# Project Fuzziness to Project Value: The Role of Social Capital


## Abstract

*Purpose:* Project management scholars and practitioners have long debated how best to harness social interactions to optimise knowledge exchange and enhance stakeholder alignment and value. This research assists project managers to understand and manage fuzziness and create enduring front-end value. It views the project life cycle as a potential source of co-created value. The paper uses a social capital lens to provide a deeper understanding of the project front-end; it employs a three-dimensional view (structural, relational, cognitive) to explore how stakeholder social capital can overcome front-end fuzziness to enhance decision-making and, thus, value creation.

*Design/methodology/approach:* Semi-structured interviews were conducted with senior managers from teleconnections companies, which, when combined with secondary data, established the impact, nature and dimensions of social capital within a project management setting.

*Findings:* The research found that social capital can help to reduce complexity, uncertainty and equivocality in the early stages of projects, making them more clearly defined and thus helping to create greater stakeholder value in the later stages of the project. A surprising finding was that some project team members engaged in intentional equivocality to try to promote their own benefits rather than those of the organisation.

*Originality/value:* This paper reconceptualises the impact of social capital on stakeholder value creation in the front-end of projects. The paper contributes to a more holistic view of the front-end of project management, focusing social capital to reduce the sources of front-end fuzziness.



## Keywords

Front-end fuzziness, social capital, stakeholder value, project management, social networks, value creation

## 1. Introduction

Projects can be thought of as collaborations in which stakeholder value is created. The front-end of a project is critical to this value creation as it is the strategic phase in which stakeholders' requirements, goals and value expectations are defined (Morris, 2013). The front-end commences when managers recognise the potential feasibility of a project and authorise the expenditure of resources with a view to accepting or rejecting a proposal (Edkins et al., 2013). It is also where a project's organisational network emerges, and where the value creating alignment of stakeholders' goals commences. The project front-end is, however, "fuzzy", in that it is ill-defined and lacks clarity.

This paper aims to provide a deeper understanding of front-end value creation, during the initiation stage of a project. Little is understood about how fuzzy front end social processes shape and add to the value. To deepen understanding, we adopt a three-dimensional view of social capital to explore its impact on front-end decision-making and value creation. The paper also explores how social interactions and relationships in the front end can reduce fuzziness and assist understanding of how social networks influence decisions and value. In so doing, the paper contributes to project management and social capital literature by advancing knowledge, understanding and management of the social issues and challenges surrounding the fuzzy front-end. It is acknowledged that the issue of 'fuzziness' may arise throughout the project, but given the criticality of the front end this is where the research focuses.

Morris (2013) viewed projects as a means of creating stakeholder value, emphasising the role of projects in creating value rather than being static outcomes of instrumental processes (Laursen and Svejvig, 2016). By working to reduce early project complexity, uncertainty and equivocality and

focussing on project stakeholders, we can develop a greater understanding of the social interactions and relationships that create value in the front-end of projects. Reducing complexity, uncertainty and equivocality in projects requires better relationship- and trust-building to enhance front-end decision-making and value creation. This can be done by enhancing the timeliness, quality and distribution of information (e.g. Stevens, 2014; Matinheikki et al., 2016; Gunasekera and Chong, 2018). Without efficient and effective information exchange, projects are more likely to fail (Lierni and Ribière, 2008; Aaltonen et al., 2015). Knowing that it is important to ensure the facilitation of high-quality information and knowledge exchange (Stevens, 2014) by ensuring that the opportunities afforded by social capital are exploited during the fuzzy early days of projects (Matinheikki et al., 2016). This paper therefore addresses the question: *What is the impact of stakeholders' social capital on fuzziness and, in turn, on decisions and value creation in the front-end of projects?*

The literature review on project management and social capital culminates in five propositions associated with actor power (centrality and connectivity), strong ties and trust, which are explored within the context of the telecommunications industry. The findings, discussion and conclusions are then presented.

## 2. Literature Review

The literature review brings together an understanding of the project front-end, fuzziness, social capital and value creation to develop five propositions.

### *2.1. What is the Front-end*

The front-end is part of an extended project lifecycle (Edkins et al., 2013; Morris, 2013), with a strategic role as the initiation phase (Figure 1). The front-end is therefore social (managing

stakeholders), rather than instrumental (managing processes). This view of the front-end broadens the traditional understanding of the initiation phase by considering political, environmental and economic actors. It, thus, treats the front-end as a social collaboration to align stakeholders' goals in a holistic manner. The aim of front-end project management is to submit a value-optimised proposal to the decision-makers for approval. Matinheikki et al. (2016) suggests that the front-end is a network of relationships rather than a set of defined tasks.

