Formation of Project Identity in a Multi-Project Environment

Emmanuel Nyameke
University of Oulu, Finland

Harri Haapasalo
University of Oulu, Finland

Kirsi Aaltonen
University of Oulu, Finland

Managing multiple projects concurrently is an effective way to handle modern business projects. However, management of project multiplicity is still a challenge in the construction industry, and the project identity is considered fundamental for success of a project. This study seeks to deepen the understanding of multi-projects and to outline key features that constitute the process of managing projects simultaneously in multi-project environments within project-based organisations. A case study with two renowned construction companies in Finland was undertaken to identify five processes that constitute project identity in a multi-project environment. These processes include: (1) articulating a multi-project environment vision and goals; (2) managing the allocated recourses and schedule for a multi-project environment; (3) establishing adequate communication systems for a multi-project environment; (4) establishing stakeholders' management and paying attention to documentation details; and (5) providing adequate training and establishing an innovation-adaptive box. These results will assist project-based organisations in developing and managing projects concurrently in a multi-project environment.

Keywords: multi-project environment, project identity, organisational identity, management

Introduction

Background of the Study

Creating a project has nowadays been the most effective and suitable way of achieving the objectives of a given task, irrespective of the size and magnitude of said task (Ahola et al., 2013; Schipper & Silvius, 2018). More so, the increase of relational contracts and integrated project deliveries have raised great potential for innovations and improvements in performance, concerning the prosperity of the whole project. Usually, some projects are managed solely as a single project which is popularly known as single-project management (Patanakul & Milosevic, 2008), some are managed

as programmes, and others as multi-project environment. Programmes are groups of related projects that share a common goal, with strong inter-dependency, and with the focus on delivering a single product or service (Blismas et al., 2004; Patanakul & Milosevic, 2008).

Multi-project environment is an organisational setting constituted within an organisation for the purpose of simultaneously executing various projects that are or may be independent and have separate goals and deliverables (Engwall & Jerbrant, 2003). Projects are grouped under multi-project envi-ronment settings to effectively utilise recourses and better management. At the executive level of an organisation, all projects in the multi-project environment are more often called project portfolio (Pennypacker & Dye, 2002; Patanakul & Milosevic, 2008)

The multi-project environment organisational setting has undeniably be-come the preferred project-based organisational model for executing mul-tiple projects simultaneously (Spalek, 2012). It is a result of the increase of relational contracts and integrated project deliveries. Nevertheless, re-searching the management of multiple projects organisational setting is limited, as most research in the area of project management is heavily geared towards management of a single-project model (Payne, 1995; Elo-nen & Artto, 2003; Pennypacker & Dye, 2002; Yaghootkar & Gil, 2012).

However, the rate of simultaneous project management and the com-plexity of these projects have been increasing steadily for decades (Dye & Pennypacker, 2000). Many researchers have therefore become interested in Multi-Project Environment settings in particular and thus recognised the importance of managing multiple projects simultaneously (Payne, 1995; & Artto, 2003; Geraldi, 2008, 2009; Yaghootkar & Gil, 2012; Wang et al., 2017). But the research reveals the lack of concept that upholds managing multiple projects simultaneously (Spalek, 2012).

Besides, little existing literature on multi-project organisational settings focuses mainly on the planning and allocation of resources (Abdullah, 2009; Hans et al., 2007; Wang et al., 2017; Yaghootkar & Gil, 2012), although planning and allocation of resources are primary issues when multiple projects are executed simultaneously (Engwall & Jerbrant, 2003; Yaghootkar & Gil, 2012).

There is no doubt about this claim, yet there are still challenges con-cerning the management of multi-project organisational settings. But it is clear that creating project identity (Gioia et al., 2010; 2013; Hietajärvi & Aaltonen, 2018) in a multi-project environment plays a vital role here. Or-ganisational identity is considered to be the basis for success. According to Gioia et al. (2013), in order to have a clear meaning and a deeper under-standing of an organisation, the concept of identity is of key importance. It reflects and defines answers to questions such as 'who we are, what

we stand for, what's our future, what makes us stands out from other organisations and what are the things we have in common.' Organisational identity research is two-fold, related to permanent organisation on the one hand, and to temporal organisation (projects identity) on the other. However, organisational identity research is dominated by permanent organisational identity. Research concerning project identity is very limited, especially that relating to project identity in a multi-project environment. Nevertheless, this research is focused on project identity.

According to Hietajärvi and Aaltonen (2018), project identity is defined as features of a project organisation that the members see as milestones of its character or true image that make the project organisation distinctive from other project organisations. Project identity can clearly be articulated in the project goals, values, working practices, signs, and symbols (Gioia et al., 2010; Walker & Lloyd-Walker, 2015).

