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How does Stakeholder Engagement and Social Capital Influence Project Performance Outcomes?

Jesus J. Arias
Florida International University, jaria002@fiu.edu

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FLORIDA INTERNATIONAL UNIVERSITY

Miami, Florida

HOW DOES STAKEHOLDER ENGAGEMENT AND SOCIAL CAPITAL

INFLUENCE PROJECT PERFORMANCE OUTCOMES?

A dissertation submitted in partial fulfillment of

the requirements for the degree of

Doctor of Business Administration

by

Jesus J. Arias

2021

To: Interim Dean William Hardin
       College of Business

This dissertation, written by Jesus J. Arias, and entitled How does Stakeholder Engagement and Social Capital Influence Project Performance Outcomes?, having been approved in respect to style and intellectual content, is referred to you for judgement.

We have read this dissertation and recommend that it be approved.

_____
Manjul Gupta

_____
Miguel Aguirre-Urreta

_____
Mido Chang

_____
George Marakas, Major Professor

Date of Defense: May 17, 2021

The dissertation of Jesus J. Arias is approved.

_____
Interim Dean William Hardin
College of Business

_____
Andrés G. Gil
Vice President for Research and Economic Development
and Dean of the University Graduate School

Florida International University, 2021

DEDICATION

I dedicate this dissertation to my wife, Ana, my children Julian, Alexys, Joseph, and my

mother-in-law, Adilia. Their unwavering patience, extreme understanding and

gargantuan support seemed to be never ending while completing my work. I want to also

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ABSTRACT OF THE DISSERTATION

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by

Jesus J. Arias

Florida International University, 2021

Miami, Florida

Professor George Marakas, Major Professor

Institutions achieve organizational objectives through the legitimization of projects, project organizational culture, and its project actors. These objectives can either mitigate against risk and/or create advantage or opportunities for the organization. This paper reveals how relationships between project actors such as project team members, project managers and project sponsors, influence project performance outcomes. Stakeholder engagement and social capital between project actors are crucial contributors to project performance outcomes as well as completing projects on time, on budget, and within scope. Research also indicates that organizations continue to fail to achieve project outcomes when not taking into consideration the importance of these contributors. As such, the interest of this dissertation was to explore how stakeholder engagement and social capital influences project performance outcomes.

A survey instrument was provided to individuals involved in projects within the Amazon Mechanical Turk (Mturk) community. The survey attempted to measure perceived levels of the subjects' engagement when social capital and stakeholder engagement were employed by the project manager and project sponsor. The findings indicated that social capital employed by the project manager contributes to project team member engagement. However, and more importantly, the results revealed how project team engagement positively influenced project performance outcomes.

The results from this paper offers interesting suggestions to extant academic and research literature. It exposed the understanding of how project team members perceived use of social capital by project managers' contributes to project performance outcomes. Both organizational and project leadership can consume the findings from the body of this research to further improve project performance outcomes. The meaningful employment of social capital between project managers and project team members can result in profound and positive relationships while achieving organizational objectives.

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I. INTRODUCTION

Information Technology projects are a vital component supporting an organization's ability to ensure service and product delivery success. Given this important component of an organization's ethos, continued interest in Information Technology projects remain a necessary element of its investment portfolio. Mashiloane and Jokonya (2018) state that "... organizations continue to pursue IT enabled investments to order to perform better and remain competent within the global market and make profit" (p. 876). However, with considerable investment being made by organizations in Information Technology projects for example, project successes are rare. According to Jenner (2015), "almost an article of faith that somewhere between 50% and 70% of projects and programs fail. Studies by academics, professional bodies, consulting firms (and even Nobel Prize winners), paint a depressing picture of consistent and continuing failure" (p. 1).

In general, projects can undoubtably fail for a host of reasons. Stretton (2017) mentions that projects can be afflicted with various ailments such as "(1) lack of clear link between project and organizational strategic priorities, (2) not having a clear and strong ownership of the project and lack of stakeholder management and (3) lack of effective stakeholder engagement…" (p. 3). He emphasizes that a central factor of these failing projects is the lack of stakeholder engagement. Stakeholder engagement is the process of ensuring that members of a group or team have their concerns and needs considered and evaluated.

Stakeholder engagement according to Cascetta et al. (2015) "… can be considered the process of involving stakeholder concerns, needs and values in the transport decision-making process" (p. 30). Stretton (2017) adds that "In the project management literature, effective engagement with all stakeholders is virtually universally regarded as essential for success" (p. 6). He underscores that stakeholder engagement is one of the most critical components for project success. This paper discovers additional literature that sheds light on how stakeholder engagement is influential on project performance outcomes. Though stakeholder engagement was noted in academic and research literature as a factor contributing to the success of information system projects, it was ignored in other types of technology initiatives (Ahmed et al., 2018, p. 407). If stakeholder engagement is a factor ignored in many implementations, then it is worth noting the interest in the subject.

One stumbles across literature that indicates that stakeholder engagement alone cannot drive project performance outcomes. Literature has revealed that other factors impact stakeholder engagement. One of those factors, the use of social capital, tends to generate much interest in research as it relates to stakeholder engagement. Maak (2007) makes mention that:

> Being central in a network of stakeholders, the responsible leader is instrumental in shaping an organization's relationships to internal and external stakeholders and thus plays the key role in building and managing the interplay of different levels of social capital. (p. 336)

It is curious that organizations continue to pave forward with new project implementations without knowing what ails their failed projects. If organizations continue to manage projects simply against time, budget, and scope, without engaging its stakeholders, then many of them are doomed repeatedly to not reach their intended project goals. Tantalizing is the fact that research has not been widespread on this topic as one would think given the percentage of project failures and the lack of stakeholder engagement.

Consequently, this dissertation seeks to answer the following research question: How does stakeholder engagement and social capital influence project performance outcomes?

To help answer the paper's question, an analytical approach is taken, beginning with underlying and supporting literature. It is in this exploration of literature that helps support the legitimacy of projects, key project actors, understanding commonly used metrics of project performance outcomes as well as the relevance of the structural components of stakeholder engagement and social capital. It lays out the underpinning of important and supporting theories such as agency and network theory. The paper describes next the proposed research model and foundational hypotheses. Highlighted later is the envisioned research methodology approach including data collection and analysis strategies. At this juncture, the paper discusses the achieved results concluding with a thorough discussion of the implications, and opportunities of the paper's findings.

II. LITERATURE REVIEW

The literature review begins with an explanation of the legitimization of the project, its actors' and why they are important for the institution. The paper describes the traditional approaches for measuring project performance outcomes and provides a glance at a novel way of its measurement. The pace of work is picked up by introducing concepts of stakeholder engagement and social capital. The paper reveals what literature says about these two concepts and their influences on project performance outcomes. More is added to literature review by introducing two supporting theories, agency and network and why are they central in explaining stakeholder engagement and social capital.

Legitimizing Projects

Institutions respond to challenges and seek opportunities. To pursue these two paths, institutions create temporary entities, that of the project in combination with project actors and the norms, values, knowledge of the organization**.** Biesenthal et al. (2017) states "In a recent book published about project society, which focuses on institutional challenges of temporary organizations, Lundin et al. (2011) urge that neo-institutional theory needs to be applied to temporary organizations, such as projects" (p. 47). Projects and its actors are created as temporary and legitimate bodies within the institution with somewhat different norms and values to attain timebound goals. Biesenthal et al. (2017) continues with describing that "Project processes and their institutionalization, their coming to be and passing away, and the institutional traces they build, remember, forget and sometimes leave behind — above all, it is these that define projects" (p. 44).   One can further strengthen the notion that projects are legitimized and

are temporary organizational bodies within the institution. Suchman (1995) states "legitimacy is a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions" (p. 574). Therefore, the paper proposes and establishes that projects and its actors are temporary creations and legitimized by the institution to address challenges or realize opportunities.

Project Actors

The institution employs project actors to build and sustain projects. All actors are regarded as stakeholders. Stakeholders are considered individuals that can influence the success or failure of a project. Mok et al. (2015) cites Freeman's 1984 definition of stakeholders from his seminal work of *Strategic Management* as those "who can affect or is affected by the achievement of the firm's objectives" (p. 447). Within project management literature there are several categories of influence by project actors. Each category identifies key roles and how each influences the project. The outer circle of project membership is that of all members of the team. The circle can be furthered consolidated into inner concentric circles of actors, that being the project sponsor, project manager and project team members. Project norms and values help define each members' role and function.

According to the Project Management Institute's (PMI) Project Management Book of Knowledge (PMBOK) 2017 version, project actors are defined as:

> (1) Project sponsor formally authorizes the existence of a project and provides the project manager with the authority to apply organizational resources to project activities, (2) Project Manager is assigned by the performing organization to lead the team that is responsible for achieving the project objectives. (p. 34)

Project team members are generally understood as members of the team other than the sponsors and project manager who provide effort and work at various moments in the project timeline to support the goals and objectives of the initiative.

Project Performance Outcomes

Measuring scope, time and budget are three traditional indicators of project performance outcomes. Basic components of project success are time, cost, and quality, often referred to as the iron triangle (Chan & Chan, 2004, p. 205). The field of project management has developed tools and techniques to evaluate and measure project performance outcomes such as scope, time, and budget. However, research has shed light on other factors that influence project performance outcomes. Hu (2015) supports the tenant that "a project cannot be considered successful if project manager and delivery team fail to address different stakeholders needs and expectations even it delivered within planned time, budgets and scope" (p. 4). We galvanize the papers' perspective that stakeholder engagement should be measured and evaluated in order to understand its influence on project performance outcomes. Hu (2015) further adds his perspective by stating "user's expectations should be accurately identified and continuously reinforced

to prevent project failure" (p. 28). Therefore, project performance outcome metrics should not just only include traditional forms of measures such as scope, time and budget but include stakeholder engagement as well. Zhang (2005) states that "for ultimate success and adoption of organizational systems, it is imperative to consider the interests and concerns of those interested parties before and during the development of any new IT-based initiatives" (p. 549). It is then evident that there is a need to monitor stakeholder engagement levels throughout the project life cycle.

Theoretical Background

<u>*Social Capital*</u>

Literature has shown interest on how psychological work environments such as job resources are important to outcomes of work engagement. One such main job resource related with work engagement outcomes is social capital. Clausen et al. (2019) point out that "…social capital is positively associated with work engagement, psychological well-being, and economic performance at the company level" (p. 800)**.** Social capital can be regarded as the exchange of either socially or non-socially related resources between project actors to achieve a common need or want. Glanville and Bienenstock (2009) suggest that "Most writers agree that social capital refers to investment in personal relationships or social structure that facilitates the achievement of individual or collective goals" (p. 1507). Established early in this paper was the notion that stakeholder engagement is an important driver in project performance outcome; one then extends the paper's curiosity further into how social capital and its essential components complement stakeholder engagement and its influence on project

performance outcomes. Research by Di Vincenzo and Mascia (2012) mentions "…we hypothesize that the structural properties of project social capital might have important performance implications for projects" (p. 7). Research has been scarce in understanding empirically how social capital and stakeholder engagement influence project performance outcomes. Lee et al. (2013) mentions that "Thus far, there have not been many studies of social capital. Few studies have dealt with the social capital at the team level and less than few attempted to analyze the mediating roles of team social capital between project managers' leadership competencies and team project performance, empirically" (p. 9). One claims here that there is a need to investigate how social capital coupled with stakeholder engagement influence project performance outcomes.

Research speaks to the structural elements of social capital. Those components are composed of three dimensions or indicators, that of trust, norms and values and resources. Pinheiro et al. (2016) states "that over time, consensus emerged regarding the major variables to measure Social Capital, namely: network ties/trust, norms and obligations as well as shared codes and languages (Nahapiet & Ghoshal, 1998*)*" (p. 1520). The need here is to understand each element of social capital, coupled with stakeholder engagement, and the influence they have on project performance outcomes.

Trust establishes reliability of information and cooperation between project actors. This sense of reliability and cooperation allows project actors to engage one another with confidence and hence improves outcomes of their work. Trust is an important component among members of a team, such that the propensity of high levels of trust results in a strong commitment to the organization and resulting performance

8

(Costa, 2003, p. 617). Therefore, trust is an important component of social capital and coupled with stakeholder engagement influences project performance outcomes.

Norms and values, another structural component of social capital, strengthens the degree of social capital between its project participants. Chua et al. (2012) mentions:

> The recognition that social capital has structural, cognitive, and relational dimensions (Nahapiet and Ghoshal 1998) suggests that building strong social capital involves concerted efforts to develop and enhance structural, cognitive, and relational ties among members, which in turn leads to shared norms, beliefs, and values. (p. 710)

A form of norms and values in project management is the concept of project governance. Project governance is used to ensure that project members adhere to processes, procedures, objectives, and goals to meet project outcomes and performance. The research from Müller et al. (2015) reveals that "In the present study the association between relational norms and project success is perceived as contingent on the governance of the project" (p. 160). Therefore, in the context of projects, norms and values reflected as project governance plays an important factor of social capital and coupled with stakeholder engagement influences project performance outcomes.

