The Effect of Knowledge Management in Start-ups

Exploring the Transition Process of a Start-up from Temporary to a Permanent Organization

Authors: Elif Nur Alici
Ece Cengizoglu

Supervisor: Christopher Nicol

Student
Umeå School of Business and Economics
Autumn Semester 2017
Master Thesis, one-year, 15 hp
Executive Summary

This study investigates the three different stages of start-ups’ life and brings lights into the impacts of knowledge management practices on the transition processes between these stages. Start-ups are described as newly created enterprises which aim to disrupt the current state of play of the industry with their innovative products or services. During their initial stages, they demonstrate similar characteristics with temporary organizations; however, as they are developed and turn into a permanent organization the similarities start to diminish. Effects of knowledge management practices during start-up’s journey from a temporary organization to a permanent organization were explored with the guidance of the following research question:

How does knowledge management influence the transition of a start-up from a temporary to a permanent organization?

The term start-up and its organizational practices remain a mystery in the academic literature. Moreover, there are a limited amount of academic studies about the implementation of knowledge management model within entrepreneurial enterprises. Therefore, this thesis aims to contribute to academic studies by exploring in what extent knowledge management activities are practiced and how these practices affect the development of a start-up from a temporary organization to a permanent organization. The theoretical findings are supported by the empirical findings, and a theory is built with the accordance.

Grounded theory is chosen as a research methodology for this research paper due to the lack of literature and study in this research area. Thus, first eight unstructured and then five semi-structured interviews are conducted with the chosen start-ups which have successfully finalized their initial two stages. During the data analysis, open, axial and selective coding methods are used as it is recommended for the grounded theory.

The research question is investigated and answered with the guidance of the collected data from the interviews. With the empirical study, the life-cycle of start-ups is explored. Overall, the life of an enterprise consists of three stages: existence, survival and success. Start-ups share many similarities with temporary organizations during their existence and survival phases regarding the characteristics of their teams, projects (tasks) and time limitation. However, they aim to transform into a permanent organization since their goal is to grow and assure their position in the industry. Besides, knowledge management activities, including knowledge acquiring, transformation, storage and creation, have been prioritized by various types of organizations in order to improve their practices and gain a competitive advantage over their rivals. Similarly, implementation of knowledge management activities within a start-up provides many benefits to development and improvement of the enterprise. Accordingly, it improves their organizational practices and enhances their transition process from the temporary organization to a permanent organization.

Keywords: Start-up, Temporary Organization, Permanent Organization, Knowledge Management
Acknowledgements

We would first like to thank the coordinators of the 10th edition of MSPME program; Mauro Mancini, Umit S. Bititci and Tomas Blomquist, for their continuous work and commitment.

We would also like to thank our supervisor, Christopher Nicol, who shared his research experience and provided us with guidelines and feedback through the writing of this study.

We would also like to acknowledge all the participants who found time to be involved in the study and shared their experiences and perspectives on the issues that were investigated.

Finally, we would like to express our gratitude towards our friends and families, who provided us with continuous support and encouragement throughout this demanding writing process.

Elif Nur Alici
Ece Cengizoglu
Table of Contents

1. Introduction ........................................................................................................................................... 1
   1.1. Background .................................................................................................................................... 1
   1.2. Research Objectives ...................................................................................................................... 2
   1.3. Research Question .......................................................................................................................... 3
   1.4. Unit of Analysis ............................................................................................................................... 3
   1.5. Structure of the Thesis .................................................................................................................... 4
2. Literature Review .................................................................................................................................... 5
   2.1. Identification of Start-ups .............................................................................................................. 5
      2.1.1. Temporary Organizations ....................................................................................................... 5
      2.1.2. Differences between Temporary Organizations and Permanent Organizations ......................... 7
      2.1.3. Re-defining Start-ups ............................................................................................................ 7
   2.2. Knowledge and Knowledge Management .................................................................................... 9
      2.2.1. Knowledge and Knowledge Types .......................................................................................... 9
      2.2.2. Knowledge Management & Organizational Learning .............................................................. 12
      2.2.3. Knowledge Management in Temporary Organizations .......................................................... 15
   2.3. Putting the Theoretical Framework Together ............................................................................... 16
3. Methodology .......................................................................................................................................... 18
   3.1. Preconceptions ............................................................................................................................... 18
   3.2. Research Philosophy ..................................................................................................................... 18
   3.3. Research Approach ......................................................................................................................... 19
   3.4. Research Strategy .......................................................................................................................... 20
   3.5. Research Design ............................................................................................................................. 21
   3.6. Data Collection ............................................................................................................................... 22
      3.6.1. Data Collection Method and Process ....................................................................................... 22
      3.6.2. Interview Design ..................................................................................................................... 24
      3.6.3. Theoretical Sampling ............................................................................................................... 25
      3.6.4. Participant Description ............................................................................................................ 26
   3.7. Data Analysis ................................................................................................................................... 27
   3.8. Quality Criteria of the Study ......................................................................................................... 28
      3.8.1. Credibility ............................................................................................................................... 28
      3.8.2. Transferability .......................................................................................................................... 28
Appendices