Why the need for project identity in a multi-project environment and why is it considered fundamental for project success? Creation of project identity aims at getting project stakeholders to be committed, and even more at attracting the best talent to execute the project. According to Walker and Lloyd-Walker (2015), project identity is usually well articulated in the project goals and vision, but often ignored as well. This is not good since people do identify with the project they work for. When project members feel the purpose of the project they work for, it gives them a great sense of commitment and motivation that facilitates the success of the project.

In their publication, Christenson and Walker (2004) identified how project vision plays a vital role in project delivery success. The purpose of the project and the ultimate intention is to convey information about it, to put the project in a spotlight in order to gain assistance of stakeholders who might have influence on the project but are yet to be identified. However, project vision has a direct connection with the project identity concept (Walker & Lloyd-Walker, 2015).

The project identity in a multi-project environment seeks to outline the key features related with managing multiple projects simultaneously. Due to the importance of identity role relative to the success of an organisation, this paper seeks to deepen the understanding and outline the key features that constitute creation of project identity in a multi-project environment setting. As for the outlining key milestones, a project-based organisation has to address them adequately prior to executing a project in a multi-project environment. However, this paper utilised research on organisational identity to examine how project identity is created in a multi-project environment.

The above information may be condensed into the following research question:

What are the cornerstones for the identity formation in a multi-project environment and which levels of management are responsible?

This study addresses the research question in a qualitative manner both through literature and through the analysis of industry interviews. This research question was addressed by analysing two multi-projects in the Helsinki metropolitan area: Tripla by YIT, and the Western Metro underground excavation project.

Tripla by YIT is a construction multi-project, ongoing currently and estimated to continue for the next ten years. The project consists of a three-block complex including a shopping centre, a parking garage, and a public transportation hub. Additional housing, hotels, and offices are planned as well. The Western Metro underground excavation project is part of a larger project known as Western Metro. The Western Metro project is an extension of Helsinki metro line to Espoo; the new metro line is 13.9 kilometres long.

This paper contributes to research concerning organisational identity formation (Gioia et al., 2010, 2013; Schultz & Hernes, 2013; Hietajärvi & Aaltonen, 2018) as well as literature on multi-project environments (Payne, 1995; Elonen & Arrtto, 2003; Geraldi, 2009; Yaghootkar & Gil, 2012; Wang et al., 2017). The findings of this study point to an emergent research theme of both theoretical and practical interest.

Literature Review

Multi-Project Environment

Project management publications most frequently go hand-in-hand with either single-project management or multi-project management (Abdullah, 2009; Blismas et al., 2004). According to Evaristo and Fenema (1999), most of the existing research, both theoretical development- and practicality-centred, are heavily geared toward single-project management, while only a few are concentrated on multi-project environments. According to Turner (2009), the most vital characteristic of a single project is that all its integrated parts are almost interdependent and aim for the same goal. Thus, the single-project management practice contributes little in terms of managing multi-projects; in that sense, it has probed researchers' interest toward researching multi-project environments.

Although there may be some similar activities between single-project management and multi-project management, there are significant differences between the two (as their names imply). Considering the scope of this study, single-project management is a project-based organisation that manages only one specific project for a customer, and the project may be in a constrained geographical area. However, a multi-project environment is the situation in which a project-based organisation manages different

projects for two or more customers simultaneously in specific geographical areas (Turner, 2009; Blismas et al., 2004; Evaristo & Van-Fenema, 1999).

According to Geraldi (2009), managing multiple projects is accompanied by many challenges and, for that matter, the need for diverse degrees of flexibility within organisational structures. Firms that are involved with multi-project businesses face not only the differences between project phases, but also differences between projects in their portfolios, differences between project activities, differences between products or services, differences between potential partners, differences between various customers with different identities, and differences between geographical areas within which projects are executed.

Challenges that occur when managing multiple projects simultaneously make these types of projects more complex to manage than single projects. Management for multi-projects consists of unique problems, most commonly in terms of managerial aspects (Abdullah, 2009). Due to the uniqueness and complexity aspects regarding multi-project environments, organisational structures for managing single projects need to improve or develop to fit multi-project environment settings (Blismas et al., 2004).

According to Abdullah (2009), the complex nature of a multi-project environment team work activities creates a high level of office interdependence among team members. The management of multi-projects requires a wide range of participants. However, projects have to be achieved simultaneously by conducting the project activities with the same human resources department belonging to the multi-project organisation.

Traditionally, projects are managed by focusing on scope, planning, organisation, and control. The traditional project management aims to achieve a feasible objective within allocated budget, time frame, and quality specification. In the case of multi-project environments, every individual project retains its own scope and goals and all relevant team members then focus on the overall goal of the multi-project. The multi-project goal becomes the priority of both the multi-project manager and the entire project members. Involved members aim to achieve the multi-project task within a specifically defined budget, time frame, and quality specification (Abdullah, 2009; Turner, 2009).

The Origin of Project Identity

Organisational Identity

Organisational identity is said to be present at two levels of categories: organisational identity at the level of permanent organisation (Gioia et al., 2010), and organisational identity at the level of temporary organisation (project level) (Hietajärvi & Aaltonen, 2018).

Organisational identity is richly present in the literature on both theo-

retical and empirical data aspects over the last three decades (Gioia et al., 2013); this relative research was initiated after Albelt and Whetten published their book, *Organisational Identity* (1985). The book encouraged most researchers to dive more deeply into the study of organisational identity. According to Rutitis et al. (2012), practitioners that were involved in design activity during the early 1970s originally initiated organisational identity.

Organisational identity is both a managerial concept and a strategic tool that forms the fundamentals of a well-developed organisation (Albelt & Whetten, 1985). Organisational identity reveals more about the perception of the organisation members and the concept and strategies used to structure the said organisation. Constructing an organisation defines and highlights who/what the organisation is, what type of business is it in, how is it unique, and how is it different from other organisations in the industry.

Since its initiation, organisational identity has received various definitions from scholars and researchers, with a diverse mix of organisational structure and management approach practices. Rutitis et al. (2012), after having compared numerous definitions proposed by organisational identity scholars and researchers, defined organisational identity as various ways of making an organisation known to people, providing a way for people to describe it, and making people retain good memories associated with it.

According to Hietajärvi and Aaltonen (2018), even though definitions with regard to organisational identity vary as the years progress, the fundamental and outstanding definition of organisational identity is as follows: a system of claims that summarise what the organisation aims to maintain, be it their beliefs, uniqueness, or endurance. According to Rutitis et al. (2012), every corporation has its own identity that makes it different from all the many organisations within its competitive environment. Organisational identity is displayed through the name, ethos, aims, values, mission statement, goals, and symbols of an organisation.

According to Hietajärvi and Aaltonen (2018), most research on organisational identity is biased towards identity at the level of permanent organisation (operational) with very little concentration on the formation of organisational identity at the level that embodies characteristics such as uniqueness, budget constraint, and a defined beginning and end-that is, project identity.

Project Identity

Creation of project identity aims at getting project stakeholders to be committed, and also to attract the best talents to execute the project. According to Walker and Lloyd-Walker (2015), project identity is usually well articulated in project goals and vison, but more often than not, the identity is ignored. This is not good, as people do identify with the project they work for. When

project members do feel the sense of purpose about the project they work for, it gives them a great sense of commitment and motivation that facilitates the success of the project.

Hietajärvi and Aaltonen (2018) defined project identity as features of an organisation that members of the project see as the heart of the organisation character or true image, and that distinguishes the project organisation from others. The project identity can be articulated through project goals, values, working practices, signs, and symbols. Additionally, project identity can very well be influenced by the stakeholders' image feedback based on the project surroundings.

Despite the lack of existing literature on the subject of project identity, there are a few works on the subject of project team identity and cohesion (the willingness of the project team members to remain on the team) as well as project risk identity. According to Hietajärvi and Aaltonen (2018), project identity shares the same philosophy as organisational identity-that identity is a continual element-which means that project identity is dynamic and vigorously active, but not fixed (Gioia et al., 2010, 2013).

Project Identity Formation in a Multi-Project Environment

Formation of organisational identity has limited theoretical and empirical data concerning project identity, as most research conducted under this discipline has been concentrated on the organisational identity context and characteristics as well as its influential elements and change of identity.

Project identity, in the formation of a multi-project environment, is considered to be a process that leads organisations through the process of constituting and constructing structures for executing two or more projects simultaneously in specific geographic areas. Formation of project identity is assumed to commence at the beginning of the project stages-in other words, the earliest phases of the project (Kolltveit & Gronhaug, 2004)

Project identity formation occurs when all the project activities, goals, schemes, and directions are discussed for the purpose of strategising the shape of the project in the early stages of its lifecycle (Floricel & Miller, 2001). This is the stage in which all stakeholders involved in the project build their understanding of 'who we are, in what kind of project we are in, and what do we want to be' (Hietajärvi & Aaltonen, 2018; Gioia et al., 2010, 2013).

Research Process

This research aims to enhance the understanding of project identity in a multi-project environment. Existing research on this subject is scarce; for that matter, we chose to use a qualitative research method, namely a research methodology by which the researcher focuses on interpretation and

interception of the subject in question. Qualitative data is acknowledged in its richness and holistic qualities that reveal complexities about the nature of life (Miles & Huberman, 1994; Pekuri et al., 2015). The research question in this study is directed, as is the case in the selection of the qualitative research method, toward gathering an in-depth understanding of the research subject. Thus, in order to address the questions of 'how' and 'why,' we must first study this research.

Case Study for Empirical Data

Concerning this study, two renowned Finnish construction companies with specific case projects were chosen: Tripla by YIT in Helsinki, and Western Metro in Espoo. The reason these renowned companies and projects were chosen is their reputation in multi-project environments and project management. The selected projects offered the very best opportunity to deepen our understanding of project identity in a multi-project-project environment.