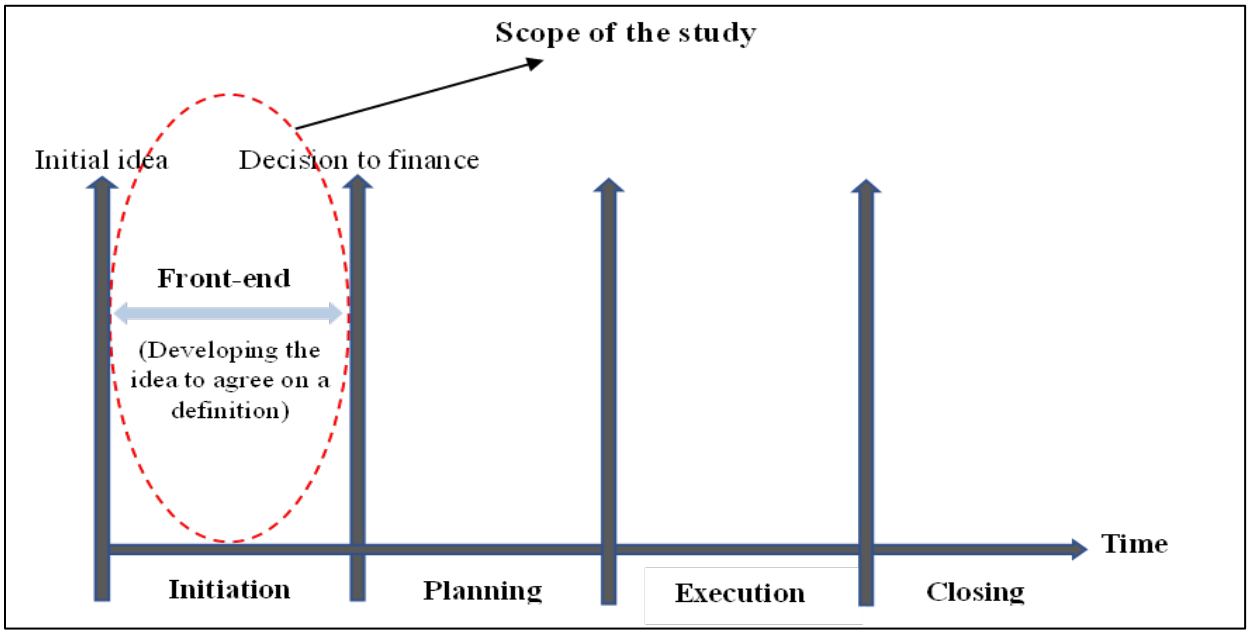

Figure 1. The scope of the study.

*2.2. Front-end Fuzziness*

To enhance decision-making, it is important to address front-end fuzziness (Reid and Brentani, 2004). Verworn et al. (2007) found that the more front-end fuzziness is reduced, the less a project deviates from the plans in later phases. Traditional control-based project management techniques that concentrate on metrics fail, however, to fully address front-end value creation (Matinheikki et al., 2016). Rather managers involved in the front-end need to develop relationships, build trust, and participate in inter-organisational cooperation, joint sense- and

decision-making, goal compromise and an agreed project vision. Project stakeholders also need help to navigate the fuzzy phase (Agrawal, 2021).

Verworn et al. (2007) and Williams and Samset (2010) pointed to a lack of clarity, which others see as being caused by three fuzziness sources: *complexity*, *uncertainty* and *equivocality* (Zack, 2001; Stevens, 2014). *Complexity* occurs when 'a large number of parts interact in a non-simple way' (Simon 1969, p. 195), leading to complex communications and poor decisions, making it difficult to achieve a consensus. *Uncertainty* can be defined as the difference between the amount of information needed and what is available to complete a task (Galbraith, 1973). *Equivocality* derives from different, potentially conflicting, interpretations of information (March, 1994; Anantatmula, 2010). Uncertainty is not the same as equivocality (Spieth and Joachim, 2017); the former concerns volume and the latter sense-making.

It is therefore important to understand the front-end as a network of relationships rather than as a set of defined tasks. An understanding of how people interact in projects - taking a social capital perspective - provides a richer view of what leads to value creation.

### *2.3. Social Capital Dimensions*

Social capital is the mix of social resources that arise from the interaction of people in networks. Networks can thus be perceived as conduits through which social resources flow. Social capital is shaped, and impacts upon, network actors in three dimensions: *structural*, *relational* and *cognitive* (Nahapiet and Ghoshal, 1998). The *structural* dimension involves network patterns, hierarchy and density, and actor centrality and connectivity (Tichy et al., 1979). Understanding front-end network structures allows project managers to integrate and coordinate interactions

between actors (Tsai, 2002). It also helps to explain the power plays that actors deploy to influence others (Ibarra, 1993). Managing the structural dimension can thus enhance value creation.

The *relational* dimension focuses on issues like trust, shared norms, obligations and expectations, that are critical for the front-end ties between actors (Matinheikki et al., 2016). Actors who accrue strong and varied relationships may possess unique knowledge and understanding that can lead to creative insights, solutions and decisions (Perry-Smith, 2006). The *cognitive* dimension represents the network resources from which shared meaning and understanding is derived (Nahapiet and Ghoshal, 1998); it refers to the factors upon which actors in the network build a shared understanding and common sense-making (Williams and Samset, 2010). Shared goals and culture are essential in framing the cognitive dimension (Inkpen and Tsang, 2005).

While the dimensions of social capital are well-established, how social capital influences value creation in the front-end of projects is not well-understood. Projects have not traditionally been seen as being embedded in dyadic or complex networks of inter-organisational relationships (Sydow and Braun, 2018). Artto et al. (2016) called for greater understanding of the dynamisms of stakeholders' social capital and their role in value creation.

### *2.4. Front-end Value Creation*

The front-end is a phase in which stakeholders' needs and goals are identified and marshalled to create an agreed project definition (Cooper and Kleinschmidt, 1994). From the project activities that create stakeholder value, those in the front-end give the greatest results in terms of better cost- and time-savings and quality enhancement (Smith and Reinertsen, 1991; Verganti, 1999), as they impact planning not implementation (Figure 2).

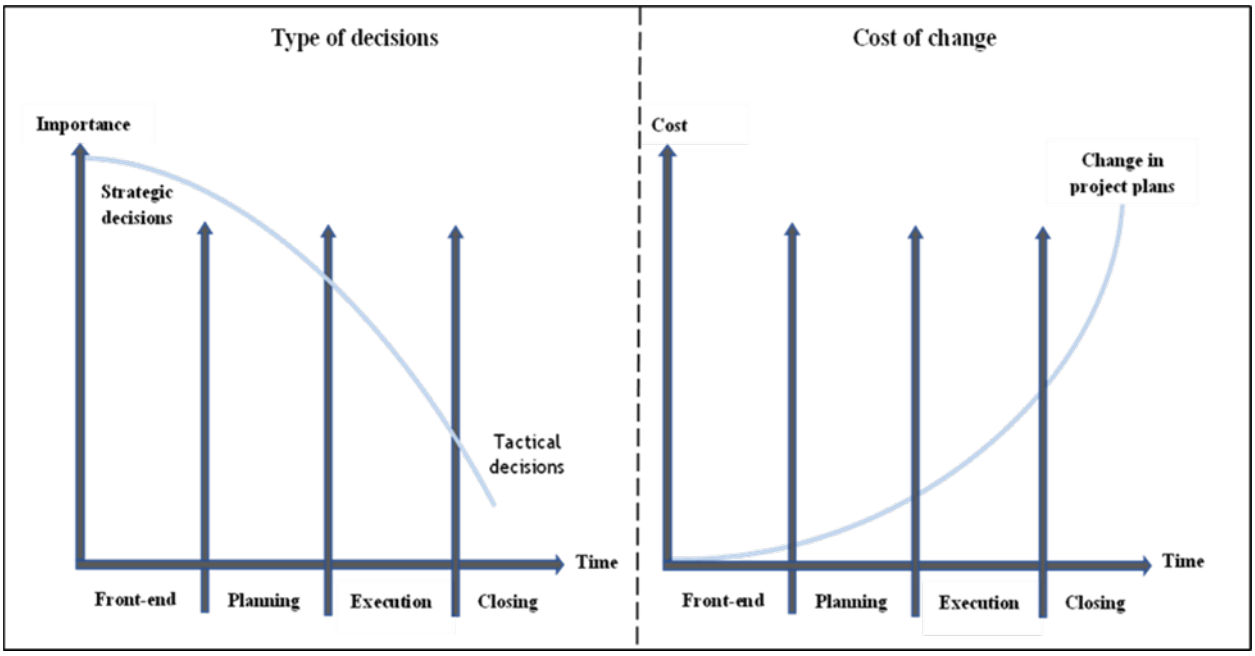

Figure 2. Type of decisions and cost of change throughout the project lifecycle.

Managing the front-end for value creation requires a network view that considers the different needs and perspectives of stakeholders. It requires the exchange of information to enable the alignment of divergent stakeholder goals around an agreed project definition to move towards a higher value end-state (Artto et al., 2011). The uniqueness of projects means some level of innovation is essential to create front-end value, through exchanging information aligned to strategic objectives (Baskici and Ercil, 2020). This should lead to project proposal approval (Matinheikki et al., 2016), noting of course that project uniqueness is a continuum and not an absolute. Fuzziness in the front-end will always arise and need to be managed, no matter the project management approach or context, or how great the stakeholder agility (Brand et al., 2021). Based upon the ongoing debate and research noted above, propositions have been developed to contribute to the discussions of front-end project management.

### *2.5. Theoretical Framework and Propositions*

The discussion of project management and social capital literature results in the theoretical framework outlined in Figure 3. The framework introduces the proposed relationships between fuzziness sources, social capital and value creation, building on the work of Matinheikki et al. (2016). To explore the impact of social capital dimensions on projects' front-end value creation three propositions were developed. Figure 3 underpins the propositions developed to guide the work.

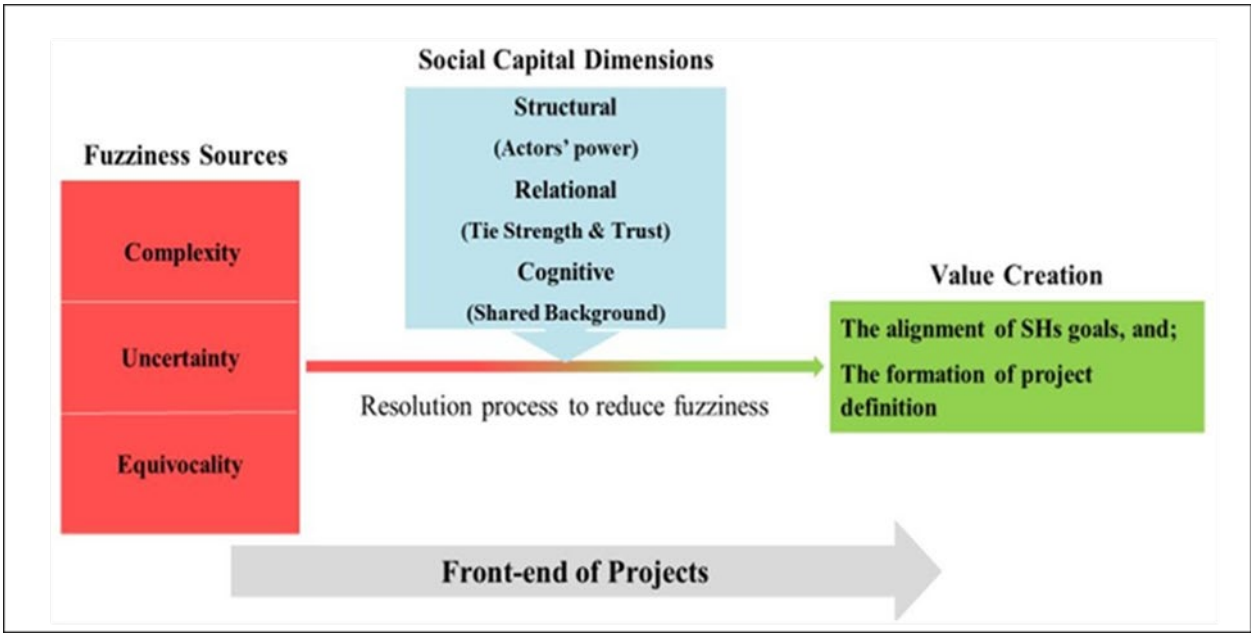

Figure 3. Theoretical framework of the study.

Identifying and assessing the needs and goals of powerful actors is crucial to addressing front-end complexity and managing value creation. The ability to exercise individual power is linked to the centrality of an actor's position (Ibarra, 1993). Complexity considers that a 'large number of parts interact in a non-simple way' (Simon, 1969 p. 195). Bringing these two ideas together, powerful actors play an important role facilitating and easing communication of information amongst stakeholders. This leads to Proposition 1a:

- *Proposition 1a: Actors' power (centrality and connectivity) reduces front-end complexity and creates stakeholder value.*

The structural dimension relates to the number of existing ties among actors (Tsai, 2001). A powerful actor has ties within and outside the project network, which increases her/his ability to access knowledge to reduce uncertainty (Krackhardt and Stern, 1988). The existence of powerful actors in a project network can reduce front-end uncertainty and create a base on which to build stakeholder value:

- *Proposition 1b: Actors' power (centrality and connectivity) reduces front-end uncertainty and creates stakeholder value.*

For the relational dimension, strong ties and trust mitigate front-end uncertainty and stimulate stakeholder value. Internal and external ties help network actors harvest information and develop more creative insights, decisions and solutions (Perry-Smith, 2006). Stronger ties also enhance collaboration and promote the creation and exchange of knowledge (Kijkuit and Van den Ende, 2007). In addition, trust is an important determinant of inter-organisational knowledge creation and exchange (Dodgson, 1993; Doz, 2007) and is reinforced through strong ties (Lane et al., 2001). This, in the explorative context of the project front-end, decreases technological and market uncertainties, leading to Proposition 2a:

- *Proposition 2a: Trust and strong ties among actors reduce front-end uncertainty and create stakeholder value.*

Trust and strong ties allow for better knowledge exploitation (Tsai and Ghoshal, 1998; Zahra and George, 2002) because they engender knowledge exchange (Putnam and Borko, 1997). Actors who trust each other try to ensure that the exchanged knowledge is well-understood, as this assists

exploitation of the knowledge (Sheriff, 2012). Exploring the role of trust and strong ties in promoting shared understanding is likely to reduce the front-end equivocality. This leads to Proposition 2b:

- *Proposition 2b: Trust and strong ties among actors reduce front-end equivocality and create stakeholder value.*

Bridging the cognitive gaps between network actors reduces front-end equivocality and promotes stakeholder value. This requires a shared understanding and common sense-making of the prevailing situation (Nahapiet and Ghoshal, 1998). To reduce equivocality project, actors need to discuss their individual perceptions to encourage sense-making and consensus (Stubbart, 1989; Wasko and Faraj, 2005). This leads to Proposition 3:

- *Proposition 3: Shared backgrounds among actors reduces front-end equivocality and creates stakeholder value.*

Having discussed the theoretical foundation and associated propositions, the next section focuses on the methodology and the research context.

## 3. Methodology

### *3.1. Method and Design*

As this research requires answers to 'how' and 'why' (Patton, 1990; 2002), a qualitative, multiple case study design was adopted to compare the effects of social capital dimensions on value creation. The three case studies provide a means to compare the dimensions across organisations, providing insights into 'what', 'how' and 'why' (Morris and Wood, 1991).

### *3.2. Research Context*

Three Jordanian telecommunication companies were studied, one global and two regional players (referred to as Company1, Company2 and Company3). These companies represent the total Jordanian telecommunication sector (see Table I for demographics). Competition between the three companies is aggressive, and they are under pressure to attract, retain and engage customers. To cope with the rapidly changing technology and customer needs, projects require significant exploration in their early phases, prior to strategic approval. In this environment, the fuzziness of the front-end is significant and creating stakeholder value poses a real challenge.

### *3.3. Data Collection and Saturation*

Thirty-one semi-structured interviews were conducted with high-level personnel, including project managers (PMs), product owners (POs) and project management office managers (PMOs) (Table II). Using purposive sampling, initial contact was made with HR in each company who, based on the interview guide, identified nine appropriate experts as a starting point for the sample (three from Company1; two from Company2; and four from Company3). Interviewees were asked at the end of each interview to name potential experts within each company who could provide further insight on front-end project management. After thirty-one interviews, and informed by the field notes that were compiled during the course of interviews to register the main codes and topics (Guest et al., 2006), the researchers agreed that neither the interviews nor the subsequent NVivo analysis were producing new insights, thus data collection was ceased (Tay, 2014). Reinforcing the view that data saturation had been achieved, the thirty-one interviews exceeded the threshold of sixteen to twenty-four interviews required for saturation suggested by Hennink et al. (2017). This extensive data gathering provided multiple accounts of similar project ideas, needs and objectives, and each interviewee's perception of project value. Field documents provided an additional means of gaining a fuller understanding of the research topic.

### *3.4. Data Preparation and Analysis*

The interviews produced twenty-five hours of voice-recording that, when transcribed, yielded 256 pages of text. Since the interviewees were second language English speakers, the transcriptions were 'cleansed' to enhance flow, meaning and consistency, with care being taken to maintain the sense of what was said. All interviewees were anonymised and interview summaries were produced (Harding, 2018).

Content analysis was conducted using NVivo software to develop inductive codes and themes. The text was explored using in vivo codes that were rooted in the interviewees' own language/responses (Corbin and Strauss, 2008). Descriptive codes were attached to the text to summarise the essential passages in the coded text. Process codes were also added to indicate the actions and communications that interviewees identified as contributing to front-end value creation (Saldaña, 2015). The key themes and categories where then identified from the coded text. This was supported by running multiple NVivo queries (for example, word frequency, text search, coding) to further explore the text and to dive into key topics. The final step drew higher-level inferences and examined them in line with the secondary data (Bogdan and Biklen, 2006). During the analysis process, careful iteration between the data-driven codes, categories and themes and theory was maintained to ensure data validity and reliability. Examples of codes are shown in Table III.

## 4. Findings

The findings section follows the three dimensions of social capital identified in the literature review: structural, relational and cognitive. These dimensions are considered in the light of the

three sources of project front-end fuzziness: complexity, uncertainty and equivocality by reference to the propositions.

### *4.1. The Structural Dimension*

The findings are first discussed in the light of Proposition 1a, which linked complexity, power and stakeholder value. The three case studies were drawn from matrix-based organisations, meaning that interviewees reported through two chains of command, answering to both functional and project managers. In all the cases, the managers of the functional divisions, where they were accountable in the long-term, had greater power over those under their management than did the project managers. Staff preferred to place their efforts into satisfying the desires of their long-term managers than meeting the needs of a project manager to whom they were assigned. This meant that central members of the project teams (PMs, POs and PMOs) were critical in communicating an understanding of project goals and visions. Without clarity there was a risk that functional managers would direct staff to take specific actions that suited their personal priorities rather than the project (see Appendix for extra evidence in addition to the quotes provided in the Findings):

*'Everybody will respect that she [the PM] is aware of all project streams. Personally, I am aware of my stream and the same thing with the Technical team. However, the project manager knows everything, so she is a respected information point for all stakeholders to get updated about the project status and who we refer to if any issue occurs. The project manager role is also key to resolve conflicts and assure that we are on the right direction'* [Consumer Experience and Quality Director, Company3].

*'Any stream that needs information, help, support or needs a decision was coming to me [the PM]. Then, we start a discussion between all Operation teams, and we have a managerial*

*committee where we can discuss more and make a decision'* [Project Manager of Fibre Project, Company3].

This supports the first research proposition relating to complexity, power and stakeholder value:

- *Proposition 1a: Powerful actors create stakeholder value by forcing decisions and bridging structural holes to reduce front-end complexity caused by conflicting priorities and unclear points of referral.*

Proposition 1b suggests that powerful actors reduce uncertainty by allowing information and knowledge to flow among project stakeholders. Twenty-six interviewees indicated that in situations where information was needed to support business and market analysis, they deferred to network actors with better connections, thus obtaining additional insights that shaped and enhanced decision-making. Such behaviour was more evident when the organisation was a late-mover in the market, capitalising on the experience of competitors:

*'We referred to the Product Development Manager* [who had more than fourteen years of experience in the company] *to identify the issues we previously had to understand how they can be solved within the requirements of the new project, and also to obtain data about old projects because I am considered new versus other team players... We knew that we need to work on fibre, but since we are considered a late-mover in the market, we needed also … to enhance our position when it comes. So, we came up with the* [vendor name] *idea to be developed as an area rather than excavations. This gives us more value when compared to Company2 and Company3; less cost relatively and higher ability to penetrate more areas in the country'* [Pricing and Business Planning Manager, Company1].

The engagement of powerful actors was critical to reduce the risk of project failure when the scope and vision were not clear enough because of high levels of uncertainty. This helped in delivering better stakeholder value:

*'I* [the Product Development Manager] *interrupted the project and convinced the Product Owner to consider the e-commerce platform as an additional channel for customers to manage their profiles, subscribe and pay, but not as an isolated channel. Due to that, the whole project was reviewed, which resulted in changing its scope and documentation and started the project from scratch. We corrected the project to get more value for the end-user'* [Product Development Manager, Company1].

Findings one and two, thus, led to further development of Proposition 1b:

- *Proposition 1b: Powerful actors create stakeholder value through using their centrality and connectivity to secure information to reduce the front-end uncertainty caused by inadequate data for confident decision-making.*

### *4.2. The Relational Dimension*

Proposition 2a linked trust and strong ties to reducing front end uncertainty and enhancing value. The results strongly suggested that personal ties encourage project actors to exchange both explicit and tacit knowledge. The interviewees agreed that this helped to reduce uncertainty and enhance decision-making. However, a surprising finding was that although personal ties positively impacted value creation, organisations sometimes failed to capitalise on the potential of personal ties. Indeed, senior management perceived these informal relationships to be risky as they could infringe organisational policies:

*'The process was faster before - in our culture the relationship between employees from different sections can speed the process up. Requested changes might be made within two days if the involved parties agreed to do them fast. Currently, if someone requests a major change it takes around five days to be implemented. This is because when we designed the application in cooperation with the very experienced senior manager of the Operations Department, we added some strict rules to allow more time for the planning team to properly plan the operation and to allow time for the Operation Department to prepare for it. This was the change that some employees were not satisfied about as it changes the usual way of work and delays the work to be done in a better way'* [Tools Development Manager, Company 1].

*'They might develop side agreements. I noticed that there are hidden things taking place between employees who have good relationships for them to support the success of each other. Relationships are very important, but they must be controlled. I believe in building relationships to ease work, but with the knowledge of how to solve the problems that may appear from them'* [PMO Manager, Company1].

Trust and strong ties encourage knowledge exchange which, as a result, reduces project uncertainty and creates better value. Stakeholders preferred to support trustworthy actors. They were less likely to cooperate with non-trustworthy actors, who they worried might misuse information. This impacts the quality of the decisions made in the front-end of projects:

*'From my experience, knowledge sharing with trustworthy stakeholders provides a win-win situation. I can benefit from their knowledge about the detailed information of the underlying situation such as possible corrections and solutions. Non-trustworthy stakeholders, on the other hand, may mislead you and take advantage of the information they have and may also put obstacles in your way to get the credit of finding the solution later on. This leads to disadvantages such as*

*more complex communications and not being able to obtain the polishing features due to only using formal communications'* [PMO Manager, Company1].

As the competition between the three companies is intense, some interviewees linked trust and the exchanged information with the level of project confidentiality. In such contexts, perceiving an actor as trustworthy was necessary to avoid any leakage:

*'The initial stages of this project were very confidential, the equipment that we bought and the process that we started were very confidential. Communications were done below the line and only through confidential emails or close meetings, so trustworthiness was key. The situation changed after the launch as everything was then announced above the line, while we worked below the line in the preparation stages to keep the new project idea safe from our competitors as we have tough competition'* [Channel, Events and Brand Activation Team Leader, Company2].

*'It varies according to the type of information; if the information is critical to the project and affects the confidentiality of the project, yes sure, I cannot share it unless I trust the person I am talking with, but if the information is about the project in general and only have a limited impact on the project, so I would say not necessarily'* [Corporate Entrepreneurship Responsibility Team Leader, Company2].

This indicates the importance of having trust and strong ties, and to the reciprocal benefits to be gained from such relationships. Proposition 2a is thus further developed:

- *Proposition 2a: Trust and strong ties create stakeholder value through inducing knowledge exchange and cooperation within the project network to reduce front-end uncertainty caused by poor relationships.*

Proposition 2b links trust and strong ties to equivocality and value creation. The finding suggests that trust and strong ties help to reduce equivocality through bridging cognitive gaps among network actors. Central and trustworthy actors who have multiple and strong ties within the project network were found to facilitate the discussion of conflicting ideas and unclear needs and requirements. This intermediate role was perceived and acknowledged by other network actors as crucial to creating compromise and reaching agreement:

*'It helped a lot as we had a person [the Operations Manager] whose judgement most people and trust that he has the knowledge to guide the project to the right direction. Although we might sometimes disagree with him on certain points, we always managed to reach some sort of agreement'* [Tools Development Manager, Company1].

*'Before the project, we had the usual conflict between the Technical team and the Supply Chain team. When the project started and with the participation of other central stakeholders from the IT and Finance teams who knew exactly what I have in mind, they helped us to remove the misunderstanding with the Supply Chain team, especially the Supply Chain Director'* [IT and Network Build Coordination and Support Manager, Company3].

This finding helps explain the interaction between equivocality and uncertainty in the field of project management. When asked about the causes of front-end equivocality, thirteen interviewees replied that limited information about the project concepts, ideas and needs has, in some cases, allowed actors to derive their own meaning, thus impacting negatively on sense-making:

*'Sometimes others may have information that they expect me to have and that I am building my knowledge based on it, but I am not. If this information was communicated in the right detail and explained before jumping to the conclusion, it would solve 80% of the issues that we usually*

*have in projects. Unfortunately, in our company, we usually do not go to the right level of detail'* [PMO Manager, Company1].

The finding, thus, supports and develops Proposition 2b:

- *Proposition 2b: Trust and strong ties create stakeholder value through securing access to interdepartmental expertise and knowledge areas to reduce front-end equivocality caused by divergent understandings.*

It is worth noting that despite the importance of social capital in the fuzzy front-end, personal relationships can have an adverse impact on value creation. Extensive personal relationships can direct front-end activities to benefit specific stakeholders rather than the stated project goals. This concurs with observations about the dark side of social capital: despite the role of social capital in governing interaction, redundant social relationships hinder actors' readiness to accept external knowledge sources (Bresnen et al., 2005; Qiu et al., 2019). This research paper builds on these observations by explaining why closed groups amplify their negative impact on front-end value creation.

### *4.3. The Cognitive Dimension*

Proposition 3 suggested that a shared background among actors reduces front-end equivocality and creates greater stakeholder value. The findings indicate that cognitive differences between stakeholders were influenced by the structure of the project: equivocality appeared higher when project structure was complex and when the reference points that actors rely on to obtain information were not aligned. In some of the projects, turnover in project actors increased the gap in understanding; new members were inexperienced and had less knowledge of the needs and requirements:

*'What plays a role is the high turnover of employees in these departments. We trained all employees on the project concept, but having new joiners affected the competency level towards the topic even if we trained them again because we had young staff who usually come and spend two or three years and leave'* [Consumer Experience and Quality Director, Company3].

In such situations, central actors and steering committees were important to bridge cognitive gaps. Central actors' ability to access various knowledge backgrounds facilitated communication by bridging structural holes. In so doing, they helped other actors with limited access to network channels to secure more information and knowledge, leading to better engagement and alignment:

*'It is important in every communication, meeting and email to remind other players of the global goal of the project to engage them and allow them seeing this global goal. It is not about giving them tasks, it is more about engaging them in the holistic view and commercial terms of the project such as the vision, the target, the offer and the value proposition'* [Broadband Project Manager, Company3].

As part of their responsibility, central actors connect the organisational strategy with middle and lower management. This makes it easier for other network actors to agree on project concepts and ideas. Central actors also have a more holistic project view allowing them promote agreement and shared solutions:

*'I have a good vision as part of the business planning and strategy team held between the CEO and all directors to agree on the business plan. I am aware of what is expected from every department or stakeholder, and I know the strategy as given by [group and country names] and what is expected from us to do… During the strategy meeting, we discuss ideas and concepts and then people here need to actualise them or translate them into projects. They come up with various*

*project ideas and discuss them with the CEO to be cascaded down as an initially approved concept to proceed with the project'* [Pricing and Business Planning Manager, Company1].

When knowledge exchange is impeded, actors behave in a manner that serves their interests and priorities, although they understand their actions are contrary to the project well-being. This research coined the term 'Intentional Equivocality' to describe such self-interested translation of information. Intentional equivocality is not caused by misunderstanding or divergent backgrounds, it is managed by network actors for personal benefit:

*'Sometimes if you do not maintain clarity in your communication, the other side may understand or may derive the information in a way that is easier for them to implement. I may write a document that does not cover some areas and the other side will not ask me to cover them and start to request changes… It is not that they could not understand, they will pretend that they did not understand, while in fact, they did understand and know that I missed covering some points, but they will be happier as I left them a space to play'* [Product Development Manager, Company1].

*'In some cases, the initial input may be something, but after reviewing it, they return to us and say, we did not mean that. They initially meant it, but they changed their minds after knowing that they can be more benefited if they did it in a different way. They just did not want to admit it'* [Tools Development Manager, Company1].

As with the commonly cited 'unintentional' form of equivocality, effective discussions among project actors were helpful in reducing intentional equivocality. Discussion among actors should address more than information provision, it should also consider how the information will be

understood and acted upon. This can require frequent meetings and/or dialogue to ensure that the exchanged information is correctly perceived to leave no misunderstandings:

*'In project management, you should make sure to cover all areas because the other entities are considering the project as a job that they must close and move to another one, especially with their constrained time… With this in mind, it is better to cover and clarify all project points to avoid having open points in some areas that will give others the chance to request another project in order to cover these areas'* [Product Development Manager, Company1].

Bearing in mind that the three companies are operating in the same country, and that all interviewees were well-educated Jordanians, there were no differences in the cultural and cognitive issues. The findings suggest that despite the lack of difference in these dimensions, contradictory understandings still arose among project actors, and that effective and frequent discussions helped to overcome them. Central actors and 'global' steering committees can significantly reduce divergence in sense-making, assisting in building consensus and creating enhanced stakeholder value. Findings also showed a new form of equivocality that is not caused by divergent understandings of information but managed by project actors seeking personal benefits. It, thus, enriches Proposition 3:

- *Proposition 3: Shared backgrounds among project actors create stakeholder value through improving the reflection on, and the exploitation of, information to reduce front-end equivocality caused by diverse interpretations.*

## 5. Discussion

This paper builds on previous studies that links social resources to project deliverables (Stevens, 2014; Matinheikki et al., 2016; Sydow and Braun, 2018) through exploring the role of social capital

in optimising project front-end value creation. The paper broadens stakeholders' understanding of the traditional initiation phase to enhance the project relevance to its environmental, political and economic actors (Morris, 2013), and contributes to an advanced conceptualisation of how social capital dimensions can reduce front-end fuzziness to facilitate stakeholder value.

Actor power was emphasised as a determinant for the ability to secure the support of decision-makers. Tie strength and trust may be critical for actors to create solutions and to plan the best way forward, but these remain dormant without the consent of budget holders. This is consistent with previous works suggesting actor centrality as an appropriate means of studying early project decisions (Bresnen et al., 2005; Edkins et al., 2013), and reveals the need to jointly manage social capital dimensions to overcome technical and market limitations; indeed, these are the areas identified by Stevens (2014) as being where front-end fuzziness lies.

Kijkuit and van den Ende (2007) focused on ambiguity as the main barrier to project consensus-building. They, however, did not account for uncertainty. This paper highlights that incomplete information (uncertainty) increases cognitive divergence (equivocality) and limits the ability of project actors to make confident decisions. The paper further suggests that actors may leverage information gaps to derive their own meanings for personal benefit, although they know the original intent, resulting in '*Intentional Equivocality*'. Reducing front-end equivocality requires sufficient and corret information to be supplied. This reinforces Moenaert et al.'s (1995) and Kim and Wilemon's (2002) findings that suggested that project adoption relies on the ability of actors to reduce uncertainties to meet the adoption criteria.

The mediating process of knowledge exchange determines the impact of actors' social capital on project outcomes (Maurer et al., 2011). Our research finds that the benefits of trust and tie strength (for example, foreseeing risky changes, accessing diverse resources, learning system shortcuts)

hinges on the willingness of actors to effectively discuss both explicit and tacit knowledge and to ensure there is efficient exploitation of resources. The findings are applicable across a range of project management approaches, from waterfall to agile because fuzziness is a constant at the front end of all projects, and aligning stakeholder interests enhances project velocity and adaptability during incremental iterations (Thesing et al., 2021).

Using an embedded unit of analysis enabled this research to tease out the differences in managing projects' social resources depending on the strategic orientation of parent organisations. This provides another layer of explanation of the best way for social capital to encourage positive impacts. The current research suggests that early-moving organisations should focus on relational factors (trust, tie strength) to encourage cooperation and knowledge exchange. Late moving organisations, on the other hand, should give extra weight to the structural factors (centrality, connectivity) to access external market networks and capitalise on the experience of competitors.

## 6. Conclusion

Social capital dimensions impacts project value creation. Powerful actors play a crucial role in optimising decision-making, by easing communication patterns and creating knowledge through bridging structural holes. This supports propositions 1a and 1b, indicating that actors' power plays a role in reducing complexity and uncertainty to create a base on which to build front-end value.

Trust and strong ties were found to be necessary to exchange information and engage support. Trustworthy actors were perceived to benefit projects by providing enhanced knowledge exploitation, greater trust, and strong relationships. This led to reduced equivocality and better stakeholder alignment. These findings support propositions 2a and 2b, that strong ties and trust mitigate front-end uncertainty and equivocality and stimulate stakeholder value. However, some

stakeholders were found to indulge in intentional equivocality to gain benefits from the project, and project managers need to be watchful and mitigate against this form of equivocality.

Variable knowledge and mental gaps were the main reasons for front-end equivocality, pointing to the need to promote shared understanding among actors and reduce divergence of views. Frequent meetings allowed effective discussions, minimising cognitive gaps and thus helping to develop unified perceptions. This, as suggested in Proposition 3, assists in building consensus and creates enhanced stakeholder value.

Applying the principles of social capital theory, this paper contributes to a deeper understanding of value creation in the front-end of projects. In so doing, it speaks to professional bodies, training providers and academic communities, by highlighting the importance of interaction and relationship management in addressing fuzziness, and providing both a lens through which they can be observed and a framework to assist in its management. The work has already influenced how the research participants and their organisations manage projects, and led to changes in curricula and teaching approaches. Further dissemination will enhance impact and interest. The research also develops a greater understanding of stakeholder relationships (Sydow and Braun, 2018) and helps project managers to understand and manage the sources of fuzziness and to create enduring front-end value. The research enhances our knowledge of network dynamics (Matinheikki et al., 2016) and suggests that project managers' understanding of project dynamics can shape front-end decisions and subsequent project value. Future research is now needed to provide more sophisticated social- and practice-relevant theories that deliver better stakeholder value and higher success rates; in particular, translating the findings into workable additions to professional bodies and trainers, a how to guide to a certain extent, as well as exploring fuzziness throughout the project lifecycle and associated issues of agility.

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