Appendix 1: Interview guide for the unstructured interviews ........................................ 63
Appendix 2: Interview guide for the semi-structured interviews .................................. 64
Appendix 3: Start-up properties of SU1 ........................................................................ 65
Appendix 4: Start-up properties of SU2 ........................................................................ 66
Appendix 5: Start-up properties of SU3 ........................................................................ 67
Appendix 6: Start-up properties of SU4 ........................................................................ 68
Appendix 7: Start-up properties of SU5 ........................................................................ 69
Appendix 8: Start-up properties of SU6 ........................................................................ 70
Appendix 9: Start-up properties of SU7 ........................................................................ 71
Appendix 10: Start-up properties of SU8 ...................................................................... 72
Appendix 11: Grounded Theory Analysis ..................................................................... 73
List of Tables

Table 1. Comparison of Start-ups Stages and Temporary Organizations .......................... 8
Table 2. Knowledge Management Models ........................................................................... 14
Table 3. Overview of suitable participants........................................................................... 27
Table 4. Participants’ quotes for the second order theme ‘Building the Idea’ ....................... 32
Table 5. Participants’ quotes for the second order theme ‘Start-up as a Temporary Organization’ .................................................................................................................................. 33
Table 6. Participants’ quotes for the second order theme ‘Initial Decision Making’ ............ 35
Table 7. Participants’ quotes for the second order theme ‘Further Decision Making’ ......... 37
Table 8. Participants’ quotes for the second order theme ‘Knowledge Acquisition’ .......... 38
Table 9. Participants’ quotes for the second order theme ‘Knowledge Transformation’. .................................................................................................................................. 39
Table 10. Participants’ quotes for the second order theme ‘Knowledge Storage’ ............... 41
Table 11. Participants’ quotes for the second order theme ‘Knowledge Creation’ .............. 42

List of Figures

Figure 1. Basic Concepts of Temporary Organizations, 4T Triangle (Ludin & Söderholm, 1995, p.451) ........................................................................................................... 6
Figure 2. Knowledge Transfer Model adopted from Nonaka & Takeuchi, 1995, p.62. 12
Figure 3. Model of the transitory process ........................................................................... 44
1. Introduction

In this chapter, the background of the study will be outlined. The researchers then present the research question and objectives regarding the subject of creating a relationship between knowledge management and start-ups. Moreover, the unit of analysis, and the outline of the thesis are also provided within this section.

1.1. Background

Knowledge management is rapidly becoming one of the focus areas for companies, considering its contribution to the organizational success. Before further describing knowledge management, it is important to first define knowledge, to get a better understanding of the topic. Sosa (1991, p.240), separates knowledge into two categories; knowledge in nature and human knowledge. While knowledge in nature is defined as “instinctual knowledge” consisting of a combination of one’s environment, past and own experiences; human knowledge is based on reflective knowledge which provides an ability to understand the gathered knowledge as a whole (Sosa, 1991, p.240). However, for this study, the term knowledge needs to be particularly explained, in order to set a base for organizational learning, since the use of knowledge is dependent on its definition and practice (Mciver et al., 2013, p.598; Nickols, 2000, p.12). According to Nonaka (1994, p.14), knowledge types can be differentiated from each other as tacit (know-how) and explicit (know-what) knowledge, where tacit knowledge is considered to be the root of all types of knowledge. Brown and Duguid (1998, p.91) argue that while tacit knowledge is more concerned with the capacity, explicit knowledge gives more importance to the practice. However, all previous research point out that one of the main knowledge management process is the transition of knowledge from tacit to explicit (Lindner & Wald, 2011, p.877).

