function" (Morgeson et al., 2010: p. 29). Team leadership can be evaluated in terms of various criteria including team task performance. The generic responses by structural leaders or members acting as functional leaders to problems which arise in the team functioning include acquisition and organization of information, application of information to solve the problem, and management of personnel and material resources (Fleishman et al., 1991). "Overall, the functional view posits that the team leader must meet team needs by balancing the team challenges, team needs and team roles" (Novicevic, et al., 2011, p. 533).

The ability of formal team leaders and team members to influence the leadership process is indicative of the importance shared team leadership may have on task performance by teams. Shared team leadership is defined as "a dynamic, interactive influence process among individuals in groups for which the objective is to lead one another to the achievement of group or organizational goals or both" (Pearce and Conger 2003, p. 1). Central to the concept of shared team leadership is the premise that influence of team members toward team goal achievement is shared among the team members themselves (Houghton, Neck and Manz, 2003). Perry, Pearce and Sims (1999) suggest that the influence of some team members on other members through

shared team leadership is a result of the exchange of resources possessed by individual team members. For example, those members may be providing information, exerting more effort toward team goal achievement, and/or performing citizenship behaviors directed toward other team members. While the responsibility of influencing team members toward achievement of team goals is shared among team members, the formal team leader serves to facilitate vertically the sharing of leadership process by team members (Pearce, Manz, & Sims, 2008).

Houghton, Neck, and Manz (2003) posit that five roles may be taken by the vertical, formal team leader in facilitating the shared leadership process. One of the primary roles is that the leader should assemble a team composed of members that not only possess competence in performing the tasks involved in the team's job but also possess leadership skills. This role of the leader includes deciding the relative importance of teamwork (Grant, 2007), the relational aspect accentuating member-member interactions, and taskwork (Oldham and Hackman, 2010), accentuating team competence to perform the job, when assembling team members.

Specifically, Hoch (2013) argues that "team composition with regard to team members attributes includes integrity, comprising responsibility and trustworthiness; the degree to which team members engage in resource exchange may be impacted by personality factors that influence preferences for loyalty, transparency and fairness, or equality, rather than promoting one's self-interest in achieving personal goals" (p. 160). In other words, team members will be more likely exchange resources as well as value resources provided by fellow team members after becoming familiar with those other team members, specifically with regards to their commitment to superordinate team goals over their own personal goals. Ones, Viswesvaran, and Schmidt (1993) in their meta-analysis suggest that integrity is made up of "socialized responsibility and trustworthiness." Hoch (2013) equates this conceptualization of integrity to

credibility and reliability, and argues that the credibility and reliability of team members will positively influence the exchange of resources (i.e. effort, loyalty, and citizenship behaviors), as well as the reciprocation of such resources.

Hackman (2002) deviated from the functional approach to the contingency approach to investigating team leadership by focusing on conditional factors that facilitate a team leader's ability to positively impact team effectiveness. Hackman (2002) outlines five conditions that increase the likelihood of team leader's ability to facilitate team effectiveness. Specifically, "likelihood of effectiveness is increased when a team (1) is a real team rather than a team in name only, (2) has a compelling direction for its work, (3) has an enabling structure that facilitates rather than impedes teamwork, (4) operates within a supportive organizational context, and (5) has available ample expert coaching in team work" (p. 31). Real teams are those that have "a team task, clear boundaries, clearly specified authority to manage their own work processes, and membership stability over some reasonable period of time" (Hackman, 2002, p.41). Compelling direction is challenging direction which is seen as important (Hackman, 2002). Enabling structure revolves around the design of work, organization of team members and the promotion of team norms.

Members of the team are more likely to be motivated by a work design such that they identify with the work and see it as important (Hackman & Oldham, 1980). Team leaders can be effective in a favorable organizational culture that allows them to provide a supportive context for the team by facilitating functional reward systems and providing developmental opportunities for team members in the form of training (Hackman, 2002). Leaders can effect change in team effectiveness through expert coaching that involves developing and motivating team members

(Hackman, 2002). Kozlowski, et al. (1996) suggest that the leader's role within the team, as the team progresses, shifts through stages of mentoring, instructing, coaching, and facilitating.

Hackman and Wageman (2005a) posit that "team performance effectiveness is a combined function of: (a) the level of effort group members collectively expend carrying out task work; (b) the appropriateness to the task of the performance strategies the group uses in its work; and (c) the amount of knowledge and skill members bring to bear on the task (Hackman and Wageman, 2005b)" (p. 41). They also suggest that team leaders can have a positive effect on team performance by facilitating enhanced effort on the part of team members by charting new ways of working together, aligning the proper performance strategy, and assessing where knowledge, skills, and abilities exist among different group members to utilize those assets properly. However, some situations emerge where leader's "hands are tied" and cannot aid in enhancing team effectiveness.

In their meta- analysis, Burke, et al. (2006), sought to find evidence of what team leader behaviors contribute to the functional effectiveness of teams. The model that they tested integrated the conditions and leadership behaviors proposed by Hackman (2002) and Fleishman, et al. (1991), respectively. Specifically, they used the classification of leadership behaviors, proposed by Fleishman, et al. (1991) in terms whether the team leaders is either task-focused or person focused. Task-focused behaviors are those behaviors displayed by a leader that are directed toward understanding the requirements of the task, proper procedures to complete the task, and behaviors in task pertinent information seeking and acquisition. Leader behavior directed at the facilitation of interaction, cognitive structures, and attitude development is person-focused leadership behaviors (Salas, Dickinson, Converse, & Tannenbaum, 1992). For their meta-analysis, Burke, et al. (2006), categorized transactional behaviors, behavior directed at

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initiating structure, and boundary spanning behaviors as task-focused leadership behaviors. Transformational leadership behaviors, consideration behaviors, and empowerment, were all considered as person-focused leadership behaviors in their study. As outcome variables of interest, Burke, et al. (2006) investigated perceived team effectiveness, team productivity, and team learning/growth.

The results of their meta-analysis provide evidence that task-focused leader behaviors directed toward initiating structure and boundary spanning were significantly and positively related to perceptions of team effectiveness, while initiating structure was positively related to team productivity. However, transactional leadership behavior was not significantly related to any of the outcomes of interest. Their results also indicate that person-focused leader's behavior in the form of transformational leadership, consideration, and empowerment were significantly and positively related to perceived team effectiveness and team learning, while empowerment was significantly and positively related to team learning. No other significant relationships were found mostly due to the lack of sufficient data to analyze such relationships.

Hackman and Wageman, (2005a) suggest that researchers have been focused on team leader's effect on team performance while researchers should be focusing on conditions which facilitate or restrict leaders having an effect on team performance. Hackman (2002) points to the misspecification of effects to team leaders as the leader attribution error, suggesting that the incorrect attribution of positive and negative performance to team leadership is understandable because the team leader is the most visible of the team members, and therefore as a result typically credited by the team itself for performance and viewed as the driving force of team members behaviors. Therefore, Hackman and Wageman (2005a) suggest that under certain conditions and in certain circumstances team leaders do not have the ability to affect

performance increase in teams. Specifically, they suggest that team-level and contextual constraints may be present hindering and disabling the team leader's ability to positively impact team processes and improve team performance.

The team-level constraints are those constraints that are found in the teams' immediate context. The first team-level constraint allude is imposed when the inputs on which the team depends to transform them into outputs are controlled by factors outside of the team. In such situations, "the relationship between team effort and performance is severely restricted" (Hackman and Wageman, 2005a: p. 42) and the leader, under these conditions, is not able to impact team performance. The second team-level constraint is imposed when the organization provides strict guidelines in terms of how the team should accomplish its task. This imposition constrains the leader from developing efficiencies in the team's performance strategy. The final team-level constraint is imposed when the task itself is rudimentary and predictable. Under such circumstances, the leader cannot effect change in the team's effectiveness by locating valuable knowledge among its members because such valuable knowledge is typically not applicable to simple tasks. In addition, Hackman and Wageman (2005a) posit that not only team-level constraints but also contextual constraints may exist to limit a team leader's ability to facilitate team effectiveness.

These contextual factors impeding on a leaders ability to effect positive change in a team's effectiveness are more distal, as they are located in the organizational context and/or environment. Hackman and Wageman (2005) suggest that when the organization's and team's purpose is of "extraordinary importance," when regulations or other institutional forces govern how the teams work must be completed, and/or when the marker for labor provides overly qualified team members, then the leader's ability to facilitate positive team effectiveness, in

regards to extracting more effort, changing performance strategies, and/or locating knowledge respectively, is constrained.

CHAPTER 2
FORMAL MODEL AND HYPOTHESIS DEVELOPMENT

In the functional view of team leadership, the leader's primary responsibility is the acquisition and utilization of information to manage team resources. According to this view, the leader manages team resources to align team roles with the challenges and needs of the team (Novicevic et al., 2011). Leader-member exchange theory (Graen & Scandura, 1987) provides a theoretical foundation for the functional investigation of the influence vertical team familiarity has on team performance. Leader-member exchange theory (LMS) "proposes that the dyadic relationship between a leader and member develops around dimensions of trust, respect, loyalty, liking, intimacy, support, openness, and honesty" (Wilson, Sin, & Conlon, 2010, 358).