Tripla by YIT Project

YIT is a well-established construction company and a pioneer in the construction industry. YIT has been in existence for over a century and operates in several counties, such as Finland, Russia, the Baltic countries, Czech Republic, and Slovakia. YIT aims to create a better living environment within the jurisdiction in which it operates. Aside from the prosperity in abovementioned countries, it is one of the largest housing and infrastructure developers in the construction industry. The company vision includes being a step ahead of its clients, competitors, and workers. YIT, in total, operates with more than 3,500 employees with a turnover in 2017 estimated at 3.8 billion euros.

Tripla by YIT is one of the case studies for this research. It is a currently ongoing multi-project that is estimated to continue for the next ten years. Tripla is located at Pasila in the Helsinki metropolitan area and is designed to comprise three city blocks with a total estimated area of 183,000 square metres. The objective of the project is to build a three-block complex that includes a shopping centre, a parking garage, and a public transportation hub as well as housing, hotels, and offices.

Currently, 500 people are working on the project, including sub-contractors, and that number is expected to rise to 1,000 in the future. The overall cost estimate of the project is 1 billion euros. Tripla, when completed, will become the new centre of Helsinki, as it will be three times bigger than the current city centre of Helsinki. There will be several new transportation connections to various destinations within Helsinki, such as a new ring rail line to the Helsinki airport, a connecting rail line to the Metro, and the western extra rail track. Tripla will transform Pasila into an ultramodern city and will

be one of the most beautiful and unique cities in Finland. Upon completion, the new city will provide 400 residential homes with approximately 7,000 job prospects. In addition, another housing project is planned beside Tripla; it will consist of roughly 4,600 homes.

Western Metro Underground Excavation Project

Lemminkäinen has been in existence since 1910, driven by the purpose to provide services to construction companies. The company's main focus of operations, in the beginning, was bitumen works and concrete manufacturing products. Using its competences, the company manoeuvred and widened, bit-by-bit, its net of operation by venturing into other construction activities such as road surfacing, transport infrastructure, civil engineering, rock engineering, and construction building. The company has grown into an international company and currently operates in nine countries: Finland, Denmark, Estonia, Latvia, Lithuania, Norway, Poland, Russia, and Sweden. The company currently operates with 4,700 employees and had a net sale of 1.7 billion euros in 2016.

The Western Metro underground excavation project is the second case project analysed in this study. Lemminkäinen Oy is the main construction company executing this project, followed by Länsimetro Oy, a company owned by the city of Espoo and Helsinki, who oversees the construction operations of the Western Metro project. The Government of Finland, Helsinki, and Espoo are the sponsors for this project. The Western Metro project is an extension of the Helsinki metro line to Espoo, and the new metro will run through many parts of Espoo.

The Western Metro is an underground metro line of approximately 13.9 kilometres and is estimated to transport roughly 30,000 travellers daily. The Western Metro has two parallel new lines with a strong transport connection from the southern part of Espoo through Lauttasaari that ends in the city centre of Helsinki.

Data Collection

We used semi-structured interviews to gather primary empirical data. Table 1 provides an overview of case companies and interview details. We interviewed a total of five key executives and project managers who are at the forefront of executing the case projects. Additionally, we collected some information from the company websites and public presentation materials. The interviews serve as a primary source of data collection. The questionnaire covered general themes related to multi-project management, project identity, and project identity in multi-project management.

Taylor and Bogdan (1984) elaborated upon the importance using interviews as a means of colleting primary data; thus, the interviews serve as

Table 1   The Overview of Case Companies and Interviewees

Case company	Project	Number of inter-viewees	Date & interview duration	Position of interviewees	External document & information
YIT	Tripla by YIT	4	6 March 2017, 2 h	Project Eng., Project Manager, Quality Manager, Project Director	Project website: https://tripla.yit.fi/en Workshops & trainings: Confidential materials
Lemmin-käinen	Western Metro	1	7 December 2016, 1.5 h	Project Manager	Project website: https://lansimetro.fi/en Workshops & trainings: Confidential materials

an effective tool for dialoguing cases that have not been observed. Furthermore, interviewing the participants directly with regard to a particular matter provided us with a thorough understanding of their views and knowledge specific to our research topic.

All the interviews were conducted at our interviewees' worksites, inside common spaces on the premises of each of the ongoing projects. The interviews were recorded digitally and transcribed later. However, to maintain validity, the interviewers took notes during the interviews as a backup method. The tapes and notes facilitated the analysis of the qualitative data gathered.

The researchers first started the analysis by identifying the relevant themes from the interview transcript with regard to creating project identity in a multi-project environment. Interviews were then condensed to assist the researchers in gathering the relevant, common information for the formation of project identity in a multi-project environment. Selected evidence from condensed data was put together to research empirical data, enabling the researchers to crosscheck our interpretation and boost our confidence in the research findings. Based on the analyses, five processes that affect creating project identity in a multi-project environment formation were identified.

Firstly, the interview with the Western Metro underground escalation project members was conducted during the first week of December in 2016. The interview lasted for about an hour and a half, involving two researchers and our correspondent, the latter being the underground excavation manager. The correspondent has worked for the company for several years and has played several managerial roles in numerous projects. He was also a participant in the first alliance project in Liekki, Finland, namely renovation of a 90 km-long railway line (Hietajärvi & Aaltonen, 2018). Based on the correspondent's experience in project management, his involvement provided a great opportunity for the researchers to acquire necessary information

that facilitated answering of the research question. Besides the interview, workshops, training and other project confidential materials were provided to help in the analysis.

The second interview was conducted with Tripla by YIT members on March 6, 2017. The interview lasted for almost two hours and was administered to four members who currently play a very important role in the Tripla project. These members hold the following positions: director of project development and design, quality and development manager, project manager, and project engineer. The interview was conducted in a group, with all the members together, and every interviewee had the freedom to answer a given question based on their experience, knowledge, and competence with regard to project identity in a multi-project environment. The interviewees have worked with YIT for several years and have gained extensive experience. This experience provided the great opportunity for the researchers to acquire necessary information that facilitated the answering of the research question.

Identity Formation in Case Projects

The empirical data is in total support of the definition of 'project identity' in a multi-project environment-that is, the features that are central to the project-based organisation's character that differentiate the organisation from other project organisations when executing multiple projects concurrently (Albert & Whetten, 1985; Hietajärvi & Aaltonen, 2018). The following five findings based on the empirical data are central for managing project identity in a multi-project environment:

1. Formulating and articulating a multi-project environment vision and goals;
2. Establishing adequate communication systems for a multi-project environment;
3. Managing allocated resources and schedule for a multi-project environment;
4. Establishing stakeholders' management and paying attention to documentation details;
5. Providing adequate training and establishing an innovation-adaptive box.

Formulating and Articulating a Multi-Project Environment's Vision and Goals

Articulating a multi-project environment vision involves creating a formula for said vision and setting individual project goals when managing more than one project in parallel. Our respondents commented about how pursuing

such a vision aligns the multi-project vision to the organisational value of the project:

> In my opinion, the first and foremost things to consider in such projects (multi-project), per my experience, is to bear in mind the project concept where the project ideas are conceived. This makes you visualize what entails in the project.

The multi-project environment's goals and vision should be clear and made a priority by all project workers. Within a multi-project environment, every individual project retains its own scope and goals, and all team members then focus on the overall goals of the multi-project environment. The multi-project environment goal then becomes the priority of the multi-project manager and the entire project crew. They aim to achieve the multi-project task within a specifically defined budget, time frame, and quality specification. One interviewee commented about this structure:

> With this kind of project (multi-project), delivery of the overall goal of the projects then becomes our target. There may be individual goals within the different sections, but at the end of it all, we are looking at the multi-project goal, and this makes me feel is one project even though for different clients. It elevates some burden on you as project manager because you know someone is at your back. It makes you feel we are in this together.

Agreeing on one common goal and vision is reminiscent of consensual identity within a multi-project environment.

One crucial aspect of managing multi-projects are the processes, such as the project initial processes, planning processes, executing processes, monitoring and controlling processes, change control processes, and closure processes. Currently, all these processes are mainly designed for managing a single project. One interviewee recalled,

> The very thing that makes a multi-project environment quite difficult is the fact that project management processes are designed for single-project management. Single-project management processes exist, and that makes it easy in managing single projects. Therefore, for one to successfully undertake a multi-project environment, these processes must be carefully designed to fit multi-project environment context.

Due to the uniqueness and complexity aspects associated with managing projects concurrently, organisational structures for managing single projects cannot be directly utilised for managing multi-projects. This calls for

unique approaches, techniques, and tools when managing multi-projects. As one interviewee said,

> I do not think it is possible to execute multi-projects by using the same organisation structure for managing single projects. This consist of different projects, which belong to different clients, and executing concurrently. Therefore, there is the need to design an organisation structure that fits for multi-projects as we have done for this project.

A new organisation structure has been designed for the Tripla project, which makes the project unique. The organisational structure then plays a vital role in managing the multi-project.

Managing Allocated Resources and Schedules for Multi-Project Environments

The interviewees agreed that planning a multi-project and organising its allocated resources is at the heart of multi-project environment processes, as stated in the literature review. They elaborated upon the fact that, since it consists of identifying the portfolio of projects in the multi-project, defining the scope of work and schedule for the multi-project, indicating the milestones, and determining the total budget needed for the entire multi-project is of utmost significance. One interviewee commented,

> It's true we encounter problems, especially concerning human resource allocation, most often because we (the project managers) all draw our workers from one big pool. It becomes a challenge when you need a certain project worker for an activity to be fixed and this same person is working on another project. When these challenges happen, you have nothing to do than to wait until he/she is done.

As for empirical data, the number of project workers estimated to work on the multi-project increases when the actual work is initiated. One interviewee commented,

> The number of project workers estimated keeps increasing as we proceed; as it is now, I am preparing to recruit new project workers even though this was not part of our initial plan.

Establishing Adequate Communication Systems for Multi-Project Environments

Empirical data shows that means of communication play an important role in a multi-project environment. Thus, highly developed communication plans as well as robust and inquisitive lines of communication must be created

between the customer or the customer's consultant and the required multi-project team in order to execute successful multi-projects. One interviewee indicated,

> Communication, I may say, is very important in terms of this kind of project (multi-project). Communication is an aspect of project management that cuts across every activity concerning the project. Not only the project workers it has effect on, it affects all stakeholders, such as customers, customers' consultants, city authorities, city planning authorities, and community dwellers as a whole.

The mode of communication is an issue for the correspondents, as they continue to express the need to consider selecting the right communication media to communicate required information among participants. There exists a strong need to utilise current communication technologies in order to communicate effective information. Other interviewees elaborated on the communication issue, one of whom stated:

> We have come a long way as a company, and we have realised how communication plays an important role in project management, especially when managing multi-projects. Therefore, we make use of modern technologies for communications. Aside from the traditional means of communication, such as phone calls, video calls, e-mails, and memorandum, we also use social media platforms and customized software for communication. Besides, our webpage also provides information to both internal and external stakeholders.

Empirical data indicate alternative ways of eliminating the risk involved with communication as well as determine effective ways for delivering information within a multi-project environment. As stated by one interviewee,

> Communication is one of the issues that faces multi-project environments, but we try to control that by meetings. I think a regular meeting among the perspective section is one of the best ways of handling this now, by having meetings on a weekly basis, some in two weeks, and monthly. In some cases, when the need arises, there can be an emergency meeting as well, to address important issues.

Establishing Stakeholders' Management and Paying Attention to Documentation Details

One of the key multi-project environment identities, according to empirical data, is external stakeholders' management. Considering projects as Tripla and Western Metro that involve several entities, such as city authorities, city planners, and the entire public, it is necessary for the project-based organisations to factor in good external stakeholders' management, which is the

appropriate means for reaching a consensus or conforming and agreeing with the project stakeholders. As one interviewee said,

> In such a kind of project (multi-project), a lot of interaction goes on between the project companies, the public, city authorities. The project must conform to environmental regulation and as well conform to city planning. However, we try to discuss them at the top management level to make sure there is mutual understanding among each party.

Tripla is currently in the process of becoming one of the best ultra-modern facilities in the Helsinki metropolitan area. People living nearby are inquisitive about project updates, therefore the project organisation should keep the public updated on its progress. Another interviewee makes it known that

> We try to communicate intensively with the public through our website and our social media handles, such as Facebook and Twitter. We particularly have two persons in charge of our publications concerning Tripla, to make sure the public is updated on any issue concern to the project.

According to empirical data, some project managers have indicated the importance of mutual understanding between customers' consultants and project organisations, as well as the need to pay critical attention to and monitor the individual project documentation before and during project execution. One interviewee stated,

> The individual project documentation is also a key. One thing to consider when it comes to project documentation is to build trust between the customers' consultant and the project organisation. The whole thing is based on trust.

Providing Adequate Training and Establishing an Innovation-Adaptive Box

After documentation has been thoroughly studied and clearly understood, one of the most significant aspects that help managing a successful multi-project is the project managers' management of specific, various roles. When selecting a leader for the multi-project, the project manager must first consider the overall objective and goals of the multi-project, and collaborate with all other leaders to execute the project successfully.

The leaders are all drawing from one pool of resources, and therefore some project workers may engage in certain activities when other project managers need them elsewhere. In such cases, the collaborative attitude must be a factor. One interviewee stated,

> We make sure renowned project managers with the capability and ability to collaborate and work together are selected, because all the various project managers need to come into conscientious to achieve the multi-project goal.

The empirical data indicates how much is necessary to provide adequate training for project workers before and during the entire project lifecycle. The project organisation selects and prepares the appropriate project workers whose involvement will be necessary for the execution of a successful multi-project. The required training will therefore enable individual and various project teams to clearly identify their roles and responsibilities specific to the multi-project. According to one interviewee comment,

> We provide required training for every project worker before they start working at the site. We give training to individuals and groups depending on when and where to start working. The training helps the project workers to fulfil their roles and responsibility in executing the required task given.

Our data also indicates one vital educational aspect that the project organisation is always keen on when executing multi-projects: safety training, which emphasises how project management prioritises working in an environmentally sound and safe environment. The appropriate measures are in place to make sure all project workers undergo a well-planned safety training session that reduces the risk of accidents. One interviewee indicated,

> We make sure all our project members have the required safety training before starting work at the site. We are very much concerned about safety, and I believe it is one of our records of accomplishment. Even with the sub-contractors we work with, we make sure they fully abide by the safety rules and regulations.

Innovative adaptation plays a vital role in achieving quality management aims. It is by its virtue of enhancement that innovative adaptation continues improving performance. Innovative adaptation achieves quality goals when tools and methods such as benchmarking, quality auditing, and scorecard balancing are deployed to adapt innovative practices within the internal and external parameters of an organisation.

Improving operation of an organisation has always been the motive for continuous improvement. Therefore, project organisations need to upgrade to current best practice within the industry. In this sense, areas that need to be improved are adequately identified, and the project organisation may gain more innovation advantages.

Discussion

This paper contributes to the research concerning organisational identity formation (Gioia et al., 2010, 2013; Schultz & Hernes, 2013; Hietajärvi & Aaltonen, 2018), as well as literature on multi-project environments (Payne, 1995; Elonen & Arrtto, 2003; Geraldi, 2009; Yaghootkar & Gil, 2012; Wang et al., 2017). The findings of this study point to an emergent research theme of both theoretical and practical interest.

The study has identified five processes that affect project identity in a multi-project environment formation. We have identified these five processes to be central for the identity formation process in a multi-project environment. They are necessary and must be addressed prior to the execution of concurrent projects. Figure 1 provides a clear picture of the processes involved in project identity within a multi-project environment, including: (1) articulating a multi-project environment vision and goals; (2) managing the allocated resources and schedule for a multi-project environment; (3) establishing adequate communication systems for a multi-project environment; (4) establishing stakeholders' management and paying attention to documentation details; and (5) providing adequate training and establishing an innovation-adaptive box. Based on empirical data provided within this study, these five formation processes take place at three levels within the project-based organisation. Processes 1 and 2 are identified in the organisation strategy and are most frequently the responsibility of the organisation's executive management (top management), while processes 3 and 4 are primarily roles of middle managers (project managers), and process 5 is the role of project members who are on the forefront of project execution. These findings, to a certain degree, go hand-in-hand with Hietajärvi and Aaltonen (2018) study of formation processes of collaborative project identity in the Finnish first alliance project.

As Gioia et al. (2010) mentioned, the first and foremost step in formulation of identity processes involves formulating and articulating the ultimately intended vision of the organisation, which is executed by the organisation management. This phenomenon is in line with the first findings; the first step the executive managers of a project-based organisation must take when executing multi-projects is the formulation and articulation of the multi-project vision and goals while considering solutions for the how, what, why, and where questions. Indeed, this finding testifies that formulating and articulating the intended multi-project vision and goals set the roadmap for the entire lifecycle of the project.

The second finding identifies communication of effective information as a vital role in establishment of a shared understanding in a multi-project environment; there is a need for proper means of communication among

project workers. However, many researchers emphasise communication in project management in general as an important instrument, although it becomes more difficult in a multi-project environment (Fox, 2009; Abdullah, 2009; Goodman-Deane et al., 2016). This finding not only acknowledges the existence of challenges encountered among project organisations regarding communication, but also provides practical solutions that are being implemented by project-based organisations in practice.

The third finding acknowledges that management of allocated resources and schedule in a multi-project environment plays a vital role in management of multi-projects and has to be identified at the early stage of a project; for this reason, an adequate planning process is required for the allocation of provided resources. As stated by Abdullah (2009), planning a multi-project and organising its allocated resources lie at the heart of multi-project environment processes; in other words, planning and allocation of resources are the prime challenges during the processes. This finding confirms that in practice, project-based organisations are faced with many challenges concerning resource management and project scheduling.

The fourth finding concerns identification of stakeholders' involvement and project documentation in a multi-project environment. It is therefore relevant for project organisations to come to a consensus about the key stakeholder's competitive claims concerning the project. This finding conforms to existing studies, such as Kinnunen et al. (2014), and Ronald et al. (1997). The voluminous nature of multi-projects calls for an appropriate method for handling project documentation.

The fifth finding is the means of providing adequate training either prior or during implementation of the project. This training enhances the understanding that project members are supposed to have of the project design details, which encourages the achievement of the project goals and objectives. Establishing an innovation-adaptive box allows members of the multi-project environment to provide innovative ideas gained during the project execution. The collected ideas are then implemented through the next project (Sun, 2010; Maire et al., 2008; Smandek, 2010; Gunawan, 2015).

A well-planned and collaborative team is key to a successful multi-project environment. Nevertheless, it is sometimes not clear who is responsible for certain roles. Based on our empirical data, as illustrated in Figure 1, the managerial levels responsible for each of the five cornerstones for the identity formation process in a multi-project environment have been addressed.

Conclusions

This paper sought to provide insight into project identity specific to a multi-project environment, and by doing so, aimed to answer the question: 'What are the cornerstones for the identity formation process in a multi-project en-
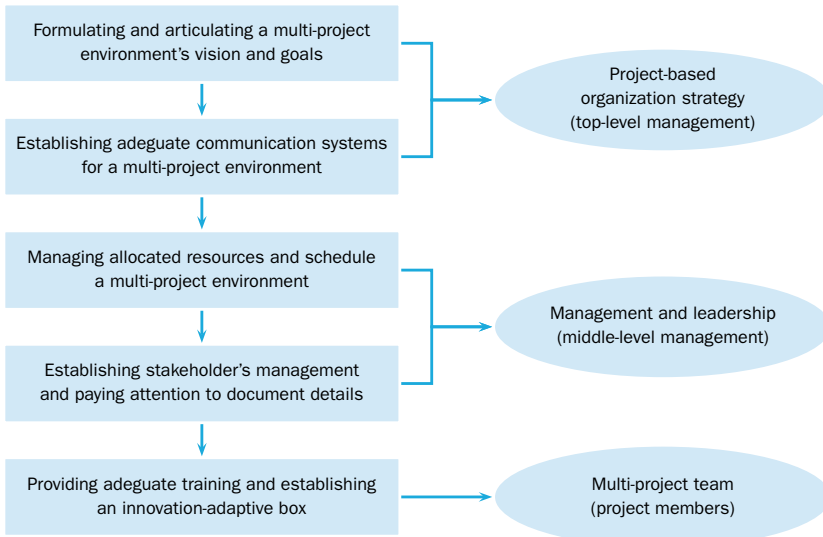
Figure 1 The Five Cornerstones and the Organisational Management Responsible for the Identity Formation Process in a Multi-Project Environment

vironment and which levels of management are responsible?' Project-based organisations have to adequately address the key features prior to executing projects in a multi-project environment. Although studies regarding organisational identity are currently booming among organisational theories (Gioia et al., 2010, 2013; Schultz & Hernes, 2013; Hietajärvi & Aaltonen, 2018), research concerning project identity in a multi-project environment is still scarce, almost non-existent. This research question was explored and examined through conducting interviews with two construction project teams in the Helsinki metropolitan area (Tripla by YIT and Western Metro).

Through empirical data analysis, five cornerstones for the identity formation in a multi-project environment have been identified and further explored. Based on empirical data, these five key formation processes take place at three levels within the project-based organisation. Processes 1 and 2 are identified within the organisation strategy and are most frequently the responsibility of the executive management (top management) of the organisation, while processes 3 and 4 are primarily the roles of middle managers (project managers), and process 5 is the role of the project members who are on the forefront of the project execution.

Managerial Implications
The imperial study was conducted with the motive to identify the effect of a project identity in multi-project environment formation. The findings clearly

indicate that the five processes for the formation of project identity in a multi-project environment are central for managing the project identity in a multi-project environment and should be addressed prior to execution of multi-projects. Therefore, the findings will both assist project-based organisations in identifying key features that are central in the management of project identity in a multi-project environment and help the organisations address these key features adequately prior to a project execution.

imitations and Further Research

Our empirical analysis introduced five cornerstones for the identity formation process in a multi-project environment. These findings represent a broader and more complex insight in comparison to the pre-existing literature. However, this study limits its empirical findings to only two constructions within the multi-project environment. Notable similarities were observed in case projects, which calls for recommendation of conducting further studies in order to research whether or not similar results would occur within other organisations. Future research concerning concepts of the multi-project environment will also help improve the framework for the multi-project environment.

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Emmanuel Nyameke is a doctoral student in Department of Industrial Engineering and Management at the University of Oulu. He obtained his master's

degree in Product Management from University of Oulu in 2017. His main research interests include Multi-project environment, organisational project management and multinational investment project management. He has extensive industrial experience from Bodycote Thermal Processing Plant, Vaasa Finland. *emmenuel.nyameke@oulu.fi*

Dr Harri Haapasalo has been Professor of Industrial Engineering and Management at the University of Oulu, Finland for over 20 years. His research interest is focused on business management, product management and management of production processes. His list of publications covers more than 300 international scientific publications. He has been a chair and a committee member in organising numerous international conferences as well as a reviewer; he is also a member of the editorial board of several international scientific journals. Prof. Haapasalo is a scientific director of Lean Construction Institute, Finland. *harri.haapasalo@oulu.fi*

Kirsi Aaltonen (Dr. Tech.) is Associate Professor of Project Management in the Department of Industrial Engineering and Management at the University of Oulu, Finland. Her current research interests focus on areas of stakeholder and uncertainty management in complex projects, application of lean tools in integrated project deliveries and institutional change in project-based industries. Her publication list includes more than 50 academic papers and book chapters in the area of project business. Mrs. Aaltonen has published, among other, in Scandinavian Journal of Management, International Journal of Project Management, International Journal of Production and Operations Management, Project Management Journal and International Journal of Managing Projects in Business. *kirsi.aaltonen@oulu.fi*