On the other hand, knowledge management is defined as the usage of human capital, resources and documents to organize, transfer and create knowledge, with the aim of fulfilling the objectives of the organization (Davenport et al., 1998, p.43; Gupta et al., 2000, p.17; Nicolas, 2004, p.20). Therefore, organizations should use knowledge management effectively to be able to collect, preserve and spread knowledge successfully across the company, aiming to create their own unique knowledge base for future reference by continuously building upon existing knowledge (Bollinger & Smith, 2001, p.10).

Organizations could be temporary or permanent based on their nature of practice and needs (Packendorff, 1995, p.327) Temporary and permanent organizations have clear differences between them, regarding the time constraints they have to manage, number of tasks to be completed, performance criteria they are based upon and the team dynamics emerged within (Borum & Christiansen, 2006, p.216; Goodman & Goodman, 1976, p.494; Lundin & Söderholm, 1995, p.439). Thus, it can be said that transformation is a significant aspect for temporary organizations (Lundin & Söderholm, 1995, p.439).

Temporary organizations have many similarities with projects. Turner & Müller (2003, p.7) agree that a project can be defined as a temporary organization, considering the common nature of completing a unique task by using assigned resources, to deliver the
selected objectives within a specific time frame. The study takes this definition as the core and makes a connection between temporary organizations and projects accordingly.

Start-ups are defined as newly formed entrepreneurial organizations which are fuelled by bringing innovation to the industry (Lumpkin & Dess, 1996, p. 136). Development of a start-up is a time and cost consuming process, which only a few manage to successfully complete. Therefore, most start-ups prefer to get help from companies that are willing to fund them, which are called incubators (Tötterman & Sten, 2005, p.488). The initial stage of a start-up that is getting help from an incubator comprises of completing certain tasks within a time frame, which fits with the description of a temporary organization (Packendorff, 1995).

The relation and similarities between temporary organizations and projects are mentioned above and will be explained in detail within the research. Furthermore, connections between temporary organizations, projects and start-ups are thoroughly explained in the literature review, creating a clear picture for the reader. For the purpose of the research, growth of a start-up is divided into three phases; existence, survival and success (Lewis & Churchill, 1983). During the existence stage, where the start-up is incubated by other organizations; similarities with temporary organizations are found since it has a specific team that focuses on a unique task to launch an innovative service or product in a limited time (Busenitz et al., 2003, p.302). In the survival stage, a start-up has enough customers and proves that it is “a workable business entity” (Lewis & Churchill, 1983, p.34). These initial stages of a start-up can also be seen as a project, considering the similarities between the iron triangle of a project and 4-T parameters of a temporary organization (task, team, transition and time); which strengthens the bond between start-ups and temporary organizations (Lindgren & Packendorff, 2003, p.86). Furthermore, during the success stage, a start-up begins to institutionalize and becomes a semi-permanent organization by stopping getting help from the incubators and starting making profit (Al-Mubaraki & Busler, 2010, p.4). However, even though several scholars have been recently giving attention to the concept, there is still room for further research on the subject of start-ups and their evolution process; especially on the connection between start-ups and temporary organizations and how they can successfully complete the initial phase to continue as an independent, semi-permanent organization.

Overall, the aim of this research is not only investigating the initial transition stages of a start-up from temporary to a semi-permanent organization, but also adding to the understanding of a start-up itself and exploring the effect of knowledge management on the process of transition.

**1.2. Research Objectives**

The purpose of the study is to first explore the similarities between temporary organizations and start-ups, and then investigating the use of knowledge management on the transition of a start-up to a semi-permanent organization, where the focus lies upon the existence and survival stages. The authors’ objective is to reveal how knowledge management is implemented within the initial stages of development of a funded start-up, where the goal is to fulfil the tasks set by the incubators with time, budget and scope constraints (Lundin & Söderholm, 1995, p.451). Moreover, the
researchers aim at investigating the transition process of a start-up from a temporary organization to a semi-permanent one (Shane & Ventkataraman, 2000). In particular, the authors seek to analyse how start-ups can be considered temporary organizations in the existence stage, and how they become semi-permanent organizations when certain tasks are completed and what role knowledge management plays along the process before officially becoming semi-permanent organizations.

Doing an extensive research on the subject will give room for further studies that want to explore the relation between knowledge management and temporary organizations, especially in start-ups. The main research objective mentioned above is separated into four objectives for the structure of the study.