The third component of social capital is that of resources. Resources can be considered artifacts, language, access to knowledge and information exchanged between project actors. Lee et al. (2013) says that "The third dimension of social capital, cognitive dimension, relates to shared language and stories, including cultures, among organization members who form a relationship" (p. 2). Literature makes mention that increased access to resources, such as knowledge and information, is important to project

outcomes. Di Vincenzo and Mascia (2012) mentions that "Increasing individuals' access to knowledge is important for the performance of project units, as it increases the probability of obtaining specific resources to apply to their context" (p. 7). Therefore, access to knowledge and information as part of social capital with stakeholder engagement influences project performance outcomes.

Stakeholder Engagement

Established early in this paper was that stakeholder engagement in projects influences project performance outcomes. Continuing the discovery of stakeholder engagement literature, reveals a fair amount of interest of how stakeholder engagement influences project performance outcomes. Rationalizing the reasons for employee engagement is a matter of interest to companies in terms of competitiveness (Matthews, et al., 2017, p. 874). Realizing successful project performance outcomes through stakeholder engagement is essential. Stakeholder engagement helps organizations in reaching the basic tenants of project success such as cost, time, and quality (Menoka, 2014, p. 22).

However, stakeholder engagement is not effective alone to influence project performance outcomes. Sloan (2009) expresses that "Companies that invested heavily in stakeholder engagement initiatives were no better at discerning the perceptions or priorities of their stakeholders than those making more limited efforts at stakeholder engagement" (p. 34). Research points out that stakeholder engagement alone does not completely help companies with the bottom line. Sloan (2009) further adds to this conversation by stating "The value of the inward-looking orientation to stakeholder

engagement reinforces one of key findings of Project RESPONSE: integration of social responsibility and sustainability into core strategic business processes is one of the factors that help companies to excel" (p. 35). One takes a more insightful look within current literature on what are those factors coupled with stakeholder engagement that influence project performance outcomes.

One stumbles into evidence that social capital along with stakeholder engagement influences project actors both from a performance perspective as well as ethical. Baker and Dutton (2006) state:

> The motivation and opportunity to engage in high quality connections increase when a practice facilitates respectful engagement (interacting in a way that communicates a sense of worth and value), evokes higher trusting (interacting in way that communicates a belief in the integrity and reliability of another's actions) or strengthens task enabling (interacting in a way that facilitates the other person's capacity to perform their task more effectively). (p. 8)

Mathur et al. (2008) states "From an ethical perspective, meaningful stakeholder engagement can be seen to enhance inclusive decision making, promote equity, enhance local decision making and build social capital" (p. 601). One concludes that social capital coupled with stakeholder engagement influences project performance outcomes.

The next section will illustrate this paper's understanding of stakeholder engagement and social capital as influences on project performance outcomes by providing the underlying foundational theories of agency and network to support the claim and notions of these two relationships.

Theoretical foundations for Stakeholder Engagement and Social Capital

The foundational underpinning of theory helps provide the understanding how to frame boundaries around the concepts of stakeholder engagement and social capital, respectively. Each concept has its roots in theory and the intent here is to bring out the relevant and most applicable theories to support them. The introduction of agency and network theory is provided as the two most popular theories supporting stakeholder engagement and social capital as influential on project performance outcomes. Mahaney and Lederer (2003) state "Agency theory has been used to understand failures in projects other than IS development and to suggest improvements to practices in those areas" (p. 1). One of the tenant reasons for viewing project coalitions is through the lens of a social network node and perspective (Nohria & Eccles, 1992, p. 4). These theories reveal project teams, for one, are social networks by nature. They are inherently a network within a network, composed of overlapping webs of relationships. Actions taken by group members are relative to their place in the network and one must consider the characteristics of the network itself. The two theories taken in together provide the backdrop in which to understand the dynamics and behaviors of stakeholder engagement and the use of social capital and their relevance to project performance outcomes.

Agency Theory

Agency Theory was introduced to help understand the behaviors of project actors and why they might use social capital. Agency theory concerns itself with, as Eisenhardt (1989) reveals, "the problems that are related with the conflicts of goals between principals and agents and the framework of governance that may limit the agent's self-serving behavior" (p. 58). Agency theory helps also to identify some inherent problems that influence project outcomes. It also helps explain the relevance and use of project governance, a form of norms and values, an indicator of social capital, to set direction and guidance for members of a project. Haq et al. (2018) states "Given the role of project governance as explained by (Turner, 2009), it helps to set the project objectives and then determine the means to attain these objectives and to monitor the performance; this appears well informed by agency theory" (p. 276). Project actors and the norms and values used to govern projects are usually bounded by the organizational culture, in other words, the system in which their beliefs, values and behaviors are governed by. Wei and Miriglia (2017) point out that "organizational culture determines the underlying assumptions upon which knowledge is managed and shared, mediates the interplay between the individual and the organizational level, and suggests who is expected to control and share the transferred knowledge" (p. 573). Each actor adheres to the project boundaries through its norms and values however each actor also aligns themselves to their interests as well. Floricel et al. (2014) mention that "projects are fragile organizations, which rely on a constant and collective process of translation to align actors' interests with and within the project" (p. 1098).

<u>Network Theory</u>

Network Theory is a framework for which social capital is exchanged between our project actors. Porter and Powell (2006) mention that "Network theory or social network theory looks at the social elements that shape the ever-changing landscape of networks of relationships within an organization" (p. 778). Network theory provides the view that an individual's attributes are less important than the ties that bind individuals or organizations together. For organizations and companies alike, network theory provides the framework of how project actors interact with each other in formal and informal settings, gathering information, minimizing competition in several cases, and building social capital. Project actors' roles are not isolated in the project, they interact through a myriad of activities among each other both professionally and socially to achieve their respective objectives and tasks for the project. Members of a project, in addition to their knowledge and abilities, create an intricate web of social interactions and networks which is leveraged by them in order to contribute to the success of the project (Leonard, 2013, p. 17). Literature also supports the notion that project outcomes should not be measured by traditional methods alone such focus on time, budget, and scope. Chinowsky et al. (2010) state:

> In the social network model, the underlying hypothesis is that the teams need to be managed as social collaborations to achieve results that exceed traditional expectations. If projects can be viewed from a social collaboration perspective, then an increased emphasis will be placed on developing teams that have shared values and trust among the participants. (p. 453)

Combined, both theories help create two overlapping topologies with which to describe project actors' behaviors and perceptions along with the channels and networks in which they create and navigate in. The paper will present in the next section how forementioned concepts and theories intertwine to help conceptualize a model in terms of how key actors use of stakeholder engagement and social capital influence project performance outcome.

III. RESEARCH MODEL AND HYPOTHESES

Conceptual Research Model

The purpose of this research is to study the use of stakeholder engagement and social capital and its influences on project performance outcomes. Reviewed previously in this research were studies on the implications and findings of stakeholder engagement and social capital in projects. Based on those findings, key stakeholders such as the project manager and project sponsor have been found to influence project member performance thus affecting project outcomes. Social capital and stakeholder engagement used by both stakeholders were found to be independent variables. Project team engagement was found to be a mediator between the use of stakeholder engagement and social capital on project performance outcomes. Project performance outcomes was set as a dependent variable. Several hypotheses were formulated based on these relationships. Figure 1 shows a diagram of our research model.
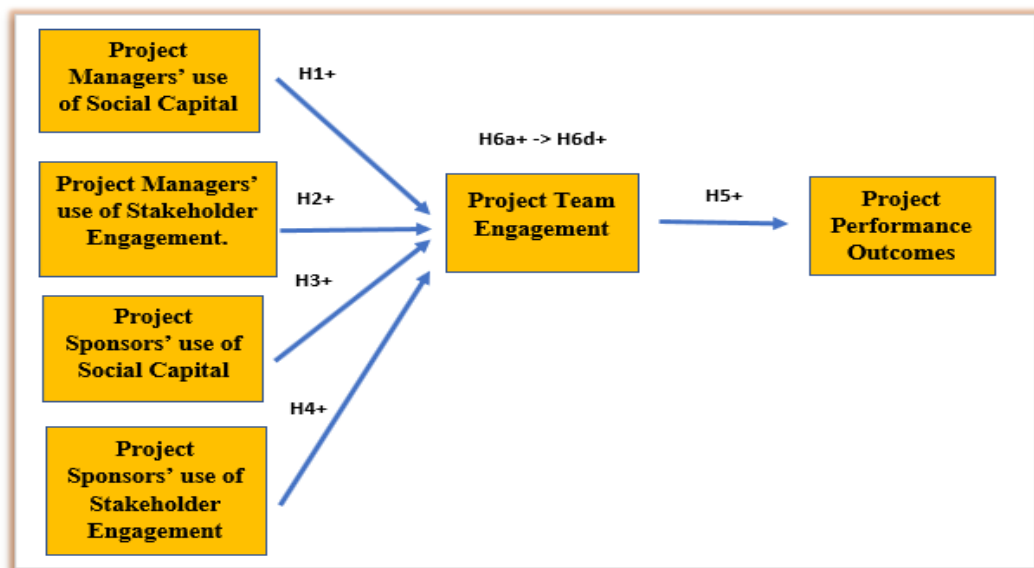
Figure 1: Conceptual Research Model

Hypotheses

<u>*Project Managers' use of Social Capital*</u>

Project Managers use different techniques and methods with project actors to achieve success. Project managers' employ social capital with project team member to strengthen the team's perception of their importance in the project thus influencing project performance outcomes. The promotion of knowledge exchange is accomplished through emulation and guidance by the project manager. Trust is created when members are introduced at the beginning of the project allowing all to understand each other's role and significance to the project (Bond-Barnard et al., 2018, p. 436). Project manager use of social of capital allows for the buildup of trust and knowledge with project team members while ensuring that organizational relationships are strengthened thus influencing project performance outcome.

From this discussion the following hypothesis is derived:

H1: Project Managers' use of Social Capital positively relates to Project Team Engagement.

Project Managers' use of Stakeholder Engagement

   Project manager's use of stakeholder engagement promotes active communication and dialogue to ensure project team members needs and requirements are being heard and addressed. Dedication to the project by its members is enriched through stakeholder involvement which in turn helps in achieving organizational objectives (Menoka, 2014, p. 38). Project managers' ability to address and respond to stakeholder interests through engagement is valuable for project performance success. Research indicates that a fair amount of research has added to the importance of engaging stakeholders in projects. According to Mok et al. (2015) identified "social responsibilities, prompt communication, and information input as three important critical success factors for SM (Stakeholder Management) in the perspective of project managers" (p. 446).

From this discussion the following hypothesis is derived:

H2: Project Managers' use of Stakeholder Engagement positively relates to Project Team Engagement.

Project Sponsors' use of Stakeholder Engagement

Project Sponsors are identified as the principal actors spearheading the project for the organization. They are tasked to establish what are to be the benefits, behaviors, and objectives of the project as it relates with alignment to the organization's culture and strategic aspirations. Kloppenborg et al. (2011) states that:

> As the key stakeholder responsible for ensuring a successful project outcome, the project sponsor has the power to influence decision making and assist in identification of stakeholders to assist in project delivery as well as those stakeholders that will be impacted by the project. (p. 401)

The project sponsor's role is also to ensure project success through stakeholder engagement thus influencing project performance outcomes. Project team members recognize the need for engagement and collaboration to influence project performance outcomes. The amount of collaboration was determined to be a factor when assessing a project teams' perception of success (Davis, 2014, p. 196).

From this discussion the following hypothesis is derived:

H3: Project Sponsors' use of Stakeholder Engagement positively relates to Project Team Engagement.

Project Sponsors' use of Social Capital

The project sponsor's social capital is relevant and useful for sustainable and positive relationships with project team members. Maak (2007) states "Key to responsible leadership is thus the ability to enable and broker sustainable, mutual beneficial relationships with stakeholders, to create stakeholder goodwill and trust and ultimately a trusted business in society – that is, one of multi-stakeholder benefit." (p. 331). Literature points out that project teams express the need to exchange social capital to influence their perception of engagement within the organization. We mentioned earlier in this paper that social capital is bounded by indicators such as trust, norms and values and resources; resources being the shared language, codes, and meanings for the organization culture. Social capital is a communal sense of organizational goals and how that plays a role in employee involvement and achievement of those goals. Furthermore, employees are motivated to continue with the organization when feeling part of a community (Chia & Peters, 2010, p. 209).

From this discussion the following hypothesis is derived:

H4: Project Sponsors' use of Social Capital positively relates to Project Team Engagement.

Project Team Engagement and Project Performance Outcome

Motivation and active involvement by members of the project team is a vital component for project success. Ferguson et al. (2017) state that:

> Participants were motivated to participate in the project by what they could gain personally and professionally, however, their motivations were founded not on the superficial exchange of knowledge and tools but deeply on personal relationships with others involved and previous experiences with similar projects. (p. 7)

We funnel our theoretical foundation of agency and network theory here to explain how actor's engagement level using organizational networks and personal relationships influence project performance outcome. We further our observation that project team members influence project performance outcomes based on their level of engagement. Greenberg and Arakawa (2008) affirm:

> Our findings are consistent with prior research by Krueger & Killham (2005) and Fredrickson (1998) on the link between engagement and productivity. In both 2005 and 2006 employee optimism was correlated with employee engagement, which in turn was correlated with project performance. (p. 14)

From this discussion the following hypothesis is derived:

H5: Project Team Engagement positively relates to Project Performance Outcome.

Project Team Engagement as a mediator between Social Capital, Stakeholder

Engagement and Project Performance Outcomes

Research studies point out that project team engagement mediates the relationship

between social capital/stakeholder engagement and project performance outcomes.

Koh and Rowlinson (2012) state that:

> Hence, project social capital provides the conditions necessary for adaptation and
>
> cooperation among project participants to take place, and the latter processes, in
>
> turn, contribute to safety performance. We advance a mediational thesis between
>
> social capital, project organizational processes, and safety performance. (p. 137)

The cooperation of the project team, their level of engagement, mediates social capital of

our stakeholders and thus influences project performance outcomes.

Turning the gaze now is to literature that helps understand how project team

engagement mediates the relationship between stakeholder engagement and project

performance outcome. There is a relationship between how high and low engagement is

with employees and the treatment by stakeholders (Collinge, 2020, p. 3). The remainder

of the hypothesis development will provide further evidential support of how project

team engagement mediates the relationship of social capital/stakeholder engagement and

project performance outcomes.

Project Team Engagement as a mediator between Project Managers' Social Capital and

Project Performance Outcomes

Through current research one is aware that a project managers' use of social

capital influences project team member, so in turn does project performance outcome

becomes influenced. Investigating the mediating effect of social capital by the project

manager lends itself in observing its influence on project performance outcome through

the perceived project team member engagement level. There is evidence to support that

when leadership applies social capital, there is a mediating effect by it when achieving

project performance success (Lee et al., 2013, p. 2).

From this discussion the following hypothesis is derived:

H6a: Project Team Engagement positively mediates the relationship between

Project Managers' use of Social Capital and Project Performance Outcome.

Project Team Engagement as a mediator between Project Managers' use of Stakeholder

Engagement and Project Performance Outcomes

Influencing positively project performance outcomes is said by literature, to be a

driver of stakeholder engagement by management. Menoka (2014) strengthens research

by claiming that:

> To manage the time objectives, company needs to prioritize and engage those
>
> project team members who have a vast working knowledge, clear idea of the
>
> problem and project goal. Thus, they can suggest diverse perceptions, will be
>
> capable and willing to contribute to the project, and can make change positively
>
> within the organization. (p. 217)

Project team members whose engagement is sought and used by project managers will influence project performance outcomes.

From this discussion the following hypothesis is derived:

H6b: Project Team Engagement positively mediates the relationship between Project Managers' use of Stakeholder Engagement and Project Performance Outcomes.

Project Team Engagement as a mediator between Project Sponsors' use of Social Capital and Project Performance Outcomes

Project sponsors use of social capital is a positive influence with project team members. In effect, project team members strengthen their affinity with project sponsors over time. This continual approach provides a perception of support for the team. As the team increases social capital with the project sponsor through repeated interactions, both project sponsor and team members begin to develop shared values and knowledge thus influencing project performance outcomes. Liu et al. (2015) state that:

> Our research demonstrates how top management support can be an endogenous construct managed by an IT project team to encourage IS project success. Top management support is obtainable if the team appropriately builds and mobilizes social capital with top management. (p. 727)

From this discussion the following hypothesis is derived:

H6c: Project Team Engagement positively mediates the relationship between Project Sponsors' use of Social Capital and Project Performance Outcomes.

Project Team Engagement as a mediator between Project Sponsors' use of Stakeholder

Engagement and Project Performance Outcomes

There is a mediating effect by project team engagement between project sponsor engagement and project performance outcomes. Employee engagement is influenced by performing in a cooperative environment, whereby, the conduct of the manger through direction and appreciation positively influences employees work outcomes (Matthews et al., 2017, p. 875). Therefore, the paper has shown evidence with literature that project team engagement mediates project sponsors' engagement thus influencing project performance outcomes.

From this discussion the following hypothesis is derived:

H6d: Project Team Engagement positively mediates the relationship between Project Sponsors' use of Stakeholder Engagement and Project Performance Outcomes.

	Construct	Definition	Supporting Literature
Independent Variables	Project Managers' use of Social Capital	Project managers' use of social capital allows for the buildup of network ties/rust, norms/values, and knowledge/information with project team members. This ensures that organizational relationships are strengthened thus influencing project performance outcome.	Bond-Barnard et al. (2018). Koh and Rowlinson (2012)
	Project Managers' use of Stakeholder Engagement	Project manager's use of stakeholder engagement promotes active communication and dialogue to ensure project team members needs are being heard and addressed. Project managers' ability to address and respond to stakeholder interests through engagement is valuable for project performance outcomes.	Menoka (2014) Mok et al. (2015)
	Project Sponsors' use of Social Capital	Project sponsors' use of social capital is relevant and useful for sustainable and positive relationships with project team members. Literature points out that project teams express the need to exchange social capital to influence their perception of engagement with the organization.	Maak (2007) Chia and Peters (2010)
	Project Sponsors' use of Stakeholder Engagement	The project sponsor's role is also to ensure project success through stakeholder engagement thus influencing project performance outcomes. Project team members recognize and appreciate the need for engagement and collaboration with project sponsors, including project performance outcomes as a result.	Kloppenborg et al. (2011) Davis (2014)
Mediators	Project Team Engagement	Project Team engagement mediates the relationship between social capital and performance outcomes. Project Team engagement mediates the relationship between stakeholder engagement and performance outcomes.	Koh and Rowlinson (2012) Collinge (2020)
Dependent Variable	Project Performance Outcomes	Measuring scope, time and budget are three traditional indicators of project performance outcomes.	Chan and Chan (2004)

Table 1: Summary of Constructs

Number	Hypothesis
H1	Project Managers' use of Social Capital positively relates to Project Team Engagement.
H2	Project Managers' use of Stakeholder Engagement positively relates to Project Team Engagement.
H3	Project Sponsors' use of Stakeholder Engagement positively relates to Project Team Engagement
H4	Project Sponsors' use of Social Capital positively relates to Project Team Engagement.
H5	Project Team Engagement positively relates to Project Performance Outcomes.
H6a	Project Team Engagement mediates the relationship between Project Managers' use of Social Capital and Project Performance Outcomes.
H6b	Project Team Engagement mediates the relationship between Project Managers' use of Stakeholder Engagement and Project Performance Outcomes.
H6c	Project Team Engagement mediates the relationship between Project Sponsors' use of Social Capital and Project Performance Outcomes.
H6d	Project Team Engagement mediates the relationship between Project Sponsors' use of Stakeholder Engagement and Project Performance Outcomes.

Table 2: Summary of Hypotheses

Demographic Information

Collected demographic data are found in extant research. Demographic information collected were age, gender, years of work experience, years of project related work experience, project roles held, education level and number of years working for the organization.

IV. METHODOLOGY

The purpose of this section is to explain the methodology and design approaches used to explore and support the proposed conceptual research model and hypotheses. A brief overview of the research design is mentioned here. Next is the description and reasoning for the study's instruments. Following the review of instruments, is an explanation of measures and their meanings. And finally, a discussion takes place on the rationale of the use of preliminary studies for this research.

Research Design

This paper explores the meaning of human behavior as it relates to the use of social capital and stakeholder engagement and their influences on project performance outcomes, underscoring it with grounded theory. Unlike qualitative research that extracts the meaning from subject data through interviews, an empirical eye is more appropriately shaped in this research to explain theoretical frameworks and developed hypotheses. Quantitative researchers investigate and analyze the underlying reasons for human based phenomenon principally by empirical analysis such that those observations are used to generate interpreted outcomes (Goertzen, 2017, p. 12). Using a survey instrument, the paper attempts to measure variables of interest. These items of interest have causal characteristics such that each variable of interest influence's another, which undoubtably is supported by quantitative research methods. Therefore, it is appropriate to follow a quantitative approach in this paper such that one can quantify the measured variables of interest and evaluate their outcome on how they support the proposed paper's model and hypotheses.

Instruments

The primary instrument used for subject survey data collection was a questionnaire constructed with Qualtrics. Having researched other forms of data collection instruments, an online questionnaire using Qualtrics was selected as the most appropriate for this paper's efforts. Qualtrics is a popular online survey tool that allows for the development and distribution of internet-based surveys including analysis of survey data. Online surveys continue to trend upward in their usage as compared to other traditional survey methods. Evans and Mathur (2018) state "Virtually all major players in the global marketing research industry are engaged in at least some online survey research..." (pg. 856).

Additional statistical software tools used to collect and analyze subject data from Qualtrics were Microsoft Excel O365 (Excel), IBM's SPSS v26 (SPSS) and SmartPLS v3.3.3 (SmartPLS). Excel was used to provide the means of data cleanup from Qualtrics imported data. It was also used to conduct demographic information assessment. Exploratory factor and reliability analysis was achieved using SPSS. SmartPLS was used for confirmatory analysis by employing structural equation modeling (SEM).

Measures

Established measures were adapted for the papers' constructs from extant literature. Table 3 illustrates questions related with the study's constructs used 5- point Likert scales to measure levels of perception. The Likert Scales used in this survey provide the subject with an opportunity to establish either levels of agreement or disagreement and continuous or frequent perceptions of the use of stakeholder engagement or social capital on project performance outcomes.

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
None	Rarely	Often	Sometimes	Always

Table 3: Five-Point Likert Scales used in survey instrument

Project Managers' use of Social Capital

To measure the influence of Project Managers' use of Social Capital on Project Team Engagement in this study, a 9-item scale was adapted from Lee et al. (2013) and Haq et al. (2018).

Project Managers' use of Stakeholder Engagement

Project Managers' use of Stakeholder Engagement on Project Team members was measured using an 8-item scale adapted from Menoka (2014). These items measured the general perception of the Project Manager's use of Stakeholder Engagement by Project Team members.

Project Sponsors' use of Social Capital

To measure the influence of the Project Sponsors' use of Social Capital on Project Team Engagement in this study, a 9-item scale was adapted from Lee et al. (2013) and Haq et al. (2018).

Project Sponsors' use of Stakeholder Engagement

Project Sponsors' use of Stakeholder Engagement on Project Team members was measured using an 8-item scale adapted from Menoka (2014). These items measured the general perception of the Project Sponsors' use of Stakeholder Engagement by Project Team members.

Project Performance Outcomes

To measure Project Performance Outcomes in our study, a 3-item scale was adapted from Lee et al. (2013) and Henderson and Lee (1992). Project Performance Outcomes measurement is based on the Project Team perception of their contribution to meeting the project's schedule, budget, and deliverables.

Project Team Engagement, Project Managers' use of Social Capital, and Project Performance Outcomes.

To measure how Project Team Engagement mediates the relationship between Project Managers' use of Social Capital and Project Performance Outcomes, a 9-item scale was adapted from Schaufeli et al. (2006).

Project Team Engagement, Project Managers' use of Stakeholder Engagement and

Project Performance Outcomes

To measure how Project Team Engagement mediates the relationship between Project Managers' use of Stakeholder Engagement and Project Performance Outcomes, a 9-item scale was adapted from Schaufeli et al. (2006).

Project Team Engagement, Project Sponsors' use of Social Capital, and Project

Performance Outcomes.

To measure how Project Team Engagement mediates the relationship between Project Sponsors' use of Social Capital and Project Performance Outcomes, a 9-item scale was adapted from Schaufeli et al. (2006).

Project Team Engagement, Project Sponsors' use of Stakeholder Engagement and

Project Performance Outcomes

To measure how Project Team Engagement mediates the relationship between Project Sponsors' use of Stakeholder Engagement and Project Performance Outcomes, a 9-item scale was adapted from Schaufeli et al. (2006).

Conducted Studies

The paper's quantitative approach was advanced by conducting three studies. Two exploratory studies were comprised of an informed pilot and a pilot study. The third experiment was conducted as the main study itself. Pilot studies are used to review assessment and recruiting efforts along with identifying elements or items that are not supportive of the research endeavor (Leon et al., 2011, p. 627). The aim of the informed pilot was to improve the research model efficacy through adjusted survey instrument design, the subject selection process, and the minimization of bias in data collection. The pilot study's intent was to ensure that the intended research model and hypotheses are proven to be statistically substantiated by the main study. The pilot study resulted in an updated conceptual research model thus a third and main study was performed to validate and confirm the research's updated conceptual model and hypotheses.

Informed Pilot Study

In June of 2020, three, two-hour Zoom web sessions were conducted with a total of eight subjects. The aim of the informed pilot study was to explore the vernacular and design structure of the study's questionnaire. The informed pilot was conducted also to ensure the alignment between the nature of the research model and the survey instrument's purpose. The informed pilot study included but was not limited to receiving feedback on the appropriate vernacular used in the survey, revealing any unclear and ambiguous questions, and identifying additional questions that could help support understanding the model and measured items of interest.

All informed pilot participants were recruited from the local Miami, Florida area. They were known to the researcher and sought out due to their varying degree of

knowledge about project participation, membership, and management. Of the eight who

consented, six were from higher education, one subject from a local K-12 institution

while another subject was from private industry. All participants gave consent to

participate, were not compensated and no identifiable information was collected about

them.

The sampling approach for subjects in this informed pilot used a non-probability

self-selecting or judgement sampling approach. The intent for using this type of sampling

technique for the informed pilot study was to ensure willing subjects were educated on

the intent of the research and possessed some knowledge and/or experience in

participating in projects. Rahi (2017) defines judgement sampling as "a process where

researcher use own judgment to select a group of people who knows about the problem.

Judgmental sampling is also called purposive sampling because it involves a particular

purpose. This type of sampling technique is convenience and cost effective" (pg. 3). The

goal here was to have informed pilot subjects, with an unhindered and unobstructed eye,

share candid and constructive reflections with the researcher on how well aligned the

nature of the research model and the survey instrument's intent was.

Zoom, a web conference platform, was used to interact with informed pilot

participants remotely instead of physically face to face. Remote interaction with

participants, as a method of study, was selected because of COVID-19 restrictions at the

time. Prior to the start of the session, each subject consented to participate in the

informed pilot study. At the beginning of the informed pilot session, the researcher

explained to the participants the nature of the study, research model, hypotheses, and

objective of the survey instrument. Each subject was then provided a link to complete the

initial Qualtrics questionnaire. Once completed with the Qualtrics questionnaire, the researcher asked each participant to provide verbal comments on three areas: (1) clearness of language in the questionnaire, (2) how appropriate were the questions as related to the model and hypotheses and (3) suggestions and options for improving each question.

The online Qualtrics questionnaire for the informed pilot study was composed of five sections with a total of 83 questions. The first section of the survey explains the goals of the study, benefits, risks, and with consent to proceed. The second section collected demographic information (age, gender, work experience, etc.) about the subject. The third section gathered responses concerning the subject's perceptions of the influence the project manager and project sponsor had on a particular project in which the subject was involved in. The fourth section collected the participant's perceptions, as related with their work in the same project, based on the use of engagement and social capital by the project manager and project sponsor, respectively. The final section was related with the subject's perception of project performance outcomes of the project.

The informed pilot study revealed some changes to certain item language. Candid responses from the informed pilot participants also shed light on the specificity of what project was being referenced to by subjects while completing the survey. Further discussions exposed the order of those measured items of most interest to be brought at the beginning of the survey instead of the middle or the end. The final survey instrument used in both the subsequent pilot and main study was revised and changed based on the informed pilot suggestions.

And finally, suggestions were made to consider larger subject populations of interest through crowdsourcing platforms such as Amazon Mechanical Turk (Mturk). Table 4 presents those responses and comments to those three areas of interest.

Question	Responses
Clearness of language in the questionnaire	1. Much of the questions are clear and understandable. 2. The language used in all questions would be understood by participants ranging in project experience.
How appropriate were the questions	1. Questions seem to match what you are measuring. 2. Some questions do however seem to be similar in nature. Make sure you also scan and correct some misspellings. 3. Based on the description of the model and hypotheses, the questions seem to be in line to what you are trying to capture as far as perceptions.
Suggestions and options for each question	1. Try to introduce questions of some sort to explain which project you are asking them to think about, such as what project they completed in the last 3 – 6 months for example. 2. Perhaps bring up the questions about perceptions up front first before asking demographic questions. This may help in gathering responses about your intended items of measure. 3. Determine how to ensure that a subject does in fact complete the survey in its entirety. 4. Given that the original idea for subject population was for a case study or limited population at Florida International University, it would be appropriate to expand the population to a larger participant pool, such as Amazon Mechanical Turks (Mturk). 5. Ensure that look and feel of questions is mobile friendly. 6. Perhaps introduce breaks in long list of questions to ensure subject clearly sees appropriate headings.

Table 4: Informed Pilot Subject Responses

Pilot Study

At the start of August of 2020, 152 subjects were recruited from a popular crowdsourcing platform to participate in the research's pilot study. Prior to conducting the pilot study, various subject recruitment methods and services were evaluated. It was determined that crowdsourcing platforms was the most cost and time effective approach in achieving the study's subject research goals as well as being recommended by the informed pilot study. Crowdsourcing platforms have become popular and cost effective in research and academia. As such, these platforms allow researchers to tap into a quick and easy way for recruitment of a large geographically and sociodemographic diverse sample body as compared to traditional college subjects and in-clinic patient sampling (Ibarra, 2018, p. 2).

The crowdsourcing platform selected for the pilot study was Amazon's Mechanical Turk (Mturk). Other researcher and academics opine their thoughts about Mturk and how significant its use is becoming in the scholarly world. Robertson and Yoon (2019) state "Mturk has increasingly gained acceptance among legal scholars, and articles relying on Mturk data have been published in some of the leading law reviews" (pg. 1636). Given the number of available crowdsourcing platforms, Mturk was the most cost-effective crowdsourcing platform available. Mturk is the most recognized crowdsourcing platform based on its inexpensive costs, adaptability, flexibility, ability to maintain subject anonymity and provide a large diversity pool of subjects (Buhrmester, et al., 2018, p. 150). This study selected Mturk as the subject solicitation platform of choice given the ease of access and low cost to participant acquisition.

Random selection of subjects was conducted by the Amazon platform given the restrictions and criteria listed previously in this section. Mturk subjects were provided a link to the study's online Qualtrics questionnaire upon their recruitment and acceptance within the Mturk platform. An Mturk account was created with funding to compensate these subjects. Mturk participants would be taken to the questionnaire upon clicking on the survey line provided to them through their worker portal.

The first part of the questionnaire dealt with reading and accepting the online informed consent document before starting the questionnaire. Upon consent, subjects would proceed in completing the remainder of the questionnaire. The questionnaire was composed of six sections with a total of 90 questions. The first section of the survey explains the goals of the study, benefits, risks, and with consent to proceed. The second section was composed of questions that will be used to mentally bound the subject around a particular project they were involved in. Here, the subject was asked to recall information about a previous memorable and significant project they had worked on in the last six months. Questions about the project budget, number of personnel involved, length of time it took to complete the initiative, complexity of the endeavor, just to name a few, were asked. These questions were intended to invoke a mental boundary around a particular project for the subject. It also provided a guidepost of sort concerning perceptions of key stakeholders in that endeavor. Section three gathered responses about the perceptions of influence the project manager and project sponsor respectively had on that project.

The fourth segment collected the participant's perceptions, as related with their work, on the use of engagement and social capital by the project manager and project sponsor, respectively. The fifth section was associated with capturing the subject's perception of the project outcomes of the same project. The sixth and final part captured demographic questions (age, gender, work experience, etc.) of the participant. At the end of completing the survey, Qualtrics would provide a unique automated generated numeric code to the subject. This code was also recorded as part of the subject's responses in Qualtrics. This code would allow the subject to show proof of participation.

This research was reviewed and approved by the Institutional Review Board at Florida International University. No identifiable subject information was collected in any of the studies conducted in this research.

Survey Response Challenges

Though online surveys continue to be a popular method of data collection among academics and alike; two types of affliction can skew results, that being of nonresponse bias and response rates. Phillips et al. (2016) state that "It is in this context that we explore response rates and nonresponse bias, two related but separate concepts that are important for scholars who use surveys in their investigations" (p. 217). The following section describes common ailments afflicting online surveys and the applied mitigation for the survey instrument design itself.

Response rates

Research reveals that the key to proper response rates is the design of the survey and without them, data quality is compromised. According to Vicente and Reis (2010) "there are several structural design components in online surveys that impact nonresponse rates (dropout rate, item nonresponse rate and overall completion rate), those being general structure, length, disclosure of survey progress, visual presentation, interactivity, and question/response format" (p. 254). The suggested design elements were taken into consideration when developing the study's questionnaire. In addition, at the end of the final questionnaire, was an automatically generated code from Qualtrics. This code was used by the subject to validate completing the survey to receive compensation. These approaches to mitigate against lower response rates is believed to have contributed to improving subject response rates.

Nonresponse bias

Bias can be interpreted as the tendency of subjects to either consciously or unconsciously misrepresent or fail to respond. McGrath et al. (2010) accurately states in their article related with the evidence of response bias that "A response bias is defined as a consistent tendency to respond inaccurately to a substantive indicator, resulting in systematic error in prediction" (pg. 451). Current literature pinpoints that Mturk participants may have a higher propensity to report false information than traditional subjects. Necka et al. (2015) declare that "Mturk participants reported more frequent engagement in potentially problematic respondent behaviors than traditional participants: they reported more frequently falsifying their gender, age, and ethnicity and seeking out privileged information from search engines or other participants" (p. 14). To minimize

nonresponse bias, recruitment of subjects in Mturk was accomplished by restricting

participants only from the United States, with a high degree of experience working in

Mturk and those who spoke English. Those with a high degree of reliability and

experience are referred to as master workers according to Amazon Mechanical Turk

(https://www.Mturk.com/help). Cheung et al. (2017) indicates:

> Master Workers are those who have demonstrated exceptional performance and
>
> high levels of accuracy while completing HITs for a variety of Requesters on the
>
> Mturk marketplace. Masters must maintain their performance level and pass
>
> Mturk's regular statistical monitoring to maintain their Master status. (p. 348)

Master workers are highly sought after by academia and researchers. As Eric and Jarrod

(2020) state "scholars recommend that Mturk researchers only recruit individuals whose

work is accepted at a high rate (e.g., Peer, Vosgerau, and Aquisti, 2014), or who meet

certain qualifications (e.g., Thomas and Clifford, 2017)" (p. 2).

Sampling Strategy and Size

      Subjects were randomly selected and solicited to participate from Amazon

Mechanical Turks (Mturk) crowdsourcing platform. A convenience sampling approach

was used in this pilot study. Reasons for using a convenience sampling strategy here are

as follows: (1) ease of use of the Mturk platform for conducting and collecting randomize

survey responses, (2) budget constraints, (3) less time needed to distribute and evaluate

findings and finally (4) eliminating the challenges on the formal process for accessing

data on U.S. subjects who have worked on projects through other institutions and

companies. Given other sampling strategies and their governing rules, convenience

sampling and the use of Mturk allowed the data collection process to be carried out with minimal restrictions or hindrances. According to Bornstein et al. (2013) regarding convenience sampling state "This strategy's clear advantage is that, of all the sampling strategies, convenience sampling is the easiest, least time-intensive, and least expensive to implement, perhaps accounting for its popularity in developmental research" (p. 361).

Determining sample size was based on two parameters, statistical and non-statistical approaches. Non-statistical concerns are related with issues such as budget, institutional and legal restrictions, and ethical considerations. Statistical factors involved with determining the appropriate sample size are error in sampling, population size, confidence level and degree of variability to name a few. Constraints with budgetary limitations was a non-statistical consideration for determining sample size in this study. From a statistical perspective, evaluating the appropriate sample size when involving factor analysis, such as with exploratory factor analysis (EFA) was an important consideration as supported by literature. Researchers consider factor analysis sample size an extremely important item given its influence on the validity and stability of sample correlations coefficients; the more constant the correlations are with an adequate sample size the further sound are the results (Kyriazos, 2018, p. 2211).

Exploratory factor analysis (EFA) was used to evaluate data from the pilot study. The study sought guidance in literature as it relates with determining sample size adequacy for EFA approaches for the pilot study. There seems to be several approaches to sample size adequacy as literature indicates.

Kahn (2006) states "The research literature has provided several rules of thumb for sample size. For example, Comrey and Lee (1992) suggested that 100 cases are poor, 200 are fair, 300 are good, and 500 or more are very good" (pg. 700). In addition, sample size determination for EFA should be evaluated for factor loadings having values of .50 or greater, retaining communality values above .40, and number of factors that should load are at least 5 or more with values of .5 or better (Kyriazos, 2018, p. 2212). Given the sampling strategy taken, the resulting sample size of 152 subjects was evaluated and determined to be adequate for the pilot study.

Data Collection and Analysis

Pilot study participants were provided a link to an online Qualtrics 90 item questionnaire. A period of two weeks was open for Mturk subjects to participate. A total of 152 subject responses were collected. However, prior to the two-week period ending, an initial data set of 40 subjects was collected. These 40 responses were imported from Qualtrics into Excel to evaluate data cleanliness and completeness. Upon completing the assessment, data was imported from Excel into SPSS. Conducting a factor analysis assessment on the initial data set resulted in no ascertainable statistical importance from the results. It was determined to wait until the two-week period was complete to acquire a greater number of responses but mindful of budgetary constraints as to how many could be accepted. After the two-week period was over, a total of 152 responses were collected including the 40 initial responses that were evaluated. Data from the 152 subjects was gathered and imported from Qualtrics into Excel. After data was assessed for completeness in Excel, it was imported into SPSS for exploratory factor and reliability analysis. No identifiable data was collected as part of this research.

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Demographic Information

Male subjects (63.16%) makeup the greater portion of the pilot study population than female subjects (36.84%). Those between the ages of 25-35 (51.97%) made up the largest age segment followed by 36-45 (22.37%). The group with the greatest number of years of work experience were 3-5 years (34.87%). With regards to years of project experience, those with 6 – 10 years of experience had the highest composition (40.79%). From the level of education, those with bachelor's degrees had the largest segment (67.76%) with subject's having master's degrees a distant second (22.37%). Subjects with 3-5 years of working at the same institution constituted nearly half (45.39%) of the participants of interest. And finally, those with having been in only one project role made up more than half (69.07%) with the remaining subjects having been in multiple roles was 30.93%. Table 5 illustrates all collected demographic information from the pilot study subjects.

Characteristics		Frequency	% of population
Gender	Male	96	63.16%
	Female	56	36.84%
	Other	0	0.00%
	Prefer not to say	0	0.00%
Age	18-23	7	4.61%
	24-35	79	51.97%
	36-45	34	22.37%
	45-55	16	10.53%
	Above 55	16	10.53%
	Prefer not to say	0	0.00%
Years of work experience	Less than 2 years	7	4.61%
	3-5 years	53	34.87%
	6-10 years	41	26.97%
	11-15 years	16	10.53%
	16-20 years	16	10.53%
	21-25 years	5	3.29%
	26-30 years	9	5.92%
	Greater than 30 years	5	3.29%
Years of project experience	3-5 years	29	19.08%
	6-10 years	62	40.79%
	11-15 years	39	25.66%
	16-20 years	10	6.58%
	21-25 years	8	5.26%
	26-30 years	3	1.97%
	Greater than 30 years	0	0.00%
Level of Education	High School Diploma	13	8.55%
	Bachelor	103	67.76%
	Master	34	22.37%
	PhD	1	0.66%
	None	1	0.66%
Numbers of years working at current institution	Less than 2 years	23	15.13%
	3-5 years	69	45.39%
	6-10 years	0	0.00%
	11-15 years	37	24.34%
	16-20 years	10	6.58%
	21-25 years	9	5.92%
	26-30 years	4	2.63%
	Greater than 30 years	0	0.00%

Characteristics		Held only one position.		Multiple instances (2 or more)	
		Frequency	% of population	Frequency	% of population
Positions held in projects	Project Sponsor/Owner	5	3.29%	47	30.92%
	Project Manager	50	32.89%		
	Team Leader/Coordinator	29	19.08%		
	Team member	18	11.84%		
	Other	3	1.97%		
Total		105	69.07%	47	30.93%

Table 5: Pilot Study Demographic Descriptions for 152 Subjects

Exploratory Factor and Reliability Analysis Results

An exploratory factor analysis (EFA) was conducted on 152 responses for each of the constructs proposed in the paper's conceptual research model. EFA was conducted on a total of 71 items using orthogonal method of Varimax. EFA generated only three factors and thus the rest of the constructs and associated items had to be dropped due to significant cross loadings. The constructs that were retained were Project Managers' use of Social Capital, Project Team Engagement and Project Performance Outcomes. The following provides the results from EFA and reliability analysis.

The Kaiser-Meyer-Olkin (KMO) measure confirmed the sampling adequacy for the analysis, with a 'meritorious' rating of .860 (Kaiser & Rice, 1974, p. 112). All other KMO values were greater than the acceptable limit of .50. A preliminary analysis was conducted in order to obtain eigenvalues for each factor in the data. Three factors contained eigenvalues over the Kaiser's criterion of 1 and in combination explained 59.818%. of the variance. The scree plot detected inflexions that would justify preserving 3 factors. These three factors were kept due to the convergence of the scree plot and Kaiser's criterion on this value. The items that revolved around the same factor suggested that factor 1 represents *Project Team Engagement*, factor 2 represents *Project Managers' use of Social Capital* and factor 3 represents *Project Performance Outcomes*. *Project Team Engagement* indicated the highest reliability scale with Cronbach's alpha of .860. *Project Manager's use of Social Capital* demonstrated a high reliability value, with Cronbach's alpha equaling .811. *Project Performance Outcomes* had a low but satisfactory reliability with Cronbach alpha of .651.

Table 6 identifies the three constructs and their respective reliability values. Table 7

shows items for each construct that were retained after EFA. Table 8 identifies items that

were retained. Those that were discarded were due to cross loading and items that were

retained have been bolded.

Construct	Number of Items	Cronbach's Alpha
Project Managers' use of Social Capital	5	.811
Project Team Engagement	6	.860
Project Performance Outcomes	3	.651

Table 6: Cronbach Alpha values for 3 constructs that emerged from EFA

Construct	Item	Factor		
		1	2	3
Project Managers' use of Social Capital	PMSC_9	0.30	**0.63**	0.20
	PMSC_8		**0.62**	0.25
	PMSC_7	0.35	**0.59**	0.18
	PMSC_5	0.28	**0.58**	0.13
	PMSC_2	0.37	**0.57**	0.19
Project Team Engagement	PMSCPPO_7	**0.73**	0.25	
	PMSCPPO_9	**0.62**	0.21	0.25
	PMSCPPO_4	**0.62**	0.14	0.33
	PMSCPPO_2	**0.59**	0.29	0.21
	PMSCPPO_1	**0.59**	0.36	0.11
	PMSCPPO_8	**0.58**	0.39	0.25
Project Performance Outcomes	PPO_Time	0.26	0.22	**0.63**
	PPO_Budget		0.25	**0.56**
	PPO_Del	0.27	0.10	**0.52**

Extraction Method: Principal Axis Factoring Rotation Method: Varimax with Kaiser Normalization.[a]

a. Rotation converged in 7 iterations

Table 7: Rotated Factor Matrix

Construct	Item	Description	Supported Literature
Project Managers' use of Social Capital	*PMSC_1*	*Made me feel I had shared common personal values with the team.*	Lee et al. (2013)
	PMSC_2	**Allowed me to be a trusted member of the team.**	
	PMSC_3	*Fostered a sense of team spirit in me.*	
	PMSC_4	*Made clear to me what my roles and tasks were in the project.*	Haq et al. (2018)
	PMSC_5	**Let me know that there was accountability for my work.**	
	PMSC_6	*Provided me the opportunity of listening and addressing my issues and concerns during the project.*	
	PMSC_7	**Offered me the means of where I could easily access project information.**	Lee et al. (2013)
	PMSC_8	**Presented to me opportunities to share my knowledge and experience.**	
	PMSC_9	**Allowed me to voice my opinion in an open and constructive environment during meetings and discussions**	
Project Team Engagement	**PMSCPPO_1**	**I was energized to work on the project because I was part of a team whose personal values were shared.**	Schaufeli et al. (2006)
	PMSCPPO_2	**I was respected because there was trust in my work.**	

Construct	Item	Description	Supported Literature
Project Team Engagement	*PMSCPPO_3*	*The collegial and open working environment allowed me to work hard.*	Schaufeli et al. (2006)
	PMSCPPO_4	**I knew exactly what I needed to do because my role and responsibilities in the project were clearly explained**	Schaufeli et al. (2006)
	PMSCPPO_5	*My work mattered because of the established culture of accountability.*	
	PMSCPPO_6	*I felt supported because I could bring up issues and problems unhindered.*	
	PMSCPPO_7	**The ease of access to information to complete my tasks allowed me to perform my work.**	
	PMSCPPO_8	**I felt inspired when I was able to exchange my experience and knowledge with others on the team.**	
	PMSCPPO_9	**Every morning I felt like going to work on the project because I knew I could share my opinions and feedback in an open and constructive setting.**	

Construct	Item	Description	Supported Literature
Project Performance Outcomes	**PPO_Time**	**My work contributed to the project being completed on time.**	Lee et al. (2013) Henderson & Lee (1992)
	PPO_Budget	**Adherence to my work supported the project's budget being met.**	
	PPO_Del	**My contribution to the project helped in part support the achieving of project deliverables.**	

Table 8: Items dropped due to cross loading.

The outcomes of the EFA resulted in an updated conceptual model emerging with three constructs. The emergence of these three constructs was not expected given the original model was not tested before. In the reassessment of the literature, one finds no previous research has ventured in exploring the emerging relationships between the proposed constructs in the original model. The lack of support for separate constructs implies that several of these constructs are in fact collinear. As a result, the three offered constructs from EFA provides a new revised research model. Figure 2 shows a diagram of the updated conceptual research model. Table 9 lists the three emerging constructs.
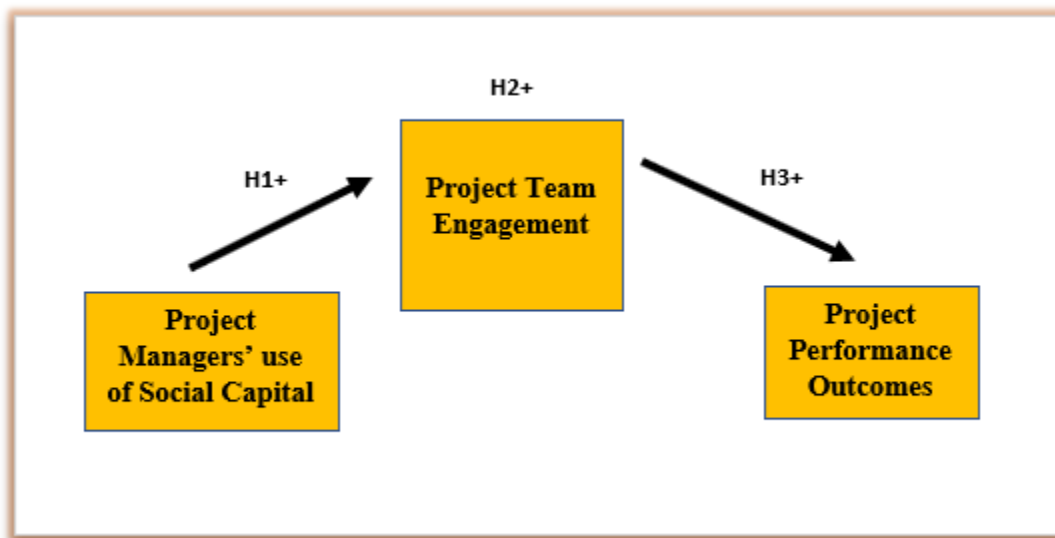
Figure 2: Updated Conceptual Research Model

Number	Hypothesis
H1	Project Managers' use of Social Capital positively relates to Project Team Engagement.
H2	Project Team Engagement mediates the relationship between Project Managers' use of Social Capital and Project Performance Outcomes.
H3	Project Team Engagement positively relates to Project Performance Outcomes.

Table 9: Summary of Hypotheses for Updated Conceptual Research Model

V. MAIN STUDY RESULTS

At the start of December of 2020, subjects from Amazon's Mechanical Turk (Mturk) crowdsourcing platform were recruited to participate in this research's main study. A period of two weeks was open for participants in Mturk to complete the research's 90 item questionnaire. A total of 305 subject responses were collected at the end of the two-week period. Data from the 305 subjects was gathered and imported from Qualtrics into Excel. Excel was used to assess for data completeness as well as providing the resulting demographic information from the main study subjects. Data was then exported from Excel into SmartPLS to conduct confirmatory factor analysis (CFA). CFA was achieved using SmartPLS for structural equation modeling (SEM). The following sections describe general demographic information about the subjects and the results and interpretation of the main study data.

Descriptive Information

Male subjects (59.02%) are shown to have a greater composition of the main study population than female subjects (40.66%). Those between the ages of 25-35 (48.85%) made up the largest age segment followed by 36-45 (21.64%). The segment with the greatest number of years of work experience was 6-10 years (32.46%), With regards to years of project experience, those with 6 – 10 years of experience had the highest composition (40.00%). From the level of education, those with bachelor's degrees had the largest segment (59.02%) with subject's having master's degrees a distant second (36.07%). Subjects with 3-5 years of working at the same institution constituted just below half (40.66%) of the participants of interest.

Those with having been in only one project role made up more than half (64.26%) with the remaining subjects having been in multiple roles was 35.74%. Table 10 illustrates the results of the demographic information collected from the main study subjects.

Characteristics		Frequency	% of population
Gender	Male	180	59.02%
	Female	124	40.66%
	Other	0	0.00%
	Prefer not to say	1	0.33%
Age	18-23	4	1.31%
	24-35	149	48.85%
	36-45	66	21.64%
	45-55	39	12.79%
	Above 55	43	14.10%
	Prefer not to say	4	1.31%
Years of work experience	Less than 2 years	5	1.64%
	3-5 years	92	30.16%
	6-10 years	99	32.46%
	11-15 years	50	16.39%
	16-20 years	34	11.15%
	21-25 years	13	4.26%
	26-30 years	8	2.62%
	Greater than 30 years	4	1.31%
Years of project experience	3-5 years	29	9.51%
	6-10 years	122	40.00%
	11-15 years	93	30.49%
	16-20 years	36	11.80%
	21-25 years	15	4.92%
	26-30 years	7	2.30%
	Greater than 30 years	2	0.66%
Level of Education	High School Diploma	10	3.28%
	Bachelor	180	59.02%
	Master	110	36.07%
	PhD	4	1.31%
	None	180	59.02%
Numbers of years working at current institution	Less than 2 years	17	5.57%
	3-5 years	124	40.66%
	6-10 years	0	0.00%
	11-15 years	95	31.15%
	16-20 years	38	12.46%
	21-25 years	20	6.56%
	26-30 years	7	2.30%
	Greater than 30 years	4	1.31%

Characteristics		Held only one position.		Multiple instances (2 or more)	
		Frequency	**% of population**	**Frequency**	**% of population**
Positions held in projects	Project Sponsor/Owner	22	7.21%	109	35.74%
	Project Manager	107	35.08%		
	Team Leader/Coordinator	44	14.43%		
	Team member	23	7.54%		
	Other	0	0.00%		
Total		196	64.26%	109	35.74%

Table 10: Main Study Demographic Descriptions for 305 Subjects

Structured Equation Modeling Analysis

To test and confirm the reliability and validity of linear and causal models of this research, one employs techniques such as structural equation modeling (SEM) analysis. SEM based approaches have used covariance-based structural equation modeling (CB-SEM) to study intricate interrelatedness among examined and latent variables. However, the use of partial least squares structural equation modeling (PLS-SEM) has emerged as a popular SEM technique in research (Hair et al., 2019, p. 3). There are several considerations for using PLS-SEM. However, the most prominent and appropriate for this research is testing conjectural structures given some notion of expected hypothesized results. PLS-SEM allows researchers to graphically observe the representations of connections between variables of relevance. This study's theoretical model is a result of a hypothesized model emerging from the pilot study. One of the purposes of this study is to investigate and validate the causal relationship between our latent variables. SmartPLS, a popular structured equation modeling software, was used to conduct PLS-SEM analysis.

The following approach in conducting PLS-SEM was adapted from Wong (2019). The first step with using PLS-SEM is determining and validating the selected sample size. Next is the explanation of the data collection method for PLS-SEM analysis. Figure 3 provides an illustration of the structed model as provided through SmartPLS. Investigation of the outer model loadings and their significance among the latent variables is discussed. These findings establish the reliability and validity of the latent variables. The results also shed light on a type of Crohnbach's alpha value, also known as rho_A. Rho_A is an indicator of internal consistency reliability when using PLS-SEM. The PLS-SEM modeling process evaluates convergent and discriminate validity. Here

the structural model was evaluated for its significance testing of both inner and outer

model structures. Multicollinearity was assessed to determine if possible collinearity

issues among latent variables was evident. Model effect size, the strength of affiliation

between latent variables, was also examined. The Stone-Geisser's value (Q^2) was

assessed to determine the reliability and validity of the latent variables. A review of total

effect size was conducted. And finally, an examination of the hypothesized model is

studied using the variance among the endogenous latent variables. Inner model path

coefficient sizes and their significance are reviewed allowing one to address if the

hypothesize paths are significant in nature.

Sample Size

A total of 305 subject were selected to be part of the main study. Previous

research indicates that sample sizes between 100 and 200 are considered an adequate

point to begin with when conducting path modeling (Hoyle, 1995, p. 87). Therefore, the

sample size of 305 subjects for this study was appropriate and adequate.

Organizing the data

      Data collected from subjects were originally captured through Qualtrics. The data

from Qualtrics was then exported as an .xlsx type file into Microsoft Excel O365 (Excel)

for data cleaning. Naming convention for items were developed in the Excel file to

ensure the proper uploading later into SmartPLS. The collected data consisted of a

sample size of 305. No invalid entries were observed. Data from Excel was then exported

into SmartPLS as a csv (comma delimited) file.

Constructing the model

      SmartPLS provides a PLS-SEM path modeling structure in which the main study

data set was used. The model was created by constructing the latent variables (outer

model – blue circles) first and then associating with the respective indicators (items of

measure – yellow boxes). The path model illustrates the amount of variance of the latent

variables is being explicated by neighboring latent variables. This amount is shown inside

each circle. The numbers associated with each arrow, path coefficients, describe the

strength of one item has on another. The weight of dissimilar path coefficients allows for

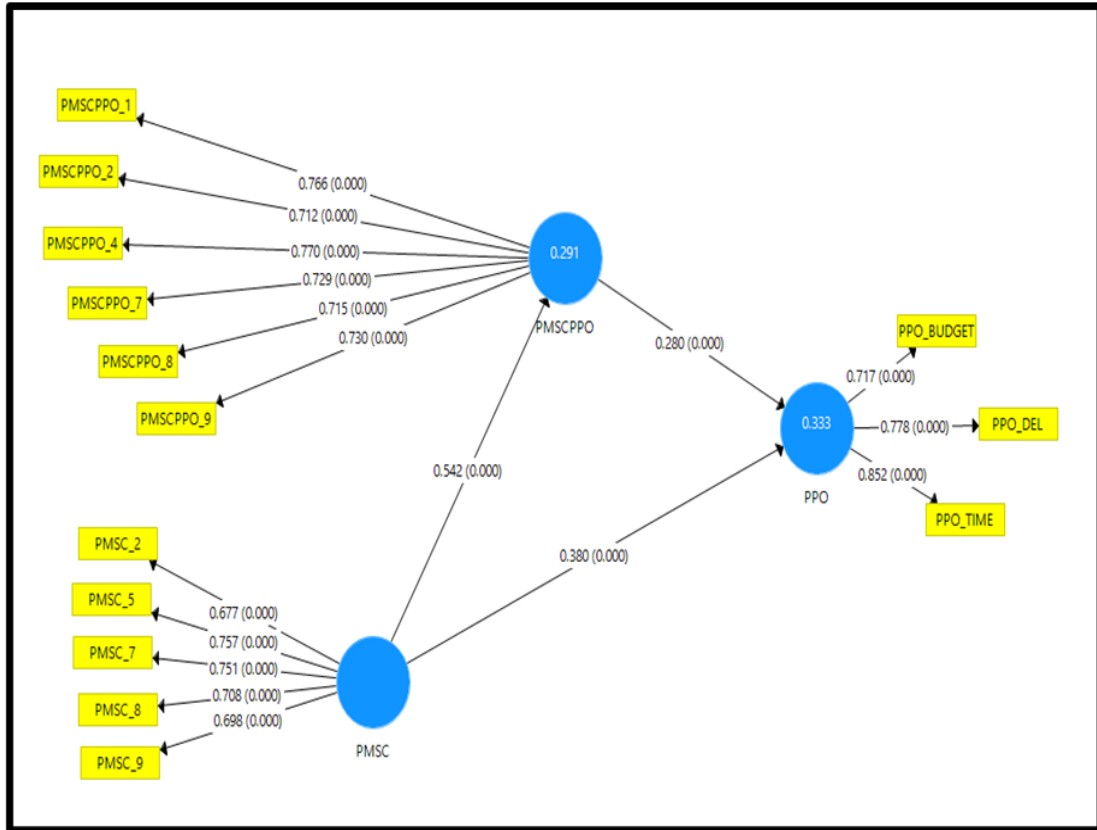the arrangement in relation to their statistical value.

Figure 3: PLS-SEM Model (with all indicators and latent variables) results

Endogenous Variable Variance

The examination of R^2, the coefficient of determination, indicates a value of .333 for the PPO endogenous latent variable. The two latent variables (PMSC and PMSCPPO) comparatively explain 33.3% of the variance in PPO while PMSC explains 29.4% of the variance of PMSCPPO. Coefficient of determination values of .25, .5 and .7 are described as weak, moderate, and strong respectively (Hair et al., 2013, p. 7). From the PLS-SEM model, the R^2 seem to be slightly moderate in nature.

Indicator Reliability

It is important at this juncture of the analysis to evaluate the latent and indicator variable's reliability and validity. Indicator reliability values of .70 or greater are acceptable, while 0.4 or higher is suitable for exploratory research (Hulland, 1999, p. 198). Table 11 illustrates several items needed to be verified when performing a PLS-SEM analysis including the results for outer loading values. All outer loading results are near or above the .7 highly preferred reliability values.

Latent Variable	Indicators	Loadings	Composite Reliability	AVE	rho_A
PMSC	PMSC_2	0.677	.882	.517	.767
	PMSC_5	0.757			
	PMSC_7	0.751			
	PMSC_8	0.708			
	PMSC_9	0.698			
PMSCPPO	PMSCPPO_1	0.766	.900	.543	.837
	PMSCPPO_2	0.712			
	PMSCPPO_4	0.770			
	PMSCPPO_7	0.729			
	PMSCPPO_8	0.715			
	PMSCPPO_9	0.730			
PPO	PPO_Budget	0.717	.827	.615	.699
	PPO_Del	0.778			
	PPO_Time	0.852			

Table 11: Reflective Outer Model Summary

Traditionally PLS-SEM uses composite reliability as an internal consistency reliability measure instead of using Cronbach's alpha values. Contemporary PLS-SEM now have evolved in using the "rho_A" coefficient to verify reliability of construct values in PLS. A "rho_A" value of .6 or higher indicate adequate composite reliability (Bagozzi & Yi, 1988, p. 80). The construct composite reliabilities (rho_A) for PMSC, PMSCPPO and PPO are as follows: .767, .837 and .699, respectively. Rho_A values considered 0.7 or greater reveal desired composite reliability while values exceeding 1 are noted as irregular and ought not to happen in the model (Wong, 2019, p. 33). Table 12 provides a tabulated list of reliability and validity values such as rho_A.

Convergent Validity

The model's ability to shed light on indicator variance is explained through convergent validity. The Average Variance Extracted (AVE) provides indication of convergent validity. AVE values reflecting levels of .5 or higher are taken as proof of acceptable convergent validity (Bagozzi & Yi, 1988, p. 80). The AVE values in this study for latent constructs PMSC, PMSCPPO and PPO are as follows: .517, 543 and .615, respectively. Based on the AVE values, all three latent have confirmed convergent validity. Table 11 contains a tabulated list of reliability and validity values such as AVE.

There are two approaches in determining discriminant validity, that of the traditional Fornell-Larcker Criterion method and the Heterotrait-monotrait ratio of correlations (HTMT) (Wong, 2019, p. 34). The approach here is to use the Fornell-Larcker traditional method. First, one affirms that outer loadings with the related construct should be larger than correlations with other constructs. In other words, discriminate validity is apparent when items are not correlated strong with other constructs only for those they are theoretically related with. Table 12 contains the cross-loading results examining discriminate validity, confirming that item loadings were discovered to be less than the factor loadings.

Item	Latent Variable		
	PMSC	PMSCPPO	PPO
PMSCPPO_1	0.428	**0.766**	0.399
PMSCPPO_2	0.379	**0.712**	0.326
PMSCPPO_4	0.454	**0.770**	0.382
PMSCPPO_7	0.420	**0.729**	0.404
PMSCPPO_8	0.365	**0.715**	0.246
PMSCPPO_9	0.332	**0.730**	0.362
PMSC_2	**0.677**	0.313	0.336
PMSC_5	**0.757**	0.459	0.411
PMSC_7	**0.751**	0.368	0.391
PMSC_8	**0.708**	0.444	0.414
PMSC_9	**0.698**	0.333	0.343
PPO_Budget	0.375	0.290	**0.717**
PPO_Del	0.440	0.398	**0.778**
PPO_Time	0.431	0.440	**0.852**

Table 12: Cross Loading Tables

Furthermore, it is suggested that the square root of AVE in each latent variable can be used to establish discriminant validity, if this value is larger than other correlation values among the latent variables. PLS-SEM can apply the Fornell-Larcker criterion, providing discriminant validity. The AVE value of latent variable PMSC, is .767 and having a square root of .876. This value is larger than results contained in the column of PMSC (.542 and .531). Comparable findings can be seen for PMSCPPO and PPO. Thus, findings show that discriminant validity is appropriately founded with all latent variables. Table 13 provides the results for the Fornell-Larcker Criterion analysis.

	PMSC	PMSCPPO	PPO
PMSC	**0.719**		
PMSCPPO	0.542	**0.737**	
PPO	0.531	0.485	**0.784**

Table 13: Discriminant Validity Values using the Fornell-Larcker Criterion Analysis

Verifying structural path significance with bootstrapping

SmartPLS conducted a bootstrapping process for both outer and inner models. The results here showed T-statistics significance testing for each of them. Normality of data is approximated by the bootstrapping process. The bootstrapping procedure uses a two-tailed test. The path coefficient (betas) is determined to be significant should the T-statistics be greater than 1.96, having used a significance level of 5% (Wong, 2019, p. 35).

As indicated in Table 14 for the inner model and Table 15 for the outer model, all the T-Statistics are larger than 1.96. This confidently confirms the results are significant as previously shown in Figure 3 (PLS-SEM Model).

Inner Paths	Betas	T-Statistics	p Values
PMSC -> PMSCPPO	0.547	14.425	< .001
PMSC -> PPO	0.531	12.663	< .001
PMSCPPO -> PPO	0.281	4.697	< .001

Table 14: T-Statistics of Inner Model

Outer Path	PMSC			PMSCPPO			PPO		
	T-Stat	Beta	p Value	T-Stat	Beta	p Value	T-Stat	Beta	p Value
PMSCPPO_1				27.491	0.766	<.001			
PMSCPPO_2				18.561	0.710	<.001			
PMSCPPO_4				30.134	0.768	<.001			
PMSCPPO_7				20.61	0.726	<.001			
PMSCPPO_8				19.875	0.713	<.001			
PMSCPPO_9				25.03	0.729	<.001			
PMSC_2	16.13	0.678	<.001						
PMSC_5	25.195	0.757	<.001						
PMSC_7	20.6	0.747	<.001						
PMSC_8	18.369	0.707	<.001						
PMSC_9	17.989	0.695	<.001						
PPO_Budget							14.823	0.714	<.001
PPO_Del							24.901	0.777	<.001
PPO_Time							46.278	0.851	<.001

Table 15: T-Statistics of Outer Model

Multicollinearity Assessment

Collinearity measures potential structural model issues through VIF (variance inflation factor). VIF values above 5 and tolerances greater than 0.2 predictably identifies a problem (Hair et al., 2013, p. 7). Given that SmartPLS does not provide VIF values, IBM's SPSS statistical tool was used in its place. As such, a linear regression collinearity diagnostic test was performed in SPSS. All VIF values were determined to be less than 5, indicating there is no appearance of collinearity among each of the predictor variables thus resulting in the observation that multicollinearity is not a concern.

Model's (f2) Effect Size

The model's effect size (f2) is evaluated based on how greatly an exogenous latent variable influences an endogenous latent variable's R^2 value. In other words, the effect size evaluates the strength of the association between latent variables. As part of the overall structural model assessment, it is encouraged for researchers to account, not just significance between variables, but also the effect size (Cohen, 1988, p. 11). Values of 0.02, 0.15, and 0.35 denote small, medium, and large effect sizes respectively (Cohen, 1988, p. 147). The effect size that exogenous latent variable of PMSC has on the PPO endogenous latent variable reveals a value of .154, denoting a medium effect size. While PMSCPPO has an effect size value of .083, denoting a small to medium effect.

Predictive Relevance: The Stone-Geisser's (Q2) Values

        The importance of determining the Stone-Geisser's predictive relevance (Q^2) is its

ability to predict indicator data items in the reflective measurement model of the

endogenous construct. SmartPLS can determine the Stone-Geisser's (Q^2) value (shown as

Construct Cross validated Redundancy) through its blindfolding procedure. Vinzi et al.

(2010) makes mention that a model displays predictive relevance when its Q^2 value is

greater than zero (p. 703). Given that the model's resulting value is greater than zero, the

model is deemed to have predictive relevance as illustrated in Table 16.

Latent Variables	R^2	Q^2
PMSCPPO	.291	.156
PPO	.333	.200

Table 16: Coefficient of Determination (R^2) and Predictive Relevance (Q^2) Results

Total Effect

        The next step in this assessment is to evaluate the consequence of removing from

a model a certain exogenous construct from an endogenous construct. If a model

contains a mediating latent variable, such as with the current PLS-SEM model, one can

ascertain the total effect through SmartPLS bootstrapping procedure.

Table 17 illustrates the statistical significance of the total effect.

Path Coefficient	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	p Values
PMSC -> PMSCPPO	0.547	0.038	14.425	< .0001
PMSC -> PPO	0.538	0.042	12.663	< .0001
PMSCPPO -> PPO	0.281	0.060	4.697	< .0001

Table 17: Total Effect Results

Path Coefficients

The final step in this structural model evaluation is analyzing the path coefficients and respective t-statistics using bootstrapping. This approach can help in understanding the association among constructs. The PLS-SEM model indicates significance between the path coefficients and their corresponding constructs. The inner model proposes that the latent variable PMSC has the most compelling effect on PPO (0.380), trailed by PMSCPPO (0.280). The hypothesized path association between PMSCPPO and PPO is statistically meaningful. The hypothesized path relationship between PMSC and PPO is statistically noteworthy. Thus, we can conclude that: PMSCPPO and PMSC are both satisfactorily robust predictors of PPO. Table 18 summarizes the results of path coefficients and their respective significance.

Path	Betas	T-Statistics	p-Values	Hypothesis
PMSC -> PMSCPPO	0.547	14.425	< .0001	Accepted
PMSC -> PPO	0.380	6.531	< .0001	Accepted
PMSCPPO -> PPO	0.280	4.697	< .0001	Accepted

Table 18: Results of Path Coefficient Significance Testing

VI.   DISCUSSIONS AND IMPLICATIONS

The results of the findings indicate the use of social capital by project managers influences project performance outcomes. The findings provide support of social capital theory and its importance on project performance. Social capital properties and influences embedded in the ethos of the organization have significant implications for project performance (Di Vincenzo & Mascia, 2012, p. 7). Furthermore, the results of the study, revealed that the perceived use of social capital by project managers, indeed influenced project team engagement. This perceived use of social capital provides the project manager with the ability to achieve organizational objectives with project team members (Koh & Rowlinson, 2011, p. 142).

There were 305 subjects selected for the main study of this research. Just slightly more than half (59.02%) of the participants were male, while just above one third (40.66%) were female. The age bracket most prominent was 24-35 years of age, composing just slightly half (48.85%) of the respondents. Work experience in years was most noticeable with those having 3-5 years (34.87%) and those with 6-10 years (26.97%). Just slightly half (40.97%) of all respondents had at least 6-10 years of project experience. More than half (67.76%) had attained a bachelor's degree. Those with 3-5 years of working at the same organization was 45.39%. And finally, 69.07% of participants had held only one type of project management position. The remaining 30.92% of the respondents indicated having held two or more types of project positions.

From the pilot study, the analysis revealed that constructs related with project

manager stakeholder engagement was not clear and evident in the resulting pilot data.

Further assessment revealed that project sponsors' use of stakeholder engagement as well

as their use of social capital had considerable issues with cross loading of items. Project

managers' use social capital emerged as the only clear model. The new model was

composed of 3 factors that loaded well along with 14 associated items. This set the stage

as the basis for confirmatory factor analysis for the main study data set. The construct of

project managers social capital consisted of the following hypotheses: project managers'

use of social capital positively relates to project team engagement, project team

engagement positively mediates the relationship between project managers' use of social

capital and project performance outcomes and finally, project team engagement

positively relates to project performance outcomes.

The results from the main study indicated 3 factors loaded as expected. Factor 1

indicated 5 items were associated with the perception of the project managers' use of

social capital. The first item indicated that subjects felt trusted when they felt they were

part of a team by the project manager. One item centered around perceptions that

subjects' work was accountable by the project manager. One item indicated the

perception of ease of access to project information. The second item indicated the subject

felt there was opportunity for them to share their own knowledge and experience. And

the third item indicated the opportunity for them to voice concerns during meetings.

Factor 2 confirmed the use of social capital by the project manager is mediated by project team engagement with project performance outcomes. It is when that perceived use of social capital is evident and positive that project performance success is achieved (Lee et al., 2013, p. 2). The results from our analysis indicated that perceived levels of engagement by subjects were higher when there was an observed use of social capital by the project manager on them, thus resulting in improved work performance. One item indicated that our subjects were energized to work because they felt personal values were shared with them. Another item suggested there was a greater level of respect when the project manager trusted their work. Subjects also indicated they knew clearly what to do in the project, when the project manager explained their role and responsibilities. A subsequent item indicated the ease of access to project information allowed the subjects to perform their tasks. Another item revealed that subjects were inspired when the project manager allowed them to share their experience and knowledge with others in the project. And finally, subjects indicated feeling like going to work every day when the project manager allowed for them to share their opinions and feedback in an open and constructive setting.

The outcome variable, project performance outcomes, was measured based on the predictors of project managers' use of social capital and the mediating variable of project team engagement. It is critical that project leadership, such as with the project manager, continue to involve the concerns and interests of the project team members to achieve successfully organizational outcomes, (Zhang, 2005, p. 551). Conventional project outcomes continue to be based on three underlying measures: time, cost, and quality (Chan & Chan, 2004, p. 205). However, exploration and incorporation of human based

approaches to project performance should be considered. The research revealed that subjects felt their work contributed to the project being completed on time. Adherence to their work supported the projects' budget being met. And finally, their contribution to the project helped, in part, support the achieving of the project deliverables.

Research Implications

Findings from this research provide an attractive approach to expanding studies into human centric factors and their relationship to project performance outcomes. The results of this study address a gap in literature explaining how factors such as social capital between project manager and project team members influence performance project outcomes. Research in human centric approaches to project performance could shed light on further exploration of social capital in terms of its use between project team members. Further study of the use of social capital by project actors could garner attention in research by exploring the various dimensions of social capital and their relevance and strength to one another. Glanville and Bienenstock (2009) state "the field would benefit from more attention to the connections among different forms of social capital..." (p. 1526).

Practical Implications

Exciting implications abound the use of social capital and its influence in project performance measures. The study showed that the use of social capital by the project manager was reported to be a positive influence in terms of performance by the project team member. This observed result has reaching implications in terms of improving performance in projects. This study provides an additional novel and new strategy for

improving project performance outcomes using social capital by key project actors.

Unlike the traditional adherence to project cost, budget, and scope, focus on the use of

human centric resources such as social capital and its positive influence furthers the cause

of exploring this research's outcome. Clausen et al. (2019) point out that Social capital in

the workplace is associated with relevant outcomes for work organizations. Workplace

interventions to enhance social capital are recommended" (p. 800).

VII.   LIMITATIONS

With all research studies, results are enamored with limitations and faults. One such limitation was the failure to further assess the demographic composition of the participants. Failure to identify important demographic differences may have resulted in missing out on unrepresented groups within the intended population of interest (Bornstein et al., 2013, p. 364). Consideration should be given in expanding to additional socio and ethnic demographic fields of information to ensure the proper representative of the population.

Subjects from Amazon Mechanical Turk (Mturk) participants as the primary source for data collection is another limitation. Issues can arise with common Mturk respondent behaviors such as falsifying or not truthfully providing information (Necka et al., 2016, p. 14). This makes it challenging to confirm validity and data accuracy of the responses. Future research should consider perhaps focusing on project management groups or organizations to filter and validate participants qualifications.

Additional limitation considered in this research could have manifested as a nonresponse bias using these same highly valued Mturk respondent subjects. Individuals who are familiar with answering the call to surveys through crowd sourcing platforms, such as Mturk, could undoubtedly modify their own behavioral responses to ensure favorable ratings in the platform thus potentially lessening the size of the desired population of interest (Chandler et al., 2015, p. 1132).

An observed limitation could have been with correlation matrices exposed to principal axis factoring and orthogonal rotation. Diverse approaches to model fit and rotations could produce distinct effects on factor loading (de Winter et al., 2009, p. 177). Additional research is warranted to determine the most appropriate model fit technique.

Most of the constructs in the pilot study were unable to be fully validated as the basis for developing the original hypothesized model for the main study. Several constructs were laden with excessive cross loading of items between factors. Factor loadings were not consistent also with original conceptual model. Perhaps the sample size was insufficient, or variables were highly correlated and weak (de Winter et al., 2009, p. 71). Future research should examine the appropriate sample size and minimizing variables that might be correlated in description and nature.

A consideration for future assessment is studying the results of previous studies upon which this work adapted its survey instrument from. A deep dive could be taken into the reliability and validity of similar constructs and items in those studies. With the approach of a more focused lens here, one could shed light on whether the same limitations and ailments afflicting this research were seen in those previous studies or were there other divergent factors to consider.

VIII.   CONCLUSIONS

Organizations will continue to pursue projects to stay competitive. They will internalize and legitimize projects, participants, and processes to meet organizational objectives. Organizations to be successful in project outcomes must look at the critical factors important in supporting an effective framework for future project success. An effective framework consists of building social capital between project leadership, especially that with the project manager, and project team members. Research and this study have demonstrated that implementing social capital as part of the ethos of the project manager, influences project team engagement hence improves project performance outcomes.

Results from this research offers significant propositions with respect to extant works and theory in project management. The assessment of how project team members perceive the use of stakeholder engagement and social capital by project managers and project sponsors contribute to improving project performance outcomes. Project managers and sponsors alike, can utilize the findings of this research to improve project performance outcomes while forging meaningful relationships with members of their team.

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APPENDICES

APPENDIX A – QUESTIONNAIRE

FIU | FLORIDA INTERNATIONAL UNIVERSITY

ADULT ONLINE CONSENT TO PARTICIPATE IN A RESEARCH STUDY

How does Stakeholder Engagement and Social Capital influence project performance outcomes?

SUMMARY INFORMATION

Things you should know about this study:

Purpose: The purpose of this study is to understand how Stakeholder Engagement and Social Capital influences project performance outcomes.

Procedures: If you choose to participate, you will be asked to answer questions about your work background and experience. We will be also asking your perceptions about the influence the Project Manager and Project Sponsor had in a project you were involved in the last 6 months.
Duration: This will take about 30 minutes.

Risks: There are no main risks or discomfort from this research study.

Benefits: The main benefit to you from this research is that your participation will elevate and add to the body of project management knowledge in terms of human centric assessment and measure have on project performance outcomes.

Alternatives: There are no known alternatives available to you other than not taking part in this study.

Participation: Taking part in this research project is voluntary.
Please carefully read the below attached document below before agreeing to participate.

PARTICIPANT AGREEMENT

I have read the information in the attached consent form and agree to participate in this study. I have had a chance to ask any questions I have about this study, and they have been answered for me. By clicking "Yes" on the "Consent to Participate" button below I am providing my informed consent.

The following set of questions will be asking you to recall a project that you have worked on in the last 6 months. The project should be relevant, memorable, and important to you.

Which product or service area was the project related with? Select all that apply.

o Aerospace
o Airline
o Agricultural
o Business Services
o Chemical
o Communications / Marketing
o Construction
o Consulting
o Education / Training
o Engineering
o Entertainment and the Arts
o Financial Services
o Government
o Hospitality / Retail
o Human, Health and Social Services
o Information Technology / Systems
o Legal
o Manufacturing
o Military
o Non-Profit
o Pharmaceuticals
o Publishing
o Real Estate
o Research
o Sales
o Software
o Sports / Recreation
o Technology
o Transportation
o Urban Development
o Utilities
o Other

What was the reason for the project? Select all that apply.
o Regulatory / Compliance
o Generate Income
o Operational / Maintenance
o Expansion / Growth
o Save Money / Cost Reduction
o Survival
o Repair / Upgrade
o Other
o Not sure

What was the project budget size?

- o Less than $1 million (USD)
- o Greater than $1 million (USD) but less than $10 million (USD)
- o Greater than $10 million (USD)
- o Not sure

How many people were involved in the project?

- o Less than 25
- o Greater than 25 but less than 50
- o Greater than 50 but less than 100
- o Greater than 100

How long did the project take to complete?

- o Less than 3 months
- o Greater than 3 months but less than 1 year
- o Greater than 1 year
- o Not sure

How complex was the project for the organization?

- o High
- o Medium
- o Low

Was the project successful?

- o Strongly Agree
- o Somewhat Agree
- o Neither Agree nor Disagree
- o Somewhat Disagree
- o Strongly Disagree

Now that you have answered questions about a project that was important to you, we would like to proceed in asking you about your perceptions of the influences by the **Project Manager** and **Project Sponsor** both in the project as well as on your work.

For each statement, please select the response that best reflects your perceptions of the **Project Manager's** influence in the project.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
There was accountability with the team's work.					
Only engaged with a select group of team members.					
Roles and tasks were clearly defined in the project.					
Balanced the needs of the team.					
Frequently engaged with team members.					
Facilitated a constant collaborative working environment.					
Offered the means for easy access to project information.					
Presented opportunities to share knowledge and experience.					
Allowed for new partnerships between team members.					
Fostered trust among the team.					
Allowed the voicing of opinions in an open and constructive environment during meetings and discussions.					

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Shared common personal values with the team.					
Inspired a sense of team spirit.					
Provided the opportunity to listen to issues and concerns during the project.					
Fostered an environment where one could innovate and discover new ways to solve problems.					
Allowed the team to share in the pain and celebration of the pursuit and achievement of project outcomes.					
Helped with improving the delivery of work.					

Given the following statements, please select the response that best reflects your perceptions of the **Project Manager's** influence **on your work** in the project.

	Always	Very Often	Sometimes	Rarely	Never
I felt inspired when I was able to exchange my experience and knowledge with others on the team.					
I was proud of my work due to the supportive engagement culture					
Every morning I felt like going to work on the project because I knew I could share my opinions and feedback in an open and constructive setting.					
I felt supported because I could bring up issues and problems unhindered.					
I was respected because there was trust in my work.					
The ease of access to information to complete my tasks allowed me to perform my work.					
I was more involved in the project when I was directly engaged with.					
I got carried away in working in the project when we were working collaboratively					
I knew exactly what I needed to do because my role and responsibilities in the project were clearly explained.					
I felt that I had a sense of equity when my needs were balanced with others on the team.					

	Always	Very Often	Sometimes	Rarely	Never
It did not matter to me that I was not personally engaged with in the project.					
The collegial and open working environment allowed me to work hard.					
I was always uplifted because I could share in the pain and celebration of working towards reaching the project outcomes					
I was energized to work on the project because I was part of a team whose personal values were shared with.					
My work mattered because of the established culture of accountability.					
I felt happy in the project when I could nurture new partnerships with members of the team.					

I knew who the **Project Manager** was in the project.

- o Yes
- o No
- o Uncertain

We would like to ask what your perceptions of your work are as it relates to the outcomes of the project.

My work contributed to the project being completed on time.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
o	o	o	o	o

Adherence to my work supported the project's budget being met.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
o	o	o	o	o

My contribution to the project helped in achieving the project deliverables.

Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
o	o	o	o	o

For each statement, please select the response that best reflects your perceptions of the **Project Sponsor's** influence in the project.

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Shared common personal values with the team.					
Allowed for new partnerships between team members.					
Frequently engaged with team members.					
Allowed the voicing of opinions in an open and constructive environment during meetings and discussions.					
Facilitated a constant collaborative working environment.					
Allowed the team to share in the pain and celebration of the pursuit and achievement of project outcomes.					
Fostered an environment where one could innovate and discover new ways to solve problems.					
There was accountability with the team's work.					
Helped with improving the delivery of work.					
Inspired a sense of team spirit.					
Roles and tasks were clearly defined in the project.					

	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
Only engaged with a select group of team members.					
Presented opportunities to share knowledge and experience.					
Offered the means for easy access to project information.					
Provided the opportunity to listen to issues and concerns during the project.					
Fostered trust among the team.					
Balanced the needs of the team.					

Given the following statements, please select the response that best reflects your perceptions of the **Project Sponsor's** influence **on your work** in the project.

	Always	Very Often	Sometimes	Rarely	Never
I was respected because there was trust in my work.					
I was more involved in the project when I was directly engaged with.					
I felt that I had a sense of equity when my needs were balanced with others on the team.					
I was energized to work on the project because I was part of a team whose personal values were shared.					
My work inspired me when I could innovate and provide ways to solve problems.					
I felt supported because I could bring up issues and problems unhindered.					
The ease of access to information to complete my tasks allowed me to perform my work.					
I knew exactly what I needed to do because my role and responsibilities in the project were clearly explained.					
I felt inspired when I was able to exchange my experience and knowledge with others on the team.					
I was always uplifted because I could share in the pain and celebration of working towards reaching the project outcomes.					

	Always	Very Often	Sometimes	Rarely	Never
It did not matter to me that I was not personally engaged with in the project.					
I felt happy in the project when I could nurture new partnerships with members of the team.					
The collegial and open working environment allowed me to work hard.					
I got carried away in working in the project when we were working collaboratively.					
I was proud of my work due to the supportive engagement culture.					
My work mattered because of the established culture of accountability.					
Every morning I felt like going to work on the project because I knew I could share my opinions and feedback in an open and constructive setting.					

I knew who the Project Sponsor was in the project.
o Yes
o No
o Uncertain

Which range identifies with your age?
o 18 - 23
o 24 - 35
o 36 - 45
o 46 - 55
o Above 55
o Prefer not to answer

What is your gender?
o Male
o Female
o Other
o Prefer not to answer

How many years of work experience do you have?
o Less than 2 yrs.
o 3 - 5 yrs.
o 6 - 10 yrs.
o 11 - 15 yrs.
o 16 - 20 yrs.
o 21 - 25 yrs.
o 26 - 30 yrs.
o Greater than 30 yrs.

What previous project roles have you held as part of your project work experience? Select all those that apply.
o Project Sponsor/Owner
o Project Manager
o Team Leader/Coordinator
o Team member
o Other

How many years of project related work experience do you have?
o Less than 2 yrs.
o 3 - 5 yrs.
o 6 - 10 yrs.
o 11 - 15 yrs.
o 16 - 20 yrs.
o 21 - 25 yrs.
o 26 - 30 yrs.
o Greater than 30 yrs.

What is your highest level of Education?
o High School Diploma
o Bachelor
o Master
o PhD
o None

Do you have any certifications or specialized training in project management?
o Yes
o No

Select which category best identifies the industry you currently work in. Select all that apply.

o Aerospace
o Airlines
o Agriculture
o Business Services
o Chemical
o Communications / Marketing
o Construction
o Consulting
o Education / Training
o Engineering
o Entertainment and the Arts
o Financial Services
o Government
o Hospitality / Retail
o Human, Health and Social Services
o Information Technology / Systems

o Legal
o Manufacturing
o Military
o Non-Profit
o Pharmaceuticals
o Publishing
o Real Estate
o Research
o Sales
o Software
o Sports / Recreation
o Technology
o Transportation
o Urban Development
o Utilities
o Other

How many years have you been working at your current job?
- o Less than 2 yrs.
- o 3 - 5 yrs.
- o 6 - 10 yrs.
- o 11 -15 yrs.
- o 16 - 20 yrs.
- o 21 - 25 yrs.
- o 26 - 30 yrs.
- o Greater than 30 yrs.

And finally, what role did you have in the project which you reflected on as part of this survey?
- o Project Sponsor/Owner
- o Project Manager
- o Team Leader/Coordinator
- o Team Member
- o Other

Here is your ID: 12345
Copy this value to paste into MTurk.
Thank you for participating in the survey.

VITA

JESUS J. ARIAS

Born, Coral Gables, Florida

1997	B.S., Electrical Engineering Florida International University Miami, Florida
2005	M.S., Finance Florida International University Miami, Florida
2005	CFA Student Scholarship Award Recipient Florida International University Miami, Florida
2019	Gabor Generations Ahead Scholarship Recipient Florida International University Miami, Florida
2018 – 2021	Doctoral Candidate Business Administration Florida International University Miami, Florida

PUBLICATIONS AND PRESENTATIONS

Patton, J. T., Vilayil, A., Arias, J., and Liu, W. *Choice of Entry Mode in the Quick Service Restaurant Industry in MENA/ASIA using Dunning's OLI Framework. (*July 1, 2020)*. Poster presented at the Academy of International Business – Latin America and Caribbean 2020 Online Virtual Conference

Arias, J**.**, (September 10, 2020) – *How does Stakeholder Engagement and Social Capital Influence Project Performance Outcomes?* Dissertation Proposal presented at the Engaged Management Scholarship (EMS) 2020 Virtual Conference - Doctoral Consortium