LMX quality is suggested to be the result of not only the leader's assessment of followers but also the followers' evaluations of the leader (Dulebohn, Bommer, Liden, Brouer, & Ferris, 2012; Lord & Maher, 1991; Maslyn & Uhl-Bien, 2001; Sin, Nahrgang, & Morgeson, 2009). Liden & Graen (1980) argue that leaders form high quality exchange relationship with those followers who the leader perceives to be most competent and willing to accept greater responsibility. LMX theory posits that follower task assignments are influenced by the leader's perception of those members experience and competence (Green and Scandura, 1987). "Followers who are evaluated as capable of performing roles assigned, are more likely to form high-quality relationships with their leaders, while followers who are viewed as incapable of role accomplishment tend to form lower quality relationships with leaders" (Dulebohn et al., 2013).

LMX quality is also predicted to result from leaders' expectations that followers will succeed in their role and task assignments. Leaders who expect followers to succeed in their assigned responsibilities are more likely to develop quality exchange relationships in which the leader reserves the most important tasks for those individuals and provides them more support in the accomplishment of their tasks (Wayne, Shore, & Liden, 1997). Liden, Wayne, & Stillwell (1993) in their longitudinal study of the development of LMX found support that leaders' expectation of follower success is a primary driver of LMX quality. Further support of this relationship was found by Dulebohn et al. (2013) in their meta-analysis.

Vertical team familiarity is representative of leader-member exchange quality, as the quality of the exchange relationship between leaders and members is driven partially by frequency, duration, and proximity of their past working relationships (Grant, 2007). Leader-member exchange theory would suggests that as leaders become more familiar with team members they are better able to manage team resources by aligning diverse team competencies possessed by team members with the challenges of the task to be performed. Leader-member exchange would therefore predict that vertical team familiarity would have a positive effect on team performance through the leader function of assembling teams with diverse competencies (Staats, 2012).

An alternative venue of vertical team familiarity's influence on team performance is through horizontal team familiarity. This venue is predicted by the integrated leader-member (LMX) and member-member (TMX) theory. The integration of leader-member exchange (LMX) theory and team-member exchange (TMX) theory provides an appropriate theoretical lens for the explanation of the relational impact of team familiarity on team performance (Graen & Scandura, 1987). The integrated theory posits the development of relational qualities in exchanges between

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the leader and team members and among team members operating on the same team (Seers, 1989). The content of these exchanges is explained by resource theory (Foa & Foa, 1974) which posits that the quality exchange in relationships between team leaders and team members, as well as between team members stems from the resources that they provide each other due to the value that recipients place on the exchanged resources (Graen and Cashman, 1975). The two theoretical perspectives (the integrated LMX-TMX and resource theories) are combined to address the question of how fluid teams nurture quality in their exchange relationships to form and facilitate the vertical and horizontal exchange of valuable resources which can potentially positively impact team performance. The combination of these perspectives is proposed by Wilson et al. (2005) who argue that the value that each recipient in the network of relationships places on certain resources, (i.e., information, affiliation, and status), depends on the quality of the relationship that individual team member has with the provider of such resources. As the dynamic context of fluid teams is challenging to sustain the development of quality exchange relationship, team familiarity (both hierarchical/vertical and shared/horizontal) plays a critical role in increasing the quality of exchange in resources between members, thus likely enhancing team performance.

The positive relationship between team familiarity and team job performance is explained by Grant's (2007) theory-based model of relational job design. The framework of relational job design is relevant to the examination of fluid teams because it addresses both independent (taskwork-related) and interdependent (teamwork-related) aspects of the individual team member's and/or team leader's roles. These aspects are often intertwined in the relational job design, as teamwork interactions on a joint task influence an individual member's taskwork (Mitropulos & Memarian, 2012).

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The relational job design model posits that as the frequency, duration, physical proximity, depth and breadth of interactions between a team member and the related others (i.e. the team leader, fellow team members, and/or others) increases, a team member will perceive that his or her behaviors will have a greater impact on the related others. Moreover, as this member perceives that his or her behaviors will have a greater positive impact on the related others, the member's motivation to make a prosocial difference for those related others increases causing him or her to exert more persistence in effort and display more cooperative behaviors in his or her vertical and horizontal relationships. Based on the above rationale, the combined resource and leader-member and member-member exchange theories are used within the framework of the team relational job design to examine the impact of hierarchical and horizontal team familiarity on team performance of fluid teams (See Figure 1). The components of the conceptual model shown in Figure 1 and the hypothesized relationships between these components are described and developed in the subsequent section of this dissertation.

Figure 1
Conceptual Model
Relational Model of Team Performance
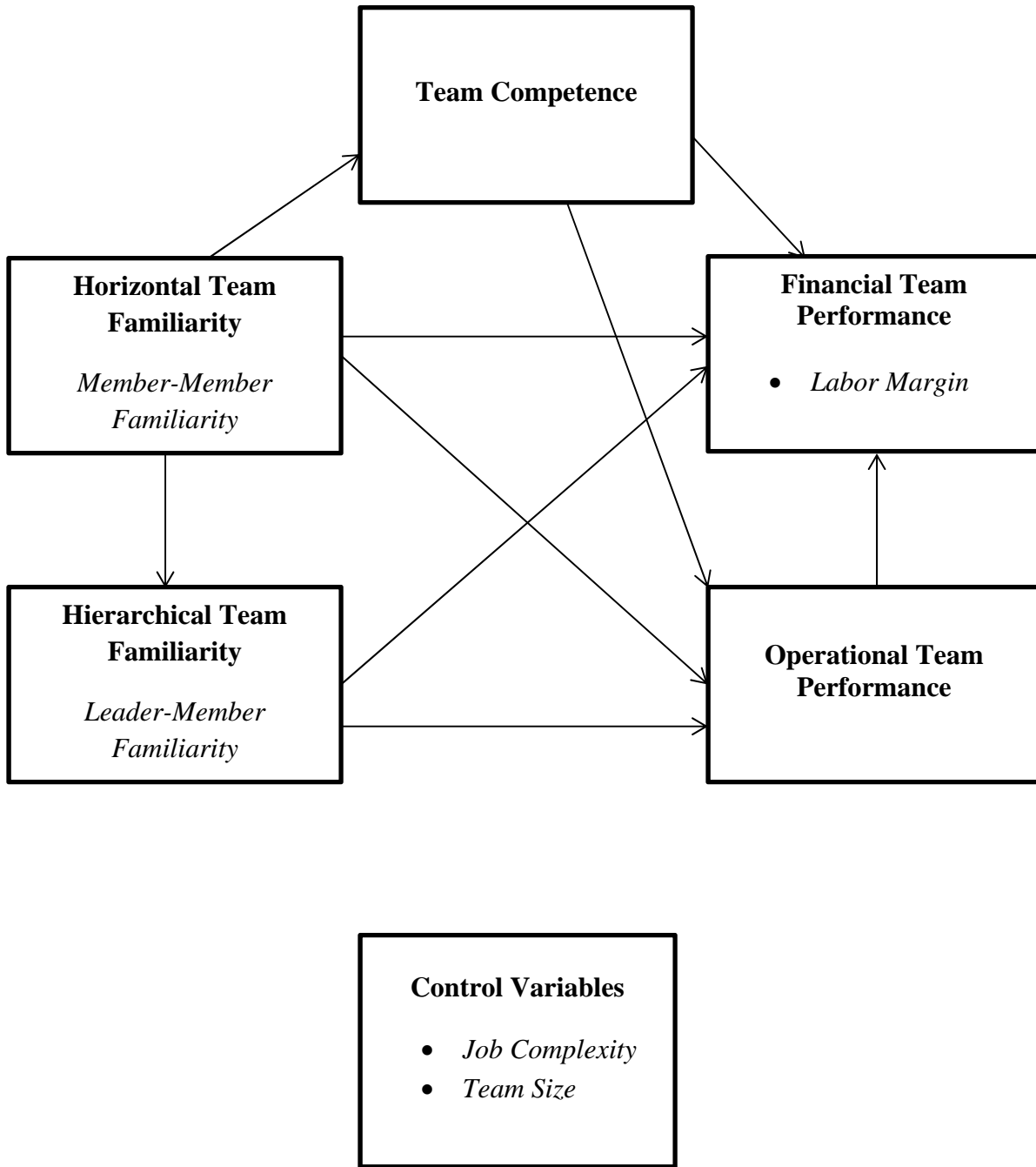
Vertical Team Familiarity and Team Performance

Vertical or hierarchical team familiarity refers to the degree to which the leader of a fluid team has worked with individual team member in the past (Staats, 2012). The leader-member exchange theory (LMX), which "proposes that the dyadic relationship between a leader and member develops around dimensions of trust, respect, loyalty, liking, intimacy, support, openness, and honesty" (Wilson, Sin, & Conlon, 2010, 358), would predict that the more leaders work with individual team members the more likely quality leader-member exchange will develop. As the quality of this hierarchical relational exchange increases the more likely leaders and members will exchange resources that are mutually valued. Therefore, leaders are likely to value and act upon the resources provided by members of the team with whom they have worked with in the past developing trust and vice versa (Wilson et al., 2010). This proposition is in line with the resource theory (Foa & Foa, 1974), which posits that when leaders provide service resources to team members, these members will likely reciprocate with service resources they possess in the form of increased effort and extra role behaviors. For example, the leader may exchange affiliation resources (i.e., socioemotional support and words of encouragement) and the member will reciprocate with like affiliation resources (i.e. commitment and loyalty to the leader). As the degree of familiarity increases between the team leader and team members, the resource exchanges occurring between them and the value placed on such resources will be greater, thus making reciprocation more likely. Therefore, it is likely that greater vertical familiarity will contribute to increased operational team performance.

As the leader role is often associated with high hierarchical position, leaders often have resources for exchange, which team members do not possess and therefore cannot provide in reciprocation. Therefore, team members will reciprocate with the closest alternative that they

have to provide. For example, if the team leader allocates to a team member company resources to which that team member typically does not have access to reciprocate, then the member will likely reciprocate with resources that have similar characteristics. These resources are typically effort and extra role behaviors that could improve financial team performance. Upon receiving such resources from the team member, the team leader is likely to reciprocate with additional resources such as development and mentoring of the team member. Therefore, vertical familiarity will likely increase financial team performance.

Hypothesis 1a: Vertical team familiarity will be positively related to team operational job performance.

Hypothesis 1b: Vertical team familiarity will be positively related to team financial job performance.

Horizontal Team Familiarity and Team Performance

Horizontal team familiarity refers to the degree to which team members have worked together in different teams in the past (Staats, 2012). Team-member exchange theory (Seers, 1989) posits that as individual team members work together, overtime they develop a relationship of familiarity that often reflects trust, respect and loyalty. When such a relationship is formed, team members that possess certain complementary and similar resources tend to offer them in their relational exchange (Wilson et al., 2010). These resources, which are provided both vertically to the team leaders and horizontally to other team members, include mostly status (i.e., admiration and respect), service (i.e., member effort and citizenship behaviors), and information (i.e., information gained from outside the group). As frequency of contact between members of a team increases so too does the resource exchange with other team members. In effect, this increased resource exchange will drive the individual team member's motivation to increase the effort and contribute more to team performance.

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The conceptualization of team familiarity as a derivative of relational resource exchange is grounded in Foa & Foa's (1974) resource theory, which posits that in reciprocal relationships individuals are going to exchange the same type of resource if they possess similar resources to offer. This theory would predict that as team familiarity increases so too do the members' desire and motivation to make an extra effort for the other member through the exchange of similar resources. The extra effort displayed by team members as well as their extra role behaviors will result in their higher output thus increasing team performance. Therefore, we hypothesize the horizontal familiarity will be positively related to team performance. In other words, as team members exchange greater effort and extra role behaviors it is expected that the efficiency at the team level will increase. As efficiency increases the team will complete task in shorter periods of time increasing both operational and financial aspects of team performance. Also by completing jobs at a faster pace, labor costs for particular jobs will decrease, increasing the labor margin percent of particular jobs contributing to team performance as a derivative of relational resource exchange.

Hypothesis 2a: Horizontal team familiarity will be positively related to team operational job performance.

Hypothesis 2b: Horizontal team familiarity will be positively related to team financial job performance.

The Relationship between Operational and Financial Team Job Performance

Vertical team familiarity and Horizontal team familiarity have a positive influence on the resources exchanged between the team leader and team members as well as between team members respectively. As team leaders become more familiar with team members they are likely to exchange resources they possess such as advocating for those team members to receive raises, providing training opportunities to those members, and/or offering words of

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encouragement and appreciation to those members (Foa & Foa, (1974). Familiarity developed between the members and the leaders will likely positively influence the quality of those dyadic relationships and translate into reciprocation of those resources provided by the leaders in the form of extra effort, citizenship behaviors (i.e. providing training to other members for the leader and team).

Similarly as team members work together with other team members over time and on multiple tasks or projects these team members develop familiarity. As team members' familiarity increased, in the form of quality exchange (TMX), they will develop relationships based on trust, respect and loyalty (Seers, 1989). These relationships are likely characterized by socialized responsibility and trustworthiness (Ones, Viswesvaran, and Schmidt, 1993) which drive team members' desire to be reliable to the team in facilitating team goal achievement (Hoch, 2013). The responsibility to the team felt by individual team members will positively influence the exchange of resources in the form of effort and citizenship behaviors, as well as the reciprocation of those resources by the other team members (Perry, Pearce, and Sims, 1999).

Team operational job performance refers to a group or teams efficiency in performing a team task. As vertical team familiarity increases positively influencing resource exchange between the team leader and team members as well as the reciprocation of those resource exchanges, effort among employees will increase. As team members exert more effort team efficiency will increase positively influencing team operational job performance. As more work is performed in a shorter period of time, the cost or performing work decreases which will positively impact team financial job performance. Therefore, I hypothesize that team operational job performance will partially mediate the relationship between vertical team familiarity and team financial job performance so that increases in vertical team familiarity will positively

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influence team operational job performance, which will be predictive of team financial job performance.

Hypothesis 3a: The relationship between vertical team familiarity and team financial job performance will be partially mediated by team operational job performance so that increases in vertical team familiarity will positively influence team operational job performance, which in turn will positively influence team financial job performance.

Horizontal team familiarity will also positively influence resource exchanges between team members in the form of increased effort and citizenship behaviors as a result of the development of socialized responsibility felt by individual members (Hoch, 2013). Such increases in efforts will positively influence team operational job performance in the form of more work being completed while utilizing fewer resources (i.e. man hours), which in turn will translate into higher team financial job performance. Therefore, I hypothesize that the relationship between horizontal team familiarity and financial team job performance will be mediated by team operational job performance so that increases in horizontal team familiarity will positively influence operational team job performance, which in turn will positively predict team financial job performance.

Hypothesis 3b: The relationship between horizontal team familiarity and team financial job performance will be partially mediated by team operational job performance so that increases in horizontal team familiarity will positively influence team operational job performance, which in turn will positively influence team financial job performance.

Vertical Team Familiarity and Horizontal Team Familiarity

The relationship between vertical and horizontal team familiarities may differ across industries due to the varying extent of discretion the team leader has over the composition of the team. In work teams performing jobs, which have high requirement for role specialization, such as in surgical teams, software development teams, etc., the composition of the team is influenced mostly by the task requirements of specialized roles that need to be filled. However, in industries

characterized by low knowledge intensity, such role specialization by team members is absent. The absence of the need for role specialization in these fluid teams increases the team leader's discretion concerning and influence on the team's composition. In these teams lacking role specialization, the leader will likely select team members with whom he or she has developed relationships through working together on teams in the past (Hinds et al., 2000; Smith-Jentsch et al. 2006).

Therefore, in team-based tasks characterized by low knowledge intensity and no specialized roles, the team leader will likely use his or her discretion to compose the team of members with whom the team leader has worked together in the past (high vertical team familiarity). Also, team leaders concerned with how members will work together effectively will use their discretion to compose the team of members who have shown that they work well together in the past. In instances when the leader chooses members based solely upon the quality of the relationship between the leader and member (LMX) and uses the same criteria each time selecting team members, there will still be a positive influence on horizontal team familiarity due to the leaders predetermined selection method. When team leaders choose members based on the team members' past team experiences or when they choose members based of their own predispositions towards members' vertical team familiarity, then vertical team familiarity will positively influence horizontal team familiarity.

Fluid team members that have high horizontal team familiarity are likely to have developed relationships based on trust, respect and loyalty (high TMX). In teams composed of members that have developed high familiarity, team members will likely have developed socialized responsibility and trustworthiness, which translates into a desire to be credible and reliable to other group members by holding superordinate team goals above their own personal

goals. These conditions of high horizontal team familiarity not only positively influence resource exchanges in the form of increased effort, citizenship behaviors, and information sharing, but also increase the likelihood that such resource exchanges will be reciprocated (Hoch, 2013), thus facilitating shared leadership among the team members. Horizontal team familiarity is positively influenced by vertical team familiarity due to leader discretion of team composition. Shared leadership, characterized by resource exchanges, is facilitated by the horizontal team familiarity existing between team members. Therefore, it is hypothesized that these resource exchanges will be positively related to fluid team's financial job performance.

Hypothesis 4: The relationship between vertical team familiarity and team financial job performance will be mediated by horizontal team familiarity so that when vertical team familiarity positively influences horizontal team familiarity then financial job performance increases.

Vertical Team Familiarity and Team Competence

As posited earlier, the absence of role specialization in work teams that is common industries of low knowledge intensity increases the team leader's discretion regarding what team members will make up the team composition. Applying leader-Member exchange theory in this context would predict due to familiarity with team members, the fluid team leader will likely give preference to the competence of individual members over their mutual (horizontal) familiarity when deciding what members to include in the teams. Therefore, vertical team familiarity is expected to be positively related to team competence due to the leader's preference to compose the team with the most competent individuals.

In the instances when the team leader selects team members based on competencies, the leader's familiarity with team members as a result of past working relationship will be instrumental to match the highest level of team member competencies to the job being

performed. According to the functional view of leadership, the team leader matching team

member competencies to task demands implies effectively managing team resources to meet

team needs. By meeting team's needs the team leader is attempting to maximize team

performance by composing the team with the highest average level of diverse team

competencies. Therefore, I hypothesize that diverse team competence will mediate the

relationship between vertical team familiarity and team financial job performance; such that

when leaders compose teams based on competence it will have a positive effect on team

financial job performance.

Hypothesis 5a: The relationship between vertical team familiarity and team operational job performance will be mediated by team competence so that vertical team familiarity will positively influence diverse team competences, which in turn will positively influence operational job performance.

Hypothesis 5b: The relationship between vertical team familiarity and team operational job performance will be mediated by team competence so that vertical team familiarity will positively influence diverse team competences, which in turn will positively influence financial job performance.

Other Variables Potentially Influencing Team Performance

In my integrated model, vertical and horizontal team familiarity are included as the key

theoretical variables that influence team performance because it is posited that they mitigate the

coordination losses engendered by the use of fluid teams. However, other influential variables

may impact teams' ability to coordinate and function effectively, and therefore need to be

described and their influence explained in this dissertation. Typically, these variables reflect the

factors that are primarily a) *contextual*, such as complexity of the team project (i.e., unfamiliar

task characteristics, tight schedules, project duration, etc.) and location of where projects must be

completed (i.e., distance from teams offices, which may translate into distance away from

important resources), or b) *demographic*, which are team characteristics besides familiarity, such as team diversity (e.g., size). These factors are relevant because they influence relational resource exchange (vertically and horizontally) and thus impact coordination of teamwork and taskwork in fluid teams.

The key contextual factor that may influence team performance is task complexity. Espinosa et al. (2007) found a moderating effect of task complexity, operationalized as the dispersion of team members operating at separate location on the same project, on the relationship between familiarity and fluid team performance. Staats (2012) found the same moderating effect for task complexity in software engineering teams, operationalized as the number of kilolines of new code, where projects requiring more kilolines were viewed as more complex projects requiring better coordination between members writing the new code (Staats, 2012). For the location-related complexity, apart from the geographic distribution of the team, many project teams are required to operate at customer sites which may be geographically further away from their home offices. In such instances, while the team is working together onsite, it is also operating further away from important resources available in their home offices. Therefore, the team members are likely to be unfamiliar with the location of their project task work, and as a result will have difficulty locating resources needed for the project completion. Another influential factor is the duration of the team's project. For example, Ethiraj et al. (2005) found that as the length of a project increases the ability of the team to perform effectively decreases due to higher probability of team member attrition and increased complexity of coordination overtime. Besides the contextual factors that may influence team performance on projects, it is important to take into account demographic team characteristics, apart from team familiarity, as they may impact the team's ability to coordinate and perform better.

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Team size is a salient demographic team variable that may influence team members' ability to coordinate effectively and thus impact team performance. For example, Staats (2012) found that adding team members to small teams had a positive effect on team performance due to the addition of experience and skill to the team. However the addition of team members in certain contexts may inhibit coordination among the team, and thus negatively influence team performance (Brooks, 1975; Hackman, 2002). Therefore, Staats (2012) argues that variety in team diversity is an important factor for leaders to consider when assembling fluid teams. Therefore, organizations need to consider both contextual and demographic factors when planning the use of fluid teams. Specifically, as these factors are likely to interact with team familiarity, they are likely to either enable or limit a fluid team's ability to perform.

In summary, a conceptual model of integrated LMX and TMX theories has been developed to explain the relationship between vertical team familiarity and team financial job performance among fluid teams operating in industries on low knowledge intensity, characterized by the lack of team member role specialization. Team financial job performance is argued to be influenced by vertical team familiarity not only directly, but also through vertical team familiarity's impact on team competence and horizontal team familiarity due to team leader discretion over team composition. Specifically, as suggested above, vertical team familiarity's influence on financial team performance may operate through not only the leaders' assembling the most competent team members as LMX theory suggests but also through the leader assembling teams based on quality relational exchange developed between team members through past experience working together (horizontal team familiarity). The effects of vertical and horizontal team familiarity on team operational and financial job performance is argued to be a result of not only the types of resources exchanged between team leaders and team members

and between team members as predicted by resource theory, but also the value that the recipient

of those resources places on the resources received, which results from vertical team familiarity

(LMX) and horizontal team familiarity (TMX).

CHAPTER 3
DESIGN, METHODOLOGY, AND RESULTS

Empirical Testing of the Proposed Model

In this dissertation a cross-sectional design is used to test the model depicting the impact of hierarchical familiarity and horizontal familiarity on operational team job performance and financial team job performance. . For my analysis I use secondary data for the years 2010 and 2011 on 398 jobs obtained from a moving services firm in the Southeastern United States. I use secondary data from the year 2009 to develop my vertical team familiarity measure and horizontal team familiarity measure (Staats, 2012). I also use this data from 2009 to develop an operational performance measure as described below. After removing observations with missing data points, the final sample included 306 jobs. The moving services industry is an appropriate context because of its low knowledge intensity and the common use of fluid teams with undifferentiated member roles, where members are assigned to a task for the duration of the task and then broken up and reassigned to other task. However, it is also extremely common in this industry that individuals will work together on multiple jobs overtime thus making it a convenient context for the investigation of the effects of team familiarity on team performance. Table 1 provides the correlation matrix including means and standard deviations of each variable.

TABLE 1
Means, Standard Deviations, and Correlations

	M	SD	1	2	3	4	5	6	7
1. Vertical Familiarity	11.98	12.37	—						
2. Horizontal Familiarity	7.10	8.03	0.39**	—					
3. Job Complexity	0.71	1.26	0.15**	-0.02	—				
4. Average Pay Rate	13.97	1.53	0.44**	0.05	-0.01	—			
5. Team Size	4.65	2.44	0.14*	-0.13*	0.62**	-0.03	—		
6. Operational Job Performance	1.01	0.39	0.08	0.03	0.03	0.15**	0	—	
7. Financial Job Performance	0.67	0.10	-0.14*	0	0.07	-0.38**	-0.05	.16**	

Note. N=306. Correlations significant at $p < .01$ and $p < .05$ are indicated with ** and *, respectively.

Measures of Independent Variables

     Horizontal Familiarity. Horizontal team familiarity is operationalized by taking a count of the number of previous projects in which each unique pair of team members has worked together in the past. The total sum of all of these dyadic pairings is divided by all possible unique dyadic pairs (N(N-1)/2), where N is the team size. This operationalization of horizontal team familiarity is consistent with the measure used by Reagans et al., (2005) and provides us with "with the average amount of work experience that team members have working with each other" (p. 873).

     A one year time period is used based on Staat's (2012) suggestion that team familiarity may deteriorate over extended time periods (Staats, 2012). Also, as moving projects are typically completed between a 1 and 4 day time period, thus allowing for the investigation of many observations. As Reagans, et al. (2005) noted, this measure of team familiarity assumes that the variance in familiarity between dyads is of little consequence because more experienced dyads can make up for less experienced dyads.

     Vertical (Hierarchical) Familiarity. Vertical team familiarity is operationalized in the exact same manner as is horizontal familiarity, with one specific difference. Instead of counting the number of times unique pairs of team members have worked together in the past, in this case a count of the number of times the team leader has worked with each team member on the team over the prior two years is used. This total is divided by the number of total team members, including the leader minus one.

Measures of Dependent Variables

Team Competence. Team competence is the average of individual team members'
knowledge, skills, and abilities, as judged by the management of the organization. The average
hourly pay rate of the team members performing a particular job is an appropriate proxy for team
competence because individuals' pay rate within the company is determined by the
management's evaluation of their experience in the industry and their knowledge of and ability
to perform different tasks which may be encountered on jobs. In the moving industry, these are
writing an inventory, proper handling of special inventory (i.e. pianos, riding lawn mowers, hot
tubs, etc.), packing of delicate valuables (i.e. china and crystal), and ability to load household
goods into a truck utilizing all space available while protecting those goods from damage which
can occur due to improper wrapping of wood furniture and/or load shifts during transit. Team
average hourly pay rate, serving as a proxy for diverse team competences, is operationalized by
calculating the total cost of labor used on each job. Calculating team average hourly pay rate first
requires calculating the total sum of team member hours dedicated to performing a particular job.
Then total labor cost to perform that job is calculated and divided by the total number of team
members' hours used to perform the job, as represented by the equation for team average hourly
pay rate = X/Y, where X = the total labor cost incurred to perform a job, and Y= the total number
of man hours used to perform that job.

Operational Team Performance. Operational performance of a job is a measure of the
amount of work performed per man hour on each job by a team. In the moving industry, on a
full service job, two different tasks are performed by the team assigned to that job, packing and
moving. Packing, which involves the wrapping and packaging of non-furniture items into
corrugated containers for the purpose of protection and increased movability during

transportation, is measured by a count of the different containers used during the job. Moving, which involves the breaking down, removal, transportation, relocation, and reassembly of all goods to be relocated, is measured by the total number of pounds of each specific shipment.

In order to calculate units of work performed per man hour on each job it is first necessary to transform the different types of containers packed into a single "units packed" measure for each job. When packing a job, teams utilize several different types of containers, dish packs, 1.5 cu. ft. (book boxes), 3.0 cu. ft. (medium boxes), 4.5 cu. ft. (large boxes), wardrobe boxes, and mirror packs. These different containers require a different amount of time to pack and each has different charges applied for packing (excluding the charge for the container being used). Using the packing rate of each type of container as a proxy for the amount of work involved in each, these individual units are transformed into a single units packed measure by dividing the units with the highest charge for packing (dish packs) by the packing charges of each of the other type containers separately. This provides a dish pack equivalent measure for each of the other types of boxes which are as follow; 4.2 book boxes, 2.65 medium boxes, 2.1 large boxes, 3.65 wardrobe boxes, and 1.5 mirror packs each are equivalent to packing 1 dish pack. Then is calculated a units packed measure for each shipment by dividing the number of each type of box packed by the dish pack equivalent measure for each type and then summed these results with the total number of actual dish packs used. The equation used is $(a+b/4.2+c/2.65+d/2.1+e/3.65+f/1.5)=$units packed, where a is dish packs, b is book boxes, c is medium boxes, d is large boxes, e is wardrobe boxes, and f is mirror boxes used on a particular shipment. It then is calculated a standard for units packed per man hour by analyzing each job in the experimental data set for the year 2009 that included only packing where no moving service was performed resulting in 16 jobs. Using the calculation above, each

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job's units packed measure is divided by the total man hours used to perform the job, which provides a standard for the units of work performed per hour packing.

Having calculated units of work performed per hour packing, I then calculate units of work performed moving for each job. In order to calculate this measure I analyzed all jobs in the experimental data for the year 2009 which including only moving services where no packing was performed. Using only these jobs, I then calculated the average weight moved per man hour to get a standard for a unit of work performed moving. I then divided the weights of the shipments in the data set by the standard unit of work moving calculation above to determine the units of work performed moving on each job in the data set.

Calculating the total units of work performed on each shipment, I sum the total units of work packing and total units of work moving on each shipment. I then calculate my operational performance measure by taking the total units of work performed on each shipment and dividing that measure by the total man hours used to perform the respective job excluding travel time used to get to the job, between origin and destination, and from the job back to the shop. The data does not have a separate measure of the time used in travel. Therefore the following equation is used to calculate the travel time for each shipment: $((2a*b)/60$ miles per hour=travel time, where a=the number of miles from origin to destination and b=the number of crew members on the job. The operational performance measure provides how the team performed on each shipment as compared to the standard performance derived from the experimental data set. Therefore, units of work performed per man hour greater than 1 for a particular shipment indicates that the crew outperformed the standard, and units of work performed per man hour less than 1indicates that the team did not meet the standard of performance.

Financial Team Performance. Financial team performance is measured using two separate variables, gross margin percentage and labor margin percentage. *Gross margin percent* is the percent of total revenue that remains after all direct cost of the job are removed. Direct costs related to a job are labor, materials, and trucks/fuel. *Labor margin percent* is the percent of total revenue remaining after labor expenses have been subtracted.

Measures of Control Variables

Job Complexity. Job complexity is a measure of characteristics on each particular job which each entails an additional charge specific to the type of related complexity. The individual charges of each type of complexity serves as a proxy for the amount of complexity added to the job by the presence of a particular complexity. The characteristics of jobs which together are used to determine the overall complexity of each specific job are flights, long carries, bulky articles, and extra stops.

A flight complexity indicates that the origin and/or destination have flights of stairs which the team must negotiate to perform that particular job. A flight of stairs is present when stairs lead from one floor to another floor of a home, office building, or apartment. For clarification purposes, elevated origin or destination locations which have steps leading into the location do not possess a flight complexity as a result of the steps leading into the location alone as long as the stairs leading into the location would not span an entire floor of the given complex or approximately 12 steps. Each flight present on a particular job carries with it a charge of $1.30 per 100lbs being relocated which serves as an indicator of the amount of complexity added as a result of a flight being present.

A long carry complexity indicates that the service vehicles which the teams use to perform a particular job must park over 75 feet from the entrance of the origin and/or destination. Long carry complexities are typically the result of obstacles, such as low hanging tree branches or steep inclines of drives, impeding service vehicles ability to approach the origin or destination within 75 feet. Each long carry present on a particular job carries with it a charge of $.60 per 100lbs being relocated which serves as an indicator of the amount of complexity added as a result of a long carry being present.

Bulky article complexities indicate that there are large articles on shipments which require additional time over and above the typical amount of time crews would need to load the same amount of weight if it were "normal" goods to be shipped. The additional charges for bulky articles is also due to the abnormal amount of truck space needed to ship these articles as well as the difficulty in loading other goods around such articles. Common bulky articles are pianos, riding lawn mowers, and all-terrain vehicles (ATVs). Each bulky article to be moved on a particular job carries with it a flat charge which serves as an indicator of the amount of complexity added as a result of each bulky article being relocated.

Extra stop complexities indicate that additional points to pick up and/or deliver goods for a particular shipment separate from the origin and/or destination respectively exist. A requirement of these additional points of pickup or delivery to be categorized as an extra stop is that in relation to the origin or destination they require the crews and service vehicles to travel via the service vehicle to the extra stop location. To clarify, locations which have two separate buildings for pickup or delivery however both are accessed from the service vehicle location do not represent the presence of an extra stop complexity. Each extra stop needed on a particular

shipment carries with it a flat charge which serves as an indicator of the amount of complexity added as a result of that extra stop.

Each type of complexity is separately coded with the number of that type of complexity present on each job being analyzed. In order to calculate overall complexity for each job I transform bulky article and extra stop complexities, which are charged at a flat rate, into a units which are compatible with the charges per hundred charged for the flight complexity and long carry complexity. In performing this transformation I calculate the average weight of all the shipments being analyzed and calculate the flight charge which would be based on this average weight using the equation $(a/100)1.3=b$, where a= the average weight of all shipments in the data set and b= the average flight charge if every job being analyzed had one flight complexity. I then divide the flat rate charged for bulky articles by the average flight charge (b). This transforms the flat rate charged for bulky articles into a charge per hundred pounds based on the average shipment weight. Keep in mind that the overall complexity of a shipment does not include the weight of the shipment however is using the charge per hundred pounds as a proxy for the degree of complexity added by each complexity. I then perform the same transformation for the extra stop complexity where I then divide the flat rate charged for extra stops by the average flight charge (b). This transforms the flat rate charged for extra stops into a charge per hundred pounds based on the average shipment weight. The overall job complexity measure is then calculated by multiplying the number of each particular complexity present on a given job by the rate per hundred charge associated with that type of complexity giving a total complexity for each type of complexity on each job. These totals are then summed for each job to provide the overall complexity of job.

Team Size. Team size is operationalized as the number of individuals who worked on a specific job.

Data Analysis

I analyze the relationships between vertical team familiarity, horizontal team familiarity, team average hourly pay rate, operational job performance and financial job performance using structural equation modeling (SEM) in the Mplus statistical package 6th edition. There are two primary reasons I use structural equation modeling to analyze the data. First, structural equation modeling allows for the simultaneous testing of multiple paths including mediators. For my analysis, this benefit of SEM is important because it allows me to analyze the mediating influence that horizontal familiarity, average pay, and operational performance have on the relationship between vertical familiarity and financial job performance all within the same model. The second advantage of structural equation modeling is that it allows for the comparison of multiple models to determine how each of them performs with respect to model fit.

I included a path of covariation between the disturbance (error) terms of horizontal team familiarity and team average hourly pay rate. The disturbance terms represent the amount of variance not accounted for by the model, and the covariance path connecting these residual variance values accounts for the possibility that the variables share a common unmeasured source of variance not accounted for by our model (McDonald & Ho, 2002). In particular, a significant amount of variance for horizontal team familiarity and team average hourly pay rate was unaccounted for by my modeled predictor (vertical team familiarity), and the path we have included takes into account that both horizontal team familiarity and average pay rate may be

influenced by another variable not included in my model such as team average tenure. The structural model and standardized path estimates are shown in Figure 2. Fit was acceptable ($\chi^2 =$ 8.28 ($df = 4$), CFI = .96, RMSEA = .06, SRMR = .03), and met the stringent requirements for good fit (Hu & Bentler, 1999).

Hypothesis 1a states that vertical (hierarchical) team familiarity will be positively related to operational job performance. As shown in Table 1, the bivariate correlation between vertical team familiarity and operational job performance is not significant ($r = -.08$, $p > .05$). Also, in the full structural model, results show that vertical team familiarity is not a significant predictor of operational job performance ($\beta = -.004$, $p = .40$), thus failing to support for Hypothesis 1a.

Hypothesis 1b states that vertical (hierarchical) team familiarity will be positively related to financial job performance. As shown in Table 1, there is a significant, negative bivariate correlation ($r = -.14$, $p < .05$) between vertical team familiarity and team financial job performance. In the full structural model, results show that vertical team familiarity is not a significant predictor of financial job performance ($\beta = -.08$, $p = .16$), thus failing to support Hypothesis 1b and indicating that the relationship between vertical team familiarity and team financial job performance is accounted for by intervening variables. To establish a mediating effect, two other relationships must be verified. First, vertical team familiarity must significantly predict horizontal team familiarity, and horizontal team familiarity must subsequently predict financial job performance. As shown in the model, both portions of this relationship were significant. Vertical team familiarity was positively related to horizontal team familiarity ($\beta =$ .36, $p = < .001$), and horizontal team familiarity was significantly predictive of financial job performance ($\beta = .19$, $p < .001$). Notably, the significance of the second portion of this mediated effect supports Hypothesis 2b which proposed a significant impact of horizontal familiarity on

financial team performance. Furthermore, the indirect effect, calculated as the product of the coefficients from these two paths, was significant ($-.07$, $p = .003$) supporting Hypothesis 4.

Hypothesis 3a states that the relationship between vertical team familiarity and team financial job performance will be partially mediated by team operational job performance. Establishing a mediating effect, two other relationships must be verified. First, vertical team familiarity must significantly predict operational team performance, and operational team performance must subsequently predict financial job performance. As shown in the model, while operational job performance is a significant predictor of financial job performance ($\beta = .11$, $p = .03$), the relationship between vertical team familiarity and operational team performance is not significant ($\beta = -.05$, $p = .40$). Therefore the data failed to support hypothesis 3a.

Hypothesis 3b states that the relationship between horizontal team familiarity and financial job performance will be partially mediated by operational job performance. Using the same criteria for supporting a mediating effect, while operational job performance is a significant predictor of financial job performance ($\beta = .11$, $p = .03$), horizontal team familiarity is not a significant predictor of operational job performance ($\beta = .07$, $p = .28$). Therefore hypothesis 3b found no support in the model. Also, the lack of a significant relationship between horizontal team familiarity and team operational job performance fails to support hypothesis 2a which states that horizontal team familiarity will be positively related to team operational job performance.

Hypothesis 5a and 5b states that the relationship between vertical team familiarity and operational and financial job performance, respectively, will be mediated by team average hourly pay rate. Once again to establish this mediated relationship vertical team familiarity must significantly predict crew average hourly pay rate, and team average hourly pay rate must

subsequently predict financial job performance. Vertical team familiarity was significantly and positively related to team average hourly pay rate ($\beta = .22$, $p = < .001$), and team average hourly pay rate has a significant and negative relationship with operational job performance ($\beta = -.13$, $p < .05$) and a significant and negative relationship with financial job performance ($\beta = -.25$, $p < .001$). The indirect effects on operational and financial job performance, calculated as the product of the coefficients the respective paths, were significant (-.03, $p = .046$ and -.05, $p = .002$ respectively) failing to support Hypotheses 5a and 5b.

In summary, the relationship between vertical team familiarity and team financial job performance was found to be fully mediated. Vertical team familiarity was found to not only positively influence team financial job performance through horizontal team familiarity, but also negatively influence team financial job performance through team average hourly pay rate. While team operational job performance was found to be a significant predictor of team financial job performance, neither vertical team familiarity or horizontal team familiarity were found to be significantly predictive of team operational job performance. Discussion of these results follow in the next chapter of this dissertation.

Figure 2
Formal Model
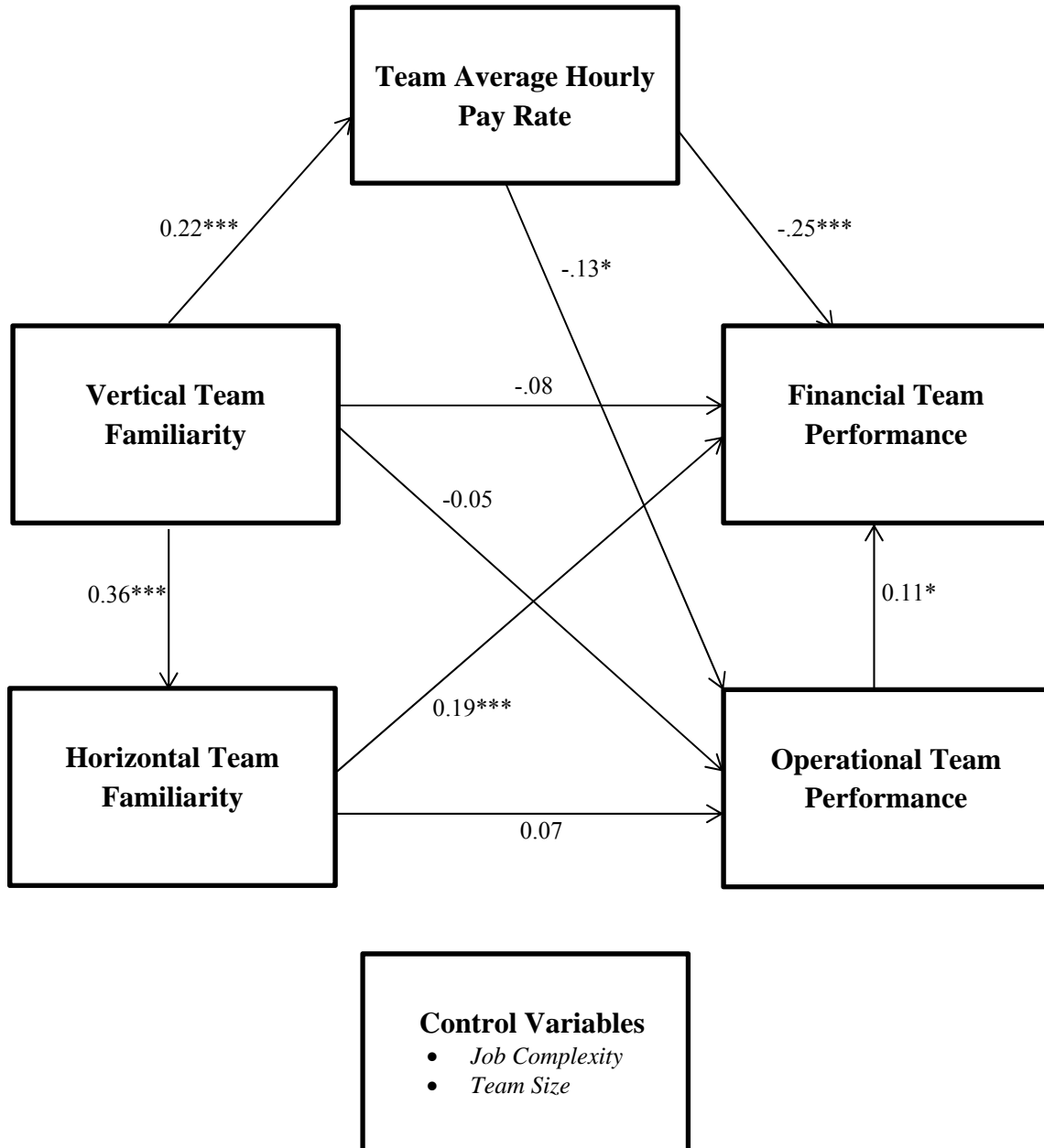
Full Hypothesized Model. N=306. $\chi^2 = 8.28$ ($df = 4$), $p \le .001$; CFI = .96, RMSEA = .06, SRMR = .03. *** $p \le .001$, ** $p \le .01$, * $p \le .05$

CHAPTER FOUR:
DISCUSSION OF RESULTS

Contemporary business organizations are increasingly utilizing teams to perform work in efforts to be flexible and meet fluctuations and diversity in customer value expectations (Gibson et al. 2007; Pearce, & Ensley, 2004). Organizational responses to this dynamic environment, in the form of utilizing fluid teams to meet project or job demand with the appropriate mix of team members, warrants researchers' investigations of teams to conceptualize teams differently than the traditional definition of teams. Mortensen (2013) suggests boundedness, traditionally viewed as a definitional component of teams, be examined as a dimension by which teams fluctuate in terms of their fluidity. The fluidity of team boundaries results from "members changing in response to shifts in their environment, and when multiple salient but nonaligned sets of members are spread across different context (multiplex)" (Mortensen, 2013, p. 3). Recently, researchers of fluid teams have focused on the impact of team familiarity on fluid team performance.

In past empirical studies, researchers have identified team familiarity as an important variable influencing operational team performance in fluid teams. These investigations of team familiarity and team performance have focused primarily on contexts of high knowledge intensity and on team operational performance as the dependent variable. This fluid team research have examined mostly 1) medical surgeries and the related impact of team familiarities on completion time (Reagans et al. 2005); 2) software modification investigating time to complete error free modification (Espinosa et al., 2007); and 3) software development

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investigating deviations from expected time and effort expenditures (Staats, 2012). These contexts are characterized by high knowledge intensity and role specialization because here members are assembled on teams to perform knowledge work taking specialized roles. However, no research exists investigating the impact of team familiarity on team financial job performance in industries of low knowledge intensity where role specialization is absent, which is characteristic of the research described in this dissertation.

In this dissertation, I have examined the impact of both vertical and horizontal team familiarity on financial team performance of fluid teams in contexts of low knowledge intensity lacking the need for role specialization. While research studies conducted in contexts of high knowledge intensity have focused on transactive memory systems where the influence of team familiarity on team performance is argued to result from team leaders' and members' awareness of each other is specialized knowledge and what specialized roles each will fill on the team (Hollingshead, 2001), I investigate this relationship in novel contexts of low knowledge intensity where the benefits of team familiarity are likely a result of resource exchanges between the team leader and team members as well as between team members. This dissertation contributes uniquely by investigating the impact of vertical and horizontal team familiarity in fluid teams not only on operational performance but also on financial performance in industries of low knowledge intensity where the lack of role specialization points to explanatory mechanisms differing from transactive memory systems. Transactive memory systems is used to provide the explanatory mechanism of the influence of team familiarity on teams where diversity of expertise between team members is necessary, however in teams which do not rely on diversity of expertise, team financial performance is influenced by team familiarity itself, not necessarily an underlying mechanism that familiarity facilitates.

The primary research question driving this dissertation was, "How does fluid team leadership, as a process exemplified in vertical and horizontal team familiarity, influence team operational and financial performance?" The conceptual model of this process, which is shown in Figure 1, includes vertical team familiarity, as well as horizontal team familiarity, diverse team competence, and team operational job performance as partial mediators of the relationship between vertical team familiarity and team financial job performance. This model also incorporates horizontal team familiarity as a mediator of the relationship between vertical team familiarity and team operational job performance as well as team operational job performance as a mediator of the relationship between horizontal team familiarity and team financial job performance. The focus of the empirical investigation on team financial job performance as the dependent variable of interest represents the unique contribution of this work as the first study of fluid teams of this kind.

In contrast to the literature highlighting the benefits of team familiarity as a result of transactive memory systems, this dissertation focuses on the increased resources exchanged between team leaders and team members driven by quality leader-member exchange (Wilson et al., 2010) and between team members driven by quality member-member exchange (Seers, 1989) as a result of their familiarity developed in past teamwork. These resource exchanges are explained by resource theory which posits that individual team leaders and team members possess resources, such as affiliation, service, status, and information, which they can offer to others within the team. The quality of exchange relationships developed between leaders and members and between members positively influences the reciprocal nature of resource exchange because resources exchanged are more likely to be reciprocated when quality exchange relationships exists. Quality exchange relationships are more likely to develop as a result of

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frequency, duration and proximity of past working relationships in teams, which is representative of team familiarity.

This dissertation builds on the work of Staats (2012) who differentiated two forms of team familiarity, vertical team familiarity representing the past working relationship between the team leader and team members and horizontal team familiarity which represents the past working relationships of the team members themselves. His research highlighted the need to understand differential impacts of each type of familiarity on team performance. Specifically, he found that the impact of vertical team familiarity in contexts of high knowledge intensity was positively related to operational performance dimensions measured as adhering to time and effort estimates. However, in industries of low knowledge intensity, characterized by the absence of role specialization, the team leader has more discretion in composing what team members will serve on his or her team. In other words the team leader has more authority to dictate team composition. Therefore, the fluid team leader operating in contexts of low knowledge intensity where team member roles are not specialized have higher levels of control over the development and maintenance of resource exchange relationships between him or herself and team members as well as the exchange of relationships between team members (Hoch, 2013). In these contexts, the team leader can influence team financial job performance through the development of shared team leadership by composing the team of members who through their familiarity have developed quality relationships. These relationships of trust and socialized responsibility impact not only team members' willingness to exchange resources, such as information and citizenship behaviors in efforts to lead the team to team goals, but also other members' willingness to accept that leadership and reciprocate with resources that they possess (Perry, Pearce, and Sims, 2002). This dissertation provides empirical evidence that when fluid team leaders' assemble teams with

team members who have shared past teamwork relationships and have developed horizontal familiarity, the team leader indirectly positively influences financial team performance through horizontal team familiarity.

However, I also found evidence that when fluid team leaders assemble teams composed the most competent members to serve on their team the team leader is indirectly negatively influencing team operational and financial job performance. This relationship is evidenced by the positive relationship between vertical team familiarity and team average hourly pay rate that is a proxy for team competence. In these instances when the leader assembles team members of higher competence team operational and financial job performance suffer. Therefore, one possible explanation for the negative relationship between team competence and operational and financial job performance is that the leader if using competence as the main criteria in determining team composition may be neglecting consideration of past working relationships among the team members themselves. This suggests fluid team leaders' primary responsibility in context of low knowledge intensity is promoting and maintaining exchange through team composition based on familiarity.

While team operational job performance did positively influence financial job performance, I found no evidence of significant relationships between either vertical team familiarity or horizontal team familiarity and team operational job performance. This finding indicates that the positive impact of vertical team familiarity and horizontal team familiarity on team financial job performance is not a result of team efficiency. A possible explanation for this finding is that the benefit of vertical team familiarity and horizontal team familiarity on financial team job performance is the result of informational resource exchanges, whereby teams higher in

familiarity better communicate and capture chargeable items thereby reducing missed income as a result of chargeable items going uncommunicated.

In summary, organizations increased use of fluid teams to better respond, increasing flexibility to meet fluctuations and diversity if customer value expectations (Gibson et al., 2007), to today's dynamic environment has highlighted the need for research investigating factors impacting team performance within teams characterized by unstable membership. Previous research in this area has identified team familiarity as a significant predictor of fluid team operational performance and has credited this relationship to transactive memory systems of teams (Espinosa et al., 2007; Reagans, eta l., 2005; Staats, 2012). However, these research studies have all concentrated on industries characterized by high knowledge intensity where team members have specialized roles. The current research uniquely contributes by investigating fluid teams operating in the moving industry which is characterized by low knowledge intensity and the absence of specialized roles. The empirical findings of this dissertation suggests that LMX theory, which posits that team leaders will positively influence team performance through assembling teams by focusing on team member competence, does not positively predict team financial job performance when considering teams operating without specialized roles. In this environment, team financial job performance is positively predicted when the team leader facilitates shared team leadership by assembling team members whom have developed quality TMX relationships (horizontal familiarity) and are willing to perform leadership functions through the exchange of their resources. In other words, the empirical results of this dissertation suggest that in industries of low knowledge intensity, team leaders will positively influence team financial job performance by assembling teams based on the relational resources existing between team members (i.e., horizontal familiarity). Also, the findings of this dissertation

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suggests that when leaders assemble teams based on member competence without regard for the

relational resources developed between team members, the leader may be functioning to hinder

the development of shared team leadership and negatively impact team financial job

performance.

CHAPTER FIVE:
LIMITATIONS, FUTURE RESEARCH, AND IMPLICATIONS

This study is not without limitations. First, the three years of archival data collected do not allow for measurement of the actual amount of interaction between team members. The data allows us to determine the degree to which team members have worked on other projects with other team members and the degree to which team members and team leaders have worked together in the past. However, the data does not allow for the collection of the amount or forms of actual interactions that took place between particular dyads. While, we do have in depth knowledge of the processes required by each project, which do entail interactions among team members and between the team leader and team members, we do not have measures of these interactions.

The second limitation is that the data collected is from a single company which operates in a single industry, which limits the generalizability of the findings and creates a future need for the replication of this study (Brutus, Gill, & Duniewicz, 2010) in other organizations operating other industries of low knowledge intensity where specialized roles are absent. This limitation is evident in that the findings of this dissertation diverge from findings of previous research which focuses on industries of high knowledge intensity characterized by role specialization. However, this limitation is the result of the novelty of this research and the contribution this research makes to the study of fluid teams.

A third limitation of this study is the use of team average hourly pay rate as a proxy for team competence. The use of proxies has raised some concerns in the field of management

scholarship. One primary concern is that the association between the construct and the representative proxy is questionable (Ketchen, Ireland, and Baker, 2013). While this limitation does exist as a matter of the fact that I do use a proxy measure, confidence in the association between team average hourly pay rate and team competence is gained through knowledge of the management processes used to establish team member pay rates in the sample used in this study. Also work literature on job analysis and compensation indicates that pay should be tied to competence due to compensable factors (Brannick, Levine & Morgeson, 2007; Milkovich, Newman, & Milkovich, 1999) which would represent a member's ability to perform most or all functions in moving services such as packing, loading, writing inventories, etc.

Another limitation to acknowledge is the cross-sectional design of this research. Utilizing a cross-sectional design prohibits the researcher from establishing causal relationships, thus eliminating support for the inference of causation between variables. Considering this limitation, I cannot eliminate the possibility that horizontal team familiarity positively influences vertical team familiarity from the results of this study alone. However, as it is the team leader who has greater responsibility in determining team composition the causal relationship between vertical team familiarity and horizontal team familiarity as well as between vertical team familiarity and team competence is based on an understanding of the sample of this research, however not empirically supported by the use of a cross-sectional design.

Future Research Directions

In this dissertation, I have analyzed how relational resources in the form of vertical and horizontal familiarity impact team performance. I found that increase in familiarity between team members and the team leader results in increased financial performance through increase in horizontal team familiarity. This mediating effect is theorized to result from increases in quality

of LMX and TMX. In support of Foa and Foa's (1974) resource theory, I found evidence that team leaders and team members who have higher familiarity positively influence financial job performance, which may be a result of team members placing greater value on the resources being exchanged by leaders and members with whom they are more familiar and as a result being more likely to reciprocate resources they possess. These relational resource exchanges between members may facilitate higher team financial job performance.

My integrated model and the empirical tests of my hypotheses concerning the effects of team familiarity on team performance have been grounded in Grant's (2007) theory-based framework of relational job design. As posited earlier, the framework of relational job design is relevant to the examination of fluid teams because it addresses both independent (taskwork-related) and interdependent (teamwork-related) aspects of the individual team member's and/or team leader's roles. The relational job design model posits that as the frequency, duration, physical proximity, depth and breadth of interactions between a team member and the related others (i.e. the team leader, fellow team members, and/or others) increases, team member will perceive that his or her behaviors will have a greater impact on the related others. Specifically, team members who are more familiar with their team leader are more motivated to engage in quality exchange with the team leader by sharing more information, and putting more effort when performing the team's task. Also team members who are more familiar with other team members will be motivated to engage in quality exchanges with their peers through exerting more effort, sharing more information and exhibiting extra role behaviors when sharing the team leadership role which may positively influence team performance.

The relational interactions (i.e. frequency, duration, physical proximity, and breadth) also characterize familiarity of team members. Accordingly, the relational job design model suggests

that as familiarity increases it positively influences team members' motivation to make a prosocial difference for the other team members as well as for the team leaders. Wilson et al. (2005) suggests that team leaders and members will seek to make such a prosocial difference for their counterparts by offering resources to those counterparts which they have at their disposal. As a result, the counterparts are likely to value those resources received from other team members, with whom they are more familiar and reciprocate similar resources or other resources they have at their disposal.

The contributions of this study include providing theoretical grounding and an empirical test of how fluid teams may perform better or worse as a result of the history individual members of the team share with other members and the leader. In other words, we seek to better understand the influence of horizontal and hierarchical familiarity on fluid team performance. Evidence of such effects of horizontal and hierarchical familiarity on fluid team performance will provide researchers a platform for future research into the dynamics of resource exchange between team members and between the team leader and team members. The evidence in this dissertation suggests that vertical team familiarity and horizontal team familiarity impact financial job performance. While this dissertation does not provide evidence that this influence is a result of resource exchanges, future research would benefit from measuring the differential resource exchanges that occur at different levels of familiarity. Also, future research investigating the differential impact of specific types of resource exchanges among members and between the leader and members would be a valuable contribution to better understanding fluid team performance. Also, it may be found that different types of resources exchanged may differentially influence the quality of the familiarity formed between dyads allowing for a better understanding of how familiarity is formed and how it influences fluid team performance.

Another fruitful area of research which would benefit this line of research would be the investigation of networks that exist within fluid teams. The need for this type of research is reinforced by research using social network analysis to investigate the relationship between team cohesion and team performance. Specifically, Wise (2014) investigated network density in the form of structural cohesiveness found in teams of travel agents who all performed the same tasks, therefore teams lacking role specialization. Future research should investigate the density of team familiarity networks to develop this field of research toward better understanding of the nature of the relationship between team familiarity and team job performance.

Implications

This dissertation is aimed at contributing to the organizational practices of organizing and assembling fluid teams. Organizations are increasingly relying on fluid teams, assembled to apply the right skill mix to a particular operational or strategic task, to perform their work. This dissertation seeks to provide these organizations an understanding of how team familiarity may contribute to the success of these teams in the form of improved financial team performance. As a result, organizations should consider, not only the skill mix needed for particular tasks but also and perhaps more importantly the team members' shared past work experience. Empirical evidence reported in this dissertation suggests that considering team members' competencies alone and disregarding their familiarity that developed through past teamwork to assemble a team may have a negative impact on the team financial job performance. This evidence adds to the earlier findings that team supportive behaviors may weaken the mediating effect of team member individual differences, such as self-efficacy, on the relationship between relative leader-member exchange and team performance (Hu & Liden, 2013).

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The findings of this study have major implications for research for fluid teams because they provide initial support to significant relevance of fluid team leadership, defined as entrained vertical and horizontal team familiarity, for financial team performance. The significant relevance of team familiarity for financial team performance has a major practical implication for profitable functioning of fluid teams because team familiarity seems to ameliorate the functional disturbances introduced by prevalence of team fluidity. Another major implication of this study is that emphasizing the alternative influence of vertical team familiarity on team competence, instead of on horizontal team familiarity, has a negative impact on financial team performance. In other words, leader-member familiarity, which discounts the relevance of member-member familiarity, has negative influence on profitable team performance.

These findings have important relevance for effective fluid team leadership in industries characterized by low knowledge intensity and absence of role specialization because they can be directly implemented in practice. Specifically, these have relevance for planning and organizing teams. Previous research on fluid teams operating in industries of high knowledge intensity emphasize the need for strategic planning and organizing team members with specific competencies to specialized roles within the team. However, the results of this dissertation indicate that when planning and organizing teams within industries of low knowledge intensity, absent of specialized roles leaders would benefit the team and organization by engaging in operational planning by focusing on previous shared teamwork experiences for assembling teams. These findings have also important relevance for effective fluid team followership in terms of designing flexible work arrangements and the related compensation packages and career prospects.

Organizations utilizing fluid teams to perform tasks of low knowledge intensity will benefit from understanding them implications of fluid team leaders discretion on team composition. Specifically this study provides evidence that team leaders use different criteria when selecting team members. It is important for organizational management to understand the differential impact that team member selection criteria may have of team financial job performance. Whereas some criteria such as past working relationships between team members positively influence financial team performance, other criteria such as team member competence alone may be detrimental to financial team performance. By understanding the nature of their work, organizations will be better able to distinguish different criteria used in team member selection and promote those criteria that facilitate profitability while discouraging those practices which have negative effects on financial performance. In other words, this research will aid organizations in developing prescriptive criteria to be used by manager and/or team leaders when assembling fluid team performing fluid tasks.

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EDUCATION

Ph.D. Candidate	University of Mississippi, University, MS. Dissertation title: *Small Business Crews as High Performance Teams: The Role of Vertical and Horizontal Team Familiarity.* (Dissertation Proposal Defended and Data Collected)

M.B.A.   Auburn University Montgomery, Montgomery, AL, 2009. Concentration: Finance

B.S.B.A.   Auburn University Montgomery, Montgomery, AL, 2004. Major: Marketing

TEACHING

- Strategic Management (MGMT 493): Fall 2012
- Small Business Management & Entrepreneurship (MGMT 396): Spring 2013
- Principles of Management (MGMT 371): Fall 2012, Spring 2013

RESEARCH

Peer-Refereed Articles

Banford, C., Buckley, M. R., & Roberts, F. (2013). Delegation Revisited: How Delegation can Benefit Globally-Minded Managers. *International Journal of Product Development and Logistics Management,* (in press).

Humphreys, J., Loncar, D., Novicevic, M. M., & Roberts, F. (2013). Differentiating Foothold Attacks from Strategic Feints. *Management Decision,* (in press).

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RESEARCH IN PROGRESS

Clayton, R., Novicevic, M., Roberts, F., & Palar, J. Fact or Fiction? An Assessment of the Phenomena in Educational Literature, Target *Journal of Management History.*

Thomas, C., Roberts, F., Novicevic, M., Ammeter, A., & Loncar, D. Fluid Teams Leadership: A Review and an Integrated Model, Target *International Journal of Management Reviews.* **2012 Impact Factor: 3.333.**

SERVICE

Service to the University

2012	University of Mississippi, AACSB Sufficiency and AQ Projections assistant.
2011, 2012, & 2013	University of Mississippi, Gillespie Business Plan Competition Evaluator/Judge.

Service to the Profession

2012-2014	Academy of Management, Management History Division Executive Committee Student Representative.
2013	Ad Hoc Reviewer *Journal of Business Ethics*
2013	Ad Hoc Reviewer Southern Management Association Conference
2012	Ad Hoc Reviewer *Journal of Management History*
2012	Ad Hoc Reviewer Academy of Management Conference

WORK EXPERIENCE

2004-2010:   Admiral Companies, Sales Associate, Senior Move Consultant, Vice President of Operations, Sales & Service Manager
1999-2003:   Farmer's Alliance (Division of the Montgomery Cotton Company), Shipment Coordinator.