1. Identify how knowledge management is implemented for organizational learning, recognizing different types of knowledge management and their practice in organizations.
2. Examine temporary and permanent organizations and their differences, outlining how the practice of knowledge management differs in each context.
3. Discover the core principles of a temporary organization and develop a connection between temporary organizations and start-ups.
4. Analyse the growth of a start-up, outlining the different stages and how knowledge management is practiced within the initial stages of the process.

1.3. Research Question

Further research on the topic is recommended considering the possible advantages that can be gained from connecting different study areas of the research (Kuura et al, 2014, p.223). In order to make a contribution to these advantages, the authors have conducted the research with the objective of first understanding how knowledge management is used in different types of organizations, secondly, investigating the initial stage of development of a start-up; and further, how knowledge management is used along this process. The study follows an exploratory approach and the research question is as follows:

How does knowledge management influence the transition of a start-up from a temporary to a permanent organization?

The research question aims to explore the transition stage of a funded start-up and if knowledge management can be effective in making the process successful.

1.4. Unit of Analysis

Unit of analysis defines what is included and not included in the study, which creates a clear view for the readers (Bryman & Bell, 2015, p.316). According to Saunders et al. (2009, p.1479), core of the study, which can be either the unit itself or divided into sub-units, is defined by unit of analysis, which also leads to the definition of the research object. Within the research, first stage interviews have been conducted with eight start-ups, of which only five of them that fit with the characteristics defined in the literature review have been interviewed for the second stage. The unit of analysis for the study is defined as these interviewed start-ups which had help from an incubator or a financer
during the initial stages of the project. The focus is on the transition process of the start-up rather than the start-up itself, where the progression and the success can be further analysed. The data will be collected through the conducted interviews. The researchers believe that the focus on the unit of analysis will be beneficial for the research, considering it will be the base to understand the effect of knowledge management within the initial stage of being funded.

1.5. **Structure of the Thesis**

The following section comprises of brief definitions of each chapter that is covered by the study and presents the structure of the thesis work.

Chapter 1: Introduction. This chapter provides the background and the research gaps for the study. Based on these, research objectives and questions that guide the research are also identified within this chapter.

Chapter 2: Literature Review. The chapter provides the literature review for the study. Firstly, detailed information about temporary organizations is provided along with their similarities with projects, followed by start-ups and their characteristics. Next, knowledge as a concept is explored; where different types of knowledge and their use are further explained, then knowledge management and organizational learning are mentioned in detail in order to show how the use of knowledge management changes in different organizations, exploring its role within start-ups. The section is concluded with a summary of the whole theoretical framework.

Chapter 3: Methodology. In this chapter, the chosen research strategy and design will be outlined and discussed. Firstly, the authors’ preconceptions to the study, research philosophy, approach and design are described, with the rationale for the chosen qualitative methods and their limitations for the study. Next, data collection, participants’ selection and the structure of the interviews are shown along with a brief description of the respondents. Then, the process of data analysis is explained, followed by the truth criteria and the ethical considerations framing the study.

Chapter 4: Empirical Findings. The analysis of the interview data is achieved and discussed within this chapter according to the elements of grounded theory which are concepts, themes and core categories. The findings are discussed in further detail according to the theoretical framework and the analysis will create the base for the following chapters.

Chapter 5: Data Analysis. The chapter includes the data analysis of the research, and has a purpose of answering the research question and objectives using a model which shows the relationships between core and sub-categories identified previously.

Chapter 6: Last Thoughts and Conclusion. In this chapter, research objectives and question are returned to and connected to the findings of the study, showing the researchers’ perspective in the results and the study’s contribution to the literature as well as practice. Limitations and the possibility of future research on the exploratory study are also discussed within this chapter.
2. Literature Review

In this chapter, the theoretical framework of the research topic is introduced through the reviewed literature. Firstly, the definition of start-ups is briefly presented. Due to lack of documentation about this topic, different organization types, which are temporary and permanent, are examined. Thus, the relation between them and start-ups is disclosed. Then, a more detailed re-definition of start-ups is made in consideration of this relationship followed by an introduction of knowledge management and knowledge management practices in order to reveal their effects on start-ups. In the end, the theoretical framework is proposed.

2.1. Identification of Start-ups

The definition of a start-up keeps its ambiguity in the literature, due to its fluid nature; however, for the purpose of this study, it can be described as a newly formed entrepreneurial organization (Luger & Koo, 2005, p.17; Lumpkin & Dess, 1996, p.136) which capitalizes on innovation by disrupting the industry (Miller, 2011, p.874; Sahut & Peris-Ortiz, 2014). They are likely to have lack of resources and budget as an infant firm; therefore, many of them need another organization to support them (Hunt & Morgan 1995 cited in Kask & Linton 2013, p. 511). Thus, they can fulfil their activities and grow their business (Nkongolo–Bakenda, 2002, p.104).

In the following sections, characteristics of temporary organizations and differences between permanent and temporary organizations are elaborated in order to have a complete idea about start-ups.

2.1.1. Temporary Organizations

A temporary organization is a unique form of organization which has a termination point that is “fixed either by a specific date or by the attainment of a predefined task or condition.” (Bakker, 2010, p.467; Janowicz-Panjaitan et al., 2009, p.2; Packendorff, 1995, p.327); which means temporary organizations have a limited duration to accomplish their tasks (Goodman & Goodman, 1976, p.494; Grabher, 2002, p.207; Lundin & Söderhölm, 1995, p.445). However, not only the duration but also the structure of teams and the nature of tasks which they deal with differentiate them from permanent organizations. According to Packendorff (1995), Burke and Morley (2016) there are several key characteristics which define temporary organizations. First, as mentioned above, they have a time constraint to achieve their objectives. Secondly, they aim to create a non-routine service/product (Goodman & Goodman, 1976, p. 494), in other words, they focus on a specific and unique project, and thirdly, the team is formed around the pre-defined task (Burke & Morley, 2016, p.1237; Packendorff, 1995, p.327).

Temporary Organizations and Projects

According to PMBOK (2013), a project is “a temporary endeavour undertaken to create a unique product, service, or result. The temporary nature of projects indicates that a project has a definite beginning and end.” Considering the key characteristics of temporary organizations that mentioned above, the similarities between definitions of these two terms stand out. At this point, Turner and Müller (2003) remove the subtle line between definitions of projects and temporary organizations, and describe a project
as a “temporary organization to which resources are assigned to undertake a unique, novel and transient endeavour managing the inherent uncertainty and need for integration in order to deliver beneficial objectives of change.” (Turner & Müller, 2003, p.7). In the view of these definitions, it is safe to approach temporary organizations with a project perspective. Therefore, in this research paper the definition of a temporary organization is acknowledged as ‘an organization which has a complicated task to accomplish in a limited time with a skilled team in order to create a unique service or product’ (Packendorff, 1995, p. 327). Based on this point of view, Lundin and Söderholm’s (1995) four-dimension (task, team, transition and time) framework, which is demonstrated in Figure 1, provides a clearer understanding of the basic concepts of temporary organizations.

![Figure 1. Basic Concepts of Temporary Organizations, 4T Triangle (Ludin & Söderholm, 1995, p.451)](image)

First of all, the task is the main reason of the existence of temporary organizations (Lundin & Söderholm, 1995, p.450), and it is defined as unique, uncertain and complex (Burke & Morley, 2016, p.1242). This is because it is dependent on unstable environment (Goodman & Goodman, 1976, p.496), goals are usually not clear due to inexperience of team members (Lundin & Söderholm, 1995, p.441), and its internal elements are widely diverse and interdependent (Burke & Morley, 2016, p. 1243). Secondly, interpersonal relations between individuals and their interaction with the surrounding define the team in temporary organizations (Lundin & Söderholm, 1995, p.450). Teams are usually result-oriented, so they aim to solve the problem in the most efficient way (Saunders & Ahuja, 2006, p.667). Moreover, they are specifically formed for the pre-defined task (Lundin & Söderholm, 1995, p.439) and team members tend to have flexible roles about the task (Saunders & Ahuja, 2006, p.667). Thirdly, the transition is the sole aim of temporary organizations (Lundin & Söderholm, 1995, p.450). It can be defined as a qualitative change after the task is accomplished (Lundin & Söderholm, 1995, p.438). Transition includes both changes in the task and change in the perception of individuals (Lundin & Söderholm, 1995, p. 438).

Lastly, time takes the primary role in temporary organizations as it is the fundamental concept that defines them (Bakker, 2010, p.466; Jacobsson et al., 2013, p.578; Kenis et al., 2009, p.59; Packendorff, 1995, p.43). As mentioned previously, temporariness of organizations refers to their limited duration and short life-cycle (Kenis et al., 2009, p.77). Therefore, it creates awareness about the forthcoming termination within the organization (Kenis et al., 2009, p.79) and affects the nature of other concepts which are explained above (Lundin & Söderholm, 1995, p.450). For this reason, the time is demonstrated as the central concept of the 4T model in the Figure 1.
Additionally, bidirectional arrows in Figure 1 signify the bilateral relations between the basic concepts of temporary organizations. Definition of a task may put goals and set expectations about the transition; similarly, some transitions may define the task. Team members may be chosen according to the definition of the task and/or characteristic of the team may redefine the task. Moreover, competencies of the team may affect the transition; likewise, the transition can create a difference in the perception and competencies of the team. On the other hand, time can put some limitations on the definition of tasks, define expectations for the transition, and change the dynamic of teams. (Lundin & Söderholm, 1995, p.450).

### 2.1.2. Differences between Temporary Organizations and Permanent Organizations

Action is the crucial notion and motivation for temporary organizations (Borum & Christiansen, 2006, p.216; Goodman & Goodman, 1976, p.494; Lundin & Söderholm, 1995, p.443; Schultz et al., 1987, p.37) since they aim to reach their goals in a limited time (Packendorff, 1995). In this aspect, time gains a different meaning for them compared to permanent organizations (Lundin & Söderholm, 1995, p.437); it becomes more crucial as they have to comply strictly with the time limitations due to their non-permanent nature (Bakker et al., 2016, p.6; Grabher, 2002, p.208; Lundin & Söderholm, 1995, p.438). Another specific aspect of temporary organizations is the number of tasks they have to handle; unlike permanent organizations, they have much fewer tasks to focus their attention on (Lundin & Söderholm, 1995, p.438). Moreover, these tasks are mostly non-routine due to lack of definite infrastructure, unlike the ones in permanent organizations (Burke & Morley, 2016, p.1242). The concept of teams in temporary organizations also differs from the ones in permanent organizations, because in temporary organizations teams are task-oriented, in other words, teams are specially created around a specific task (Lundin & Söderholm, 1995, p.439; Saunders & Ahuja, 2006). On the other hand, in the permanent organizations, the team can be formed by any group of people regardless of the task (Lundin & Söderholm, 1995, p.442).

Additionally, temporary organizations have performance evaluation criteria; of which the most common criterion is the “before” and “after” comparison (Lundin & Söderholm, 1995, p.439). Therefore, transitions (or transformations) are significant for temporary organizations to observe their evolution (Lundin & Söderholm, 1995, p.439). Meanwhile, for permanent organizations, the main performance criterion is usually at the production level (Lundin & Söderholm, 1995, p. 450), such as production volume.

In general, temporary organizations are defined by task, team, transition and time, while permanent organizations are identified by their goals, endurance and continual development (Lundin & Söderholm, 1995, p.439).

### 2.1.3. Re-defining Start-ups

As mentioned previously, start-ups are newly formed organizations (Luger & Koo, 2005, p.17; Lumpkin & Dess, 1996, p.136) which have a potential to disrupt the industry with innovation focusing on closing a market gap (Miller, 2011, p.874; Sahut & Peris-Ortiz, 2014). Furthermore, they aim to grow to ensure their position in the sector (Kollmann et al., 2015, p.15). However, as there is no sharp parameter to decide
whether a company is a start-up or not, it is difficult to determine when a start-up stops being one (Morris et al., 2005, p.726; Osterwalder et al., 2006, p.3). At this point, some scholars claim that it happens when a start-up reaches a certain size as a company, some others say this happens when they start making a profit and/or become public.

Lewis and Churchill (1983) are the first scholars who have divided the lifespan of small enterprises into stages in order to remove these uncertainties: the first stage is the “existence” phase where the enterprise is infant (Lewis & Churchill, 1983, p.33; Miller & Friesen, 1984) and incubated by other organizations due to lack of resources, networks, and capital (Al-Mubaraki & Busler, 2010, p.2; Tötterman & Sten, 2005, p.489). The second stage is the “survival” phase, where a start-up has enough customers and proves that it is “a workable business entity” (Lewis & Churchill, 1983, p.34). In these two phases the young start-up resembles a temporary organization since it also has a specific team that focuses on a unique task (McKenzie et al., 2007, p.29) to launch their innovative service or product in a limited time with the help of funds that are received from the incubators (Busenitz et al., 2003, p.302). Moreover, the actions taken during this limited time are expected to make way for growth within the enterprise (Shane & Venkataraman, 2000). So, the transition within the company plays a vital role in young enterprises.

The third stage is the “success” phase, where the start-up makes its first step into institutionalization by stopping getting help from incubators and starting to make a profit (Lewis & Churchill, 1983, p.34). Moreover, the number of employees increases, the departmentalization starts and the time pressure which is created by incubators decreases (Lewis & Churchill, 1983, p.34). Thus, as it is demonstrated in Table 1, similarities between start-ups and temporary organizations diminish in this phase, and the start-up starts to become a semi-permanent organization. In other words, the similarities between the young start-ups and temporary organizations tend to decrease as they grow and transform into a permanent organization (Lewis & Churchill, 1983).

For the purpose of this thesis, all the contacted start-ups should be successfully completed the first two stages of their development and reached the success stage, where they are considered to be semi-permanent organizations. Moreover, these start-ups should be able to make profit without the help of an incubator, who helped them start their business in the beginning. Overall, only the start-ups that have gotten external funds in their existence stage and have manage to reach the success stage, where they are financially independent, will be considered for the study.

**Table 1.** Comparison of Start-ups Stages and Temporary Organizations

<table>
<thead>
<tr>
<th></th>
<th>Temporary Organizations</th>
<th>Existence &amp; Survival Stages of a Start-up</th>
<th>Success Stage of a Start-up</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Team</strong></td>
<td>Specifically formed for the task (Lundin)</td>
<td>Task-oriented (Lewis &amp;</td>
<td>Less task-oriented (Lewis &amp;</td>
</tr>
</tbody>
</table>
2.2. Knowledge and Knowledge Management

Knowledge Management in organizations has been one of the most popular research topics, especially in the last years due to its direct connection with organizations’ performance in the growing competitive environment. However, it is essential to focus on what “knowledge” is before starting to discuss Knowledge Management in order to have a better understanding of the overall topic.

For this reason, knowledge and knowledge types are initially defined and then knowledge management practices in organizations are explained in the following sections.

2.2.1. Knowledge and Knowledge Types

There are various definitions of “knowledge” in the literature of knowledge management due to its vague and philosophical nature (Davenport & Prusak, 1998; Firestone & McElroy, 2003, p.177; Nonaka & Takeuchi, 1995 p.96). Scholar Kornblith (2002) separates knowledge into two different philosophical aspects: knowledge in nature and human knowledge. In his book, Sosa (1991, p.240) defines knowledge in nature as "instinctual knowledge" which consists of a combination of one's environment, past and own experiences without any personal reflection and understanding. On the other hand, human knowledge is based on reflective knowledge which provides an ability to understand the broader picture and combine all of the gathered information (Sosa, 1991, p.240). In other words, human knowledge comprises of one’s personal experiences, environmental factors and his/her reflective understanding towards them (Koskinen & Philanto, 2008, p.43).

When it comes to organizational knowledge, Davenport and Prusak (1998, p.5) describe it as “a fluid mix of framed experiences, values, contextual information, and expert insight that provides a framework for evaluating and incorporating new experiences and information. It originates and is applied in the minds of knowers. In organizations, it
often becomes embedded not only in documents or repositories but also in organizational routines, processes, practices and norms.”. That is to say, knowledge in organizations is a dynamic asset since it is always accumulated and improved over time (Nonaka, 1994, p.31), also it brings added value to the organization due to its following attributes (Bollinger & Smith, 2001, p.10):

1) **Inimitable**: It is not possible for two different groups to contribute to knowledge in the same way due to their different backgrounds, personal/subjective interpretations and synergy. That makes knowledge almost impossible to imitate.

2) **Rare**: Organizational knowledge is built on prior knowledge which is specific to the organization. Because of that, it is difficult for other organizations to have the same type of knowledge.

3) **Valuable**: Organizational knowledge aims to improve the organizational performance to keep it competitive, which makes it an asset.

4) **Non-substitutable**: Inimitable and rare natures of the teams in the organization make the knowledge special and non-substitutable for the organization.

Therefore, like every other value-adding asset, knowledge also has a strategic significance for organizations; hence it needs to be managed carefully. At this point, the definition of knