

Social Networks: Mediator of Project Communication and Perceived Project Success

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Abstract

This study examines the mediating effect of social networks in the relationship between project communication and perceived project success in Uganda's philanthropic projects. It was prompted by the increased failure of most philanthropic projects in Uganda to meet their explicit objects in terms of time, quality, and budget and enhanced corporate awareness which could be attributed to neglect of 'soft' factors. Despite numerous classical studies that are reported in different domains involving project communication, social networks and perceived project success, no existing empirical study has examined the mediating effect of social networks in this relationship. This study therefore aims at answering the following research question: Do social networks have a mediating effect in the relationship between project communication and perceived project success in Uganda's philanthropic projects? Using Structural Equation Modelling to test for mediation, a cross sectional and quantitative survey of all philanthropic projects conducted by commercial banks in Uganda, reveals that social networks is a significant mediator in the relationship between project communication and perceived project success. Also, findings confirmed a full type of mediation between project communication, social networks and perceived project success. This study has both practical and theoretical implications that are discussed.

Key words: Social Networks, Mediation, Project Communication, Perceived Project Success

1.0 Introduction

Many organisations have adopted project management as a means to achieve their operational and strategic goals. Similarly, most Commercial banks in Uganda have now invested heavily in philanthropic projects' as a means of improving their clientele base (Hopkins, 2007; McDonald & Rundle-Thiele, 2008). Consequently, many Commercial Banks are becoming more involved in welfare activities like improving education, poverty levels and public health (Barclays bank sustainability review report, 2007), because research has shown that superior firm performance is positively associated with the success of philanthropic projects (Hopkins, 2007; Scott, 2007). Philanthropic projects can be defined as those projects that aim at making a positive difference in one's society welfare (Drucker, 1993). Despite this increased growth of projects, most philanthropic projects in Uganda fail to meet their explicit objectives in terms of quality, time, budgets, and scope and subsequently cannot create awareness among others (Nangoli, 2010). This could possibly be attributed to lack of effective project communication (Ramsing, 2009; Ruuska, 1996) and lack of adequate social networks (Andrews, 2007; Downes, 2005; Granovater, 1973).

Despite many studies that have cited project communication and social networks as critical success factors of project success (Pinto & Slevin, 1988; Cockburn & Highsmith, 2001; Shenhar et al., 2002; Sauser et al., 2009; Howell et al., 2010), no existing empirical study has fully examined the mediating role of social networks in this relationship. Consequently, this creates lack of meaningful interpretation of findings; making it difficult for project managers and researchers to make correct conclusions and draw implications for project success.

Crawford and Pollack's (2004, p.645) study revealed that the success of any project is based on critical success factors that have been loosely categorised and ambiguously referred to as 'hard' and 'soft' factors. The 'hard' factors include all those that inherited their hard assumptions about the world, are rooted in positivist and realist philosophies; emphasize the search for objective knowledge while promoting an understanding of the world as an objective reality to which all people have equal and unvarying access (Cavana, Delahaye & Sekaran, 2001, p.8; Yeo, 1993;). Consequently, systems are viewed as mechanistic processes, with stable relationships between variables and are interpreted through the functional analysis that attempt to understand a system in terms of its purpose. In contrast, the soft factors are those which are based on interpretivism including critical theory and social construction. In summary the 'hard' and 'soft' aspects of project management are linked to ontological and epistemological philosophies respectively.

Therefore the identification and response to these differences between 'hard' and 'soft' aspects of projects influences the perceived success (Crawford & Pollack, 2004). It is not only essential to recognise the differences but also to develop approaches which will bring their respective success rates together. Earlier, findings by Wateridge (1999) revealed that projects have been perceived to have failed due to project managers not paying attention to soft criteria. This implies that the 'hard' and 'soft' dichotomy poses a requirement for different managerial skills and styles. Despite the available evidence, most research has been focused on hard factors rather than soft factors. Subsequently, very few studies in project success have focused on the role of interpersonal factors and yet anecdotal evidence reveals that these factors play a significant role. Simply, projects are about managing expectations that have to do with perceptions of success. Although 'soft' issues have also been anecdotally identified as key success factors in project success and some times having a high impact than hard factors, defining what is 'hard' and 'soft' issues remains ambiguous in project success. Similarly, the divergence of expectations and perceptions from different stakeholders makes the concept of project success more difficult to evaluate.

There is indeed, an urgency to ensure that philanthropic projects that commercial banks invest in meet their expectations. If this situation does not improve and philanthropic projects continue to fail, banks that invest in these projects will continue to lose a lot of money, more people will continue to suffer from poverty, miserable life and increased death rates. Therefore the purpose of this study is to examine the mediating effect of social networks in the relationship between project communication and perceived project success of Ugandan philanthropic projects. This study therefore aims at answering the following research question: *Do social networks have a mediating effect in the relationship between project communication and perceived project success in Uganda's philanthropic projects?* In so doing, we make a significant contribution towards understanding the relationship between these study variables and create a meaningful interpretation of findings; thereby making it easy for project managers and researchers to make correct conclusions and implications for project success. The rest of this research paper is organised as follows, the next section examines theoretical foundations and reviews literature to develop hypotheses for validating the research model; followed by research methodology and data analysis. Finally, concludes with discussion of findings and implications, limitations and directions for future research.

2.0 Theoretical Foundations, Literature Review and Hypotheses

This section examines theoretical underpinnings of the study concepts, reviews literature in order to develop hypotheses for validating the research model.

2.1 Argumentation theory, Cognitive dissonance theory, Elaboration Likelihood Model and uncertainty reduction theory: In order to examine and describe carefully the relevance of project communication in perceived project success, the researchers have greatly cited from argumentation theory, Cognitive dissonance theory, Elaboration Likelihood Model and uncertainty reduction theory. The proponents of argumentation theory such as Eemeren et al. (1996), argue that communication, generally involves verbal and social activity of reason aimed at increasing (or decreasing) the acceptability of a controversial standpoint for the listener or reader, by putting forward a constellation of propositions intended to justify (or refute) the standpoint before a rational judge. Similarly, the Cognitive dissonance which is a communication theory adopted from social psychology views cognitive as thinking or the mind and dissonance as inconsistency or conflict.

Cognitive dissonance is therefore the psychological conflict from holding two or more incompatible beliefs simultaneously (Dickerson, Thibodeau, & Miller, 1992). This theory views individuals as more purposeful decision makers who strive for balance in their beliefs. If presented with information that creates dissonance, they use dissonance-reduction strategies to regain equilibrium, especially if the dissonance affects their self-esteem. In addition, this theory suggests that 1) dissonance is psychologically uncomfortable enough to motivate people to achieve consonance, and 2) in a state of dissonance, people will avoid information and situations that might increase the dissonance (Dickerson et al., 1992).

Further, Petty and Cacioppo (1986) argue that the Elaboration Likelihood Model (ELM) is based on the idea that attitudes are important because attitudes guide decisions and other behaviours. Essentially, while attitudes can result from a number of things, persuasion is the primary source. The ELM model therefore features two routes of persuasive influence; central and peripheral. The ELM accounts for the differences in persuasive impact produced by arguments that contain ample information and cogent reasons as compared to messages that rely on simplistic associations of negative, and positive attributes to some object, action or situation. Similarly, the proponents of uncertainty reduction theory argue that people communicate to reduce uncertainty because it is unpleasant (Heath & Bryant, 2000). Uncertainty reduction follows a pattern of developmental stages (entry, personal, exits). During the entry stage information about another's demographic information is obtained and much of the interaction in this entry phase is controlled by communication rules and norms. When communicators begin to share attitudes, beliefs, values, and more personal data, the personal stage begins. The communicators feel less constrained by rules and norms and tend to communicate more freely with each other. Finally, the communicators decide on future interaction plans.

2.2 Social network theory: Social network theory explains the relationships between individuals, groups, organizations, or societies to analyze social structures determined by such interactions. According to Downes (2005, P.411) and Scott (2000), social network theory explains social relationships in terms of nodes and ties; nodes are the individual actors within the networks and ties are the relationships between the actors. There can be many kinds of ties between the nodes however in its most simple form; a social network is a map of all of the relevant ties between the nodes being studied (Fowler, Dawes & Christakis, 2009). The network can also be used to determine the social capital of individual actors (Ntayi, Rooks, Eyaa & Qian, 2010).

Social networks can be examined at micro level, meso level and macro levels. For example a dyad is a social relationship between two individuals at the micro level. When one individual is added to a dyad, a triad is formed. Analyses at this level may concentrate on factors such as balance and transitivity, as well as social equality and tendencies toward reciprocity. This simply implies that the smallest unit of analysis in a social network is an individual in their social setting. In addition, at a Meso-level, network theories study population size that falls between the micro-levels and macro-levels. Examples are formal organizations that are social groups that distribute tasks for collective goals. The focus here is on either intra-organizational or inter-organizational ties in terms of formal or informal relationships. While Macro-level analyses generally trace the outcomes of interactions, such as economic or other resource transfer interactions over a large population. Examples are complex networks which involves substantial non-trivial features of network topology, with patterns of complex connections between elements that are neither purely regular nor purely random.

2.3 Project Communication and Social Networks: According to Downes (2005, P.411) social networks are a collection of individuals linked together by a set of relations. Entities in a network are called 'nodes' and the connections between them are called 'ties' (Downes, 2005). According to Fowler et al. (2009), social networks can be fundamentally discussed in terms of degree and transitivity. Social network degree is the number of social ties the project has. Network degree is at times referred to as network size. On the other hand, network transitivity refers to the likelihood that two of a persons' contact are connected to each other. It transforms into the level of trust members give themselves. The establishment, development, defence and maintenance of network positions is done by developing multiple relationships in the focal net i.e. in the relevant network in which the firm is active by relating externally and adapting internally. Ntayi et al. (2010) alludes that the strength of the linkage (relationship) grows through a history of interactions in which members of a network develop friendship and trust. The above statement points to the fact that stronger relations in a network could be fostered through effective project communication over time. Herkt (2007) affirms that the project manager's major responsibility is to build supportive social networks (collaborative relationships) among a diverse group of stakeholders.

Maintaining effective communication with the project team over time raises the quantity of social ties and the clustering co-efficient both directly and indirectly. This is consistent with Zhong and Low's (2009) findings that changes driven by the project management are usually unlikely to produce desired effects without coordination and support from a variety of personnel. Project managers however, are most times preoccupied with addressing the technical issues and fail on soft issues like proper functioning of informal communication. The value of oral communication must be taken into consideration as it affects the interaction patterns among project members. In the current era of the internet, e-mail and instant messaging, the quality of the actual communication can determine the longevity of the group and help predict the likelihood of the group's survival. Face-to-face communication is needed, especially in the early stages, to establish understanding and trust among members. In order to understand further the relationship between project communication and social networks we therefore hypothesize that:

H1: Internal project communication significantly predicts network degree

H2: External project communication significantly predicts network transitivity

2.4 Social Networks and Perceived Project success: According to Hogg and Adamic (2004) Social networks act as a vehicle for quickly and easily getting the project message to intended audience thereby enhancing project awareness the organization's public image at large. Similarly, Burt (2001) argues that Social networks provide access to timely information and referrals to others in the network. He adds that timely access to information among others creates a deeper understanding of community needs at initiation stage of any project development. This supports the view that ample information at initiation mitigates the possibility of losing out on quality in the later stages as a result of inadequate project planning. Particularly, collaborations create perceived fairness in exchanges there by reducing transaction cost (Hoang & Antoncic 2003) in form of less detailed contracts and less restrictive clauses with stakeholders like the government. Transactions involve cost of discovering who it is that one wishes to deal with, informing people that one wishes to deal and on what terms, conducting of negotiations among others which is cheaply and quickly achieved through social networks. Therefore the following hypotheses are proposed for examination:

H3: Network degree significantly predicts perceived project success

H4: Network transitivity significantly predicts perceived project success

2.5 In order to investigate the mediating effect of social networks that may be exists between project communication and perceived project success, the following hypotheses are proposed. However, whether this mediation effect is full or partial warrants more examination. We therefore hypothesize that;

H5: Network degree significantly mediates the relationship between internal project communication and perceived project success.

H6: Network transitivity significantly mediates the relationship between external project communication and perceived project success.

Figure 1 shows the research model with the hypothesised relationships between project communication social network and perceived project success.

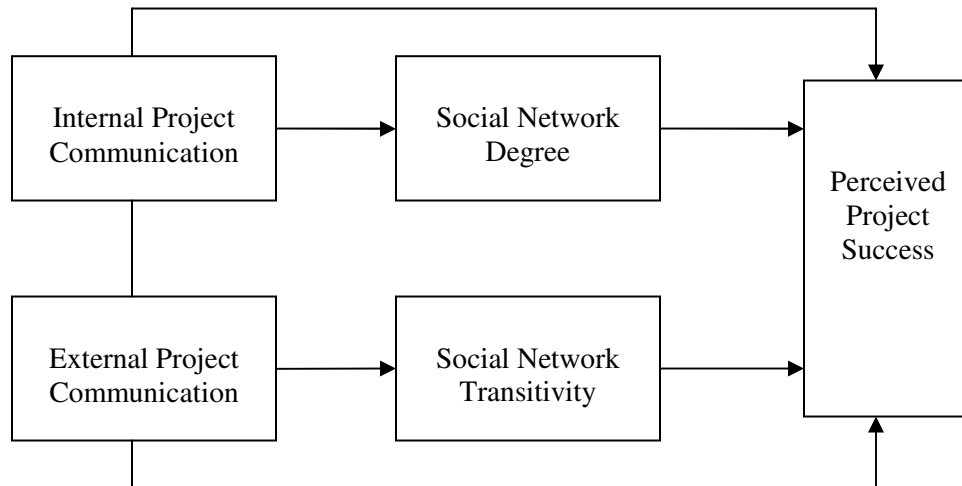


Figure 1: Research model

3.0 Methodology and Research Approach

3.1 operationalization of study constructs: For practical purposes, Project communication was categorised as internal project communication and external project communication and measured using Goldhaber and Rogers' (1979) Communication Audit Survey (CAS) questionnaire. Respondents assessed project communication survey items on a five (5)-point Likert scale ranging from 1=Strongly Disagree, 2=Disagree, 3=Not Sure, 4=Agree and 5=Strongly Agree. Social networks were measured using a combination of the network Degree and network transitivity (Fowler et al., 2009; Rosenthal, 2007, P.293). Respondents assessed their perceived network position on a five (5)-point Likert scale ranging from 1=Strongly Disagree, 2=Disagree, 3=Not Sure, 4=Agree and 5=Strongly Agree. Perceived Project success was measured using an amalgamation of the research measures used by Pinto and Slevin (1988) and Shenhar et al. (1997) and the competence areas defined in the Project Management Body of Knowledge (PMBOK, 2008). The responses were also anchored on a 5 linkert scale ranging from 1=Strongly Disagree, 2=Disagree, 3=Not Sure, 4=Agree to 5=Strongly Agree.

3.2 Sampling procedure, pilot testing, refinement and survey responses: A census of all 121 philanthropic projects conducted by all 24 commercial banks in Uganda with at least a market share above 1% were examined (Bank of Uganda, 2009). This is because investments in philanthropic projects in Uganda are commonly undertaken by commercial banks with a market share of not less than 1%. The unit of inquiry comprised the project workers who were knowledgeable or had ever taken part in the philanthropic projects. Firstly, the self-administered questionnaire was first pre-tested on professors from Makerere University Kampala, a major research university in Uganda. They had all had worked on philanthropic projects in Africa for a remarkable time of more than four years with a wide experience on this topic. The measurement scales were also pilot-tested using 45 philanthropic projects and yielded 100% response rate. Based on these responses and comments, item scales that were unclear and ambiguous were either improved or deleted. Following the guidelines set forth by Dillman (1991) questions were brief and to the point, addressing only a single issue at a time and avoided phrases that could elicit socially acceptable response. Each construct was measured by at least three questions that were relevant in terms of prior research or established theory. A well-designed cover letter was included that explained the purpose and intended use of survey data and promised anonymity of respondent and company in the reporting.

Out of 392 questionnaires that were initially sent out, 322 usable questionnaires were received back representing 82% response rate which were analysed and the descriptive statistics demonstrated that 54% of respondents had been involved in the execution of philanthropic projects for a period of 3-6 years. 6.4% and 1.7% had spent 7-10 and more than 10 years respectively in the execution of philanthropic projects. The findings further indicated that most of these projects have existed for about 3-6 years (48.8%), less than 3 years (43.6%) and more than 10 years (2.9%). The majority of respondents were females (51.7%) and (48.3%) were males which could imply that more females take up philanthropic activities than their male counterparts.

Majority of these respondents were either married (52%) or single (46%) with majority in the age bracket of (20-30) years representing 73.3%. 72.7% of the respondents had attained at least a bachelor's degree, 4% and 15% had masters and professional qualifications respectively. The project types included health (31.7%), education (19%), environment (11.1%), economic (25.4%) and rehabilitation (12.7%). As regards the positions held in the execution of philanthropic projects by individual respondents, majority (78.5%) of them revealed that they held the capacity of team members while 10.5% were project managers and 4.1% were project beneficiaries.

4.0 Structural Equation Modelling Analyses and Findings

The data was analysed using Structural Equation Modelling (SEM) (AMOS 19.0) for tracing structural relations between the study constructs (Joreskog & Sorbom, 1989). SEM was preferred due its capability for confirmatory analyses with explicit test statistics that establish convergent and discriminant validity which is important for management research, tests an overall model rather than individual coefficients, allows for error terms and reduces measurement error through the use of multiple indicators (Kearns & Sabherwal, 2007). Consistent with Anderson and Gerbing (1988), the analysis of the measurement and structural models was carried out in a two-step process. This allowed improvement of measures before testing of the structural model and is consistent with previous studies (Byrne, 2001; Kearns & Sabherwal, 2007). Firstly, the measurement model was used to measure the fit between the theorized model and observed variables and to establish reliability and validity. Secondly, the results of the measurement model were used to create a structural model in order to measure the strength of the theorized relationships. Since, this study employed a confirmatory rather than exploratory approach, in order to allow for cross-validation of findings, the total sample (N=322) was split into two samples (calibration sample (N=161) on which the initially hypothesised model was tested and validation sample (N=161) for testing the validity of its structure) (Byrne, 2001, p.249).

4.1 The measurement model, reliability and validity: By means of the raw data file from SPSS 19.0 as input, Confirmatory Factor Analyses (CFA) were carried out in examining construct validity and assessing how well individual items represent the construct. Construct validity and discriminant validity were tested to demonstrate the dimensionality of the constructs in the measurement model and nomological validity was tested for the robustness of the structural model. Consistent with Jung et al. (2008), in this study, construct validity was evaluated in two ways: (1) High factor loadings with significant t-values are mostly good indicators of the construct validity and (2) A high squared correlation value for a construct also indicates good construct validity (Anderson and Gerbing, 1988; Joreskog and Sorbom, 1989). All five constructs demonstrated good model fit when subjected to Hu and Bentler's (1999) criteria and Rigdon's (1996) criteria. The factor loading of each item in all five constructs was reasonably acceptable (above 0.40). In addition, all the factor loadings were significant, indicated by their corresponding T-values above 2. Following guideline set forth by Fornell and Larcker (1981), squared correlations values were then calculated for each construct. The variance extracted for each of the eight constructs exceeded the suggested threshold of 0.50, indicating that the variance captured by a construct was larger than the variance due to measurement errors (Jung et al, 2008). Hence, the construct validity of the five constructs was established. In addition, the reliability analyses were conducted by calculating the Cronbach's alpha coefficient for each construct. The results showed that the Cronbach's alpha measures for all five constructs well exceeded the recommended critical point of 0.70 (Hair et al., 1998), indicating good internal-consistency reliability.

Table I summarises the final results of the measurement model showing each construct validity and reliability for all five study constructs.

Table 1: Results from the final measurement model showing construct validity and reliability

<i>Final survey Items</i>	<i>Std loadings</i>	<i>T value</i>	<i>R Square</i>	<i>Cronbach coefficient</i>
<i>Internal project communication</i>				
Am satisfied with the amount of information I receive from my supervisor(s) (ipc01)	.72	10.06	.51	
The language we use in our correspondences is familiar to all team members (ipc02)	.71	9.88	.50	.86
I like the channels that we use to share information amongst team members (ipc06)	.80	11.83	.64	
Informal communication amongst team members is usually active(ipc08)	.78	11.39	.61	
New Information usually circulates amongst project team members in time(ipc10)	.74	10.52	.55	
<i>External project communication</i>				
Our external stakeholders are reliably informed of the progress of our philanthropic projects(epc07)	.72	10.09	.52	
Our external stakeholders like the way we communicate with them(epc08)	.82	11.92	.67	.80
We have always maintained timely communications with external stakeholders (epc09)	.82	11.91	.40	
<i>Network degree</i>				
This bank's top management strongly supports philanthropic activities (nd04)	.70	9.43	.49	
We trust that many societies are in support of our philanthropic projects (nd03)	.81	11.66	.66	.80
Through philanthropic activities, we have improved the lives of many citizens (nd02)	.68	9.070	.46	
Many members of the general public know much about our philanthropic projects (nd01)	.74	10.34	.55	
<i>Network transitivity</i>				
I think that the beneficiaries of our philanthropic projects become our advocates(tr01)	.62	7.726	.38	
Community leaders have always welcomed our philanthropic projects (tr04)	.69	8.82	.47	
In my view, our philanthropic activities are liked by people of diverse interests (tr06)	.67	8.32	.44	.74
<i>Perceived project success</i>				
In my view many of our customers are aware of our philanthropic activities (ena01)	.80	11.01	.64	
I think that many people have known about this bank through its philanthropic activities (ena02)	.68	8.58	.46	
Our philanthropic projects have greatly improved the livelihood of many individuals (pq04)	.59	7.10	.34	
I am satisfied with the outcomes of the philanthropic activities this bank has undertaken (pq05)	.81	11.06	.65	.90
We do not doubt the quality of our services to the community (pq06)	.75	9.80	.56	
To a great extent, the philanthropic activities we undertake meet our expectations (pq07)	.70	8.83	.49	
Our philanthropic Project team is always committed to beating set deadlines (tm02)	.74	9.70	.55	
We usually provide necessary information to project stakeholders in time (tm03)	.77	10.16	.59	
Our project activities from initiation to closure are always timely (tm04)	.74	9.44	.54	

4.1.1 Statistical analyses for discriminant validity: The discriminant validity test was performed in order to establish the distinction among all the constructs used in this study (Anderson & Gerbing, 1988). Chi-square (χ^2) difference tests were run for all possible construct pairs. For each pair, a comparison was made between the χ^2 values for the constrained model and the unconstrained model. The constrained model represents a case in which the variances and covariance for the construct pairs were constrained to unity. The χ^2 differences were significantly less for the unconstrained models compared to the constrained models, suggesting that the better model was the one in which the factors are separate but correlated (Anderson & Gerbing, 1988). Discriminant validity was also established for any construct pair, when the variance extracted of each construct exceeded the square of the construct correlations shown in the table 1. No correlation exceeded the prescribed limit of 0.90 which was a good indicator that there was no item redundancy and multicollinearity was also absent in this study. Also a confidence interval of (+/-) 3 standard errors was calculated for each of the construct correlations to determine if the interval contained the value 1. None of the confidence Intervals contained the value 1 indicating that the correlations between these constructs differ significantly from unity and that the probability of perfect correlation was extremely low.

4.1.2 Controlling for Self-reporting, consistency motif, acquiescence, social desirability, affectivity and transient mood state: Because self-reporting, consistency motif, acquiescence, social desirability, affectivity and transient mood state lead to common method variance; it is of concern in survey research when sampling perceptual data (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). Common methods bias leads to type 1 & 2 errors where the researchers may accept or reject the null hypothesis when they should not have done so. Common method bias was addressed in three ways; firstly using the strategies to ameliorate the problems of self-report data by designing a questionnaire to avoid implying that one response is better than the other, avoided socially accepted responses, decomposed questions relating to more than one possibility and avoided complicated syntax (Kearns & Sabherwal, 2007). Common method variance was further assessed using Harman's one factor test (Podsakoff et al, 2003). The underlying logic for this test is that if common method bias accounts for the relations among variables, then a factor analysis should yield a single factor when all the items are analysed together. No single factor emerged or one general factor accounted for most of the variance implying that no substantial common method variance was present. Finally, a confirmatory factor analysis approach was used to test a model positing that a single factor underlies the study variables, by linking all the items to a single factor for common method variance (Kearns & Sabherwal, 2007). The model exhibited a poorer fit as compared to the initial and final measurement models suggesting that common method variance was not a problem.

4.1.3 Diagnostic statistical tests for Non-response bias: Non response bias was established in T-tests by comparing the average values for each of the constructs for the first quartile completed questionnaires received versus the last quartile completed questionnaires allowing the late questionnaires to proxy the perceptions of non-respondents. Mean differences for each of the constructs did not reveal any significant difference between the early and late questionnaires (2-tailed *t*-tests, $p < 0.05$). This comparative test depicted the absence of non-response bias in this study.

4.2. The final structural model: As earlier, stated, the results from the final measurement model were used to create the structural model that tested the strength and significance of the theorized relationships. The final revised model with path coefficients is shown in Figure 2. The final structural model accounts for 87.3% of the variation in perceived project success. Thus, the model is very successful in accounting for a substantial portion of the variability in perceived project success.

4.2.1 Goodness-of-fit indices: Goodness-of-fit was used to describe how well the statistical model fits the sample data and to determine whether the data supports a hypothesized model in SEM. It was established by multiple indices to negate bias associated with the use of a single index. The examples of measures that were used include Average Absolute Standardised Residual (AASR), Chi-Square per degree of freedom (χ^2/df), Tucker Lewis Index (TLI), Comparative Fit Index (CFI) and Root Mean Square Error of Approximation (RMSEA) (Joreskog & Sorbom, 1989). Although χ^2 is recognized as a measure of fit, it is frequently affected by the size of correlations within the model and can produce inaccurate probability values hence it was replaced with the χ^2/df with values of less than 3.0 being acceptable (Kearns & Sabherwal, 2007). The TLI compares the lack of fit of a target model to the lack of fit of a baseline model, usually the independence model and is one of the indexes affected least by sample size.

The CFI also has the advantage of reflecting fit at all sample sizes and measures the comparative reduction in noncentrality. Values above 0.90 are desirable for both the TLI and CFI. The RMSEA computes average lack of fit per degree of freedom and is less affected by sample size and values below 0.08 are recognized as adequate. Mardia’s coefficient is a measure of model kurtosis and high values >3 indicate that some study variables are non-normally distributed (Kearns & Sabherwal, 2007).

The results suggest that the model adequately fits the data ($\chi^2=617$, $df=248$, $\chi^2/df= 2.49$, $p<0.01$), the other fit indices also suggested a good fit to the model (CFI=.85, TLI=.83, RMSEA=.07). Based on these values, the final structural model was deemed acceptable since the hypothesised model adequately fits the sample data (Byrne 2001; Joreskog & Sorbom, 1989).

Figure 2 shows the final structural model and standardised path coefficients.

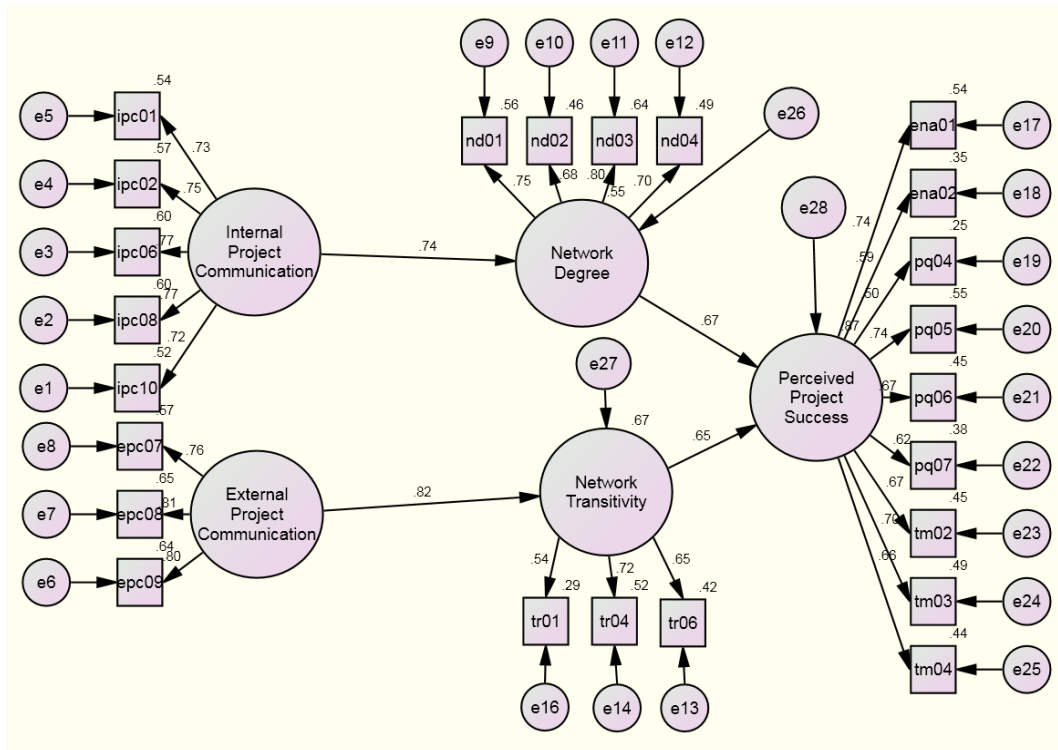


Figure 2: Final structural model with standardised path coefficients

Note:*, **, *** represent *p* levels of .05, .01 and .001 respectively

4.2.2 Direct effects: Based on 322 observations provided by philanthropic project workers, survey data supported all the six (6) hypotheses. The results reveal that internal project communication has positive and significant effects on network degree ($\beta=0.74$, $p<0.001$) and hence supporting *H1: Internal project communication significantly predicts network degree*. There was a strong and significant association between external project communication and network transitivity ($\beta=0.82$, $p<0.001$) hence supporting *H2: External project communication significantly predicts network transitivity*. There was a strong and significant positive association between network degree ($\beta=0.67$, $p<0.001$), network transitivity ($\beta=0.65$, $p<0.001$) and perceived project success hence supporting both *H3: Network degree significantly predicts perceived project success* and *H4: Network transitivity significantly predicts perceived project success*.

4.2.3 Indirect effects: To further examine whether social networks elements have mediating effects in the relationship between project communication and perceived project success, a competing model was developed. Competing models are often examined when dealing with nested models in SEM. The initial model was therefore modified by adding two direct paths from internal project communication and external project communication to perceived project success.

The competing model was also tested by AMOS 19.0 and the results are shown in Figure 3. The results of the structural model further suggest that project communication variables influence perceived project success through social network elements. In other words, all two social network elements act as mediating variables connecting internal and external project communication and perceived project success.

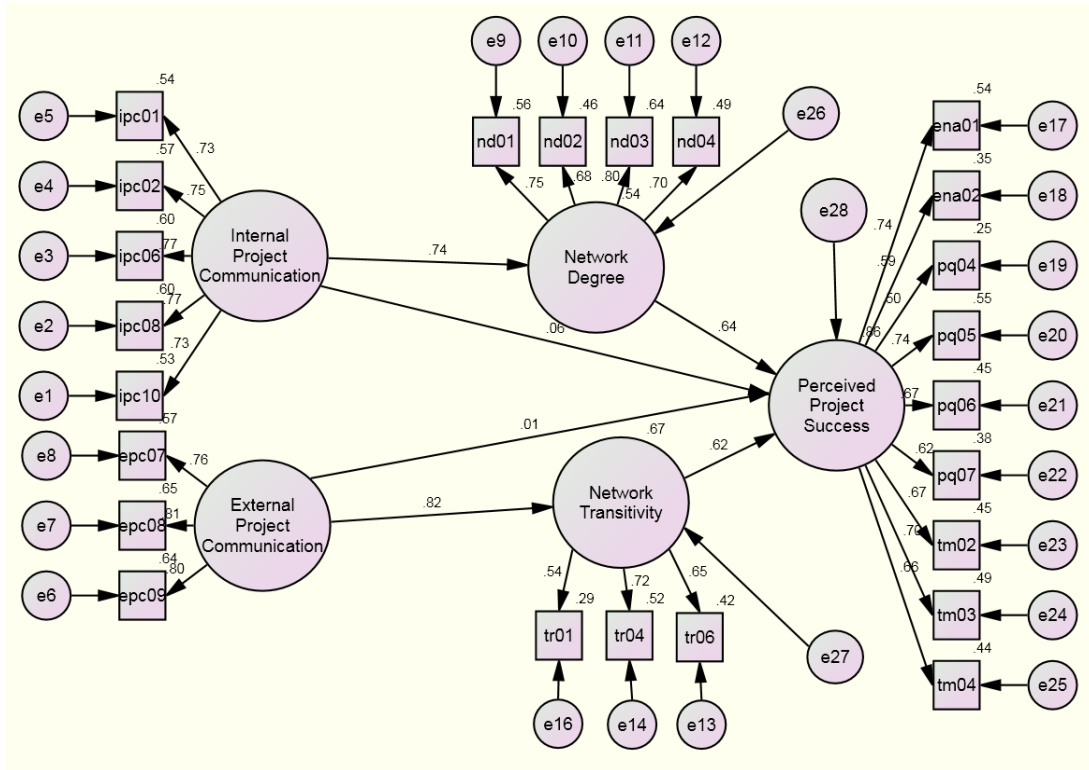


Figure 3: Competing model

Note: *, **, *** represent p levels of .05, .01 and .001 respectively. All model path coefficients are standardised.

Using the competing model, the overall model fit indices were: $\chi^2=617$, $df=248$, $\chi^2/df= 2.49$, $p<0.01$), CFI=.85, TLI=.83 and RMSEA=.07. All model fit measures show similar values to those of the initial model. As noted, both internal project communication ($\beta=0.06$, $p>.05$) and external project communication ($\beta=0.01$, $p>.05$) respectively have non-significant direct effects on perceived project success, as depicted in Figure 3. Thus, the direct paths coefficients from the two communication variables to perceived project performance are non-significant. Subsequently, it can be concluded that the social network elements fully mediate the relationship between project communication and perceived project success. Other relationships being identical to the initial model, the non-significant relationships between the two project communication variables and perceived project success suggest a higher nomological validity of the initial model, indicating the superiority of the initial model over the competing model. Thereby supporting H5: *Network degree significantly mediates the relationship between internal project communication and perceived project success*; and H6: *Network transitivity significantly mediates the relationship between external project communication and perceived project success*.

5.0 Discussion of Findings

The purpose of this study was to examine the mediating effect of social networks in the relationship between project communication and perceived project performance. We initially hypothesised that internal project communication and external project communication which are considered as two most prominent elements of communication, affect perceived project success through the mediation social network elements. As hypothesised, our results reveal that the direct causal relationship between project communication and perceived project performance were non-significant. Thus the final model without such causal relations is supported as shown in Figure 2.

The results further revealed that internal project and external project Communication are both positively associate with Social networks and indicated that network degree and network transitivity are both positively related to perceived project performance. This indicates that where project managers listen to other stakeholders and incorporate their views in the decisions they implement, over time, many stakeholders are likely to be propelled to act as the bank's advocates and may be depended on by the bank as marketing agents (Nangoli, 2010). These findings are in agreement with those of Granovater (1973) and Herkt (2007) who showed that reinforced relationships overtime become dependable. Furthermore, the findings support the fact that Project communication determines the extent to which a particular project wins the collective support and efforts of team members which is in line with Cooke-Davies (2002) and Jugdvev & Muller (2005).

In addition, the results also imply that efforts to promote effective communications through availing timely information to stakeholders leads to strengthening of the relationships that exist amongst stakeholders. The results are in agreement with Rasbery and Lamoine (1986) who argued that the consideration of the recipient's preferences in terms of time and means of communication bring about building of trust amongst the two parties. These findings also implied that when the societies within which a commercial bank operates are in support of its citizenship projects, the bank incurs lower cost on implementation of such projects. This could be in terms of the locals availing some free labour during implementation. It could be in form of having locals actively pass on the information to other locals at no cost. These findings are in agreement with those of Hogg and Adamic (2004) who signified that Social networks act as a vehicle for quickly and easily getting the project message to intended audience thereby enhancing awareness and the banks' public image at large. The findings also revealed that Social networks provide the shared maintenance necessary to calm down high stress levels and enable achievement of not only timely but quality outputs. These findings also reflect studies by Pinto (2000) who argued that there is a need to develop a network of other experts who can be called upon for assistance.

These findings further indicate that project communication does not directly influence perceived project success. This means that project communication must work through social networks in order to achieve significant influence on project performance. This study therefore makes a significant contribution by empirically concluding that social networks fully mediate the relationship between project communication and perceived project performance. This means that projects need social networks to achieve their goals successfully in addition to project communication.

6.0 Practical and Theoretical Implications

There is a need for all philanthropic project managers, investing banks and champions to ensure that other project stakeholders have been provided with and are satisfied with the availed project information, this will enable the both financial and non-financial resources that are invested into philanthropic projects to be successful. Similarly, where project supervisors are not as attentive to their subordinates' views and no appropriate avenues have been designated to capture feedback from implementers' and beneficiaries of the project, there will be a high chance of failure of philanthropic projects. The project managers in charge of philanthropic projects in commercial banks ought to ensure commitment of project staff to achievement of objects by creating an atmosphere of feeling like they (project staff) are part of the family of the project implementation team by involving them in communication. There is a need to fulfil the promises that top management sets forth. In this way, the various stakeholders involved in implementation are likely to perceive the project as a success. This study has extended the research borderlines in understanding the mediating effect of role of social networks in the relationship between project communication and perceived project success. This is an important contribution towards understanding the relationship between these study variables to create a meaningful interpretation of findings; thereby making it easy for project managers and researchers to make correct conclusions and implications for project success.

7.0 Limitations, Directions for Future Research and Conclusion

Despite this research providing some exciting findings and making an important contribution in understanding the mediating role of social networks between project communication and perceived project success, it has the following limitations. Firstly, although, a number of diagnostic statistical tests for common methods bias were carried out, the use of a questionnaire where all the data was collected in the same measurement context using a common rater and with common item context makes common methods bias remain a potential threat.

The future studies should try to obtain measurements of the independent and dependent variables from different sources and at different times. Secondly, the study used a cross sectional research design implying that variables over a long time could not be completely analysed and this restricts the applicability of the findings as a longitudinal study may give different results from the ones that were obtained. Future research should use longitudinal data and a bigger sample involving other stakeholders like the regulators, customers, local population, among others. This is because the accommodation of various stakeholders could give a different view. Also, the data collection instrument used was a standard questionnaire which usually limits the ability to collect views about information outside asked question. The use of case studies and additional surveys in future research might help to give more explanation. Further, although the three constructs are robust and adequately characterize the 'soft' factors, the multidimensional nature of behavioural practises in perceived project success can be investigated further.

The findings confirm that social network elements fully mediate the relationship between project communication and perceived project success. This implies that managers of philanthropic projects need to develop strategies to create social networks with their stakeholders in order to increase perceived project success. Both internal and external communication strategies are significantly influence social networks hence the need to pay attention to project communication to achieve social networks.

7. 0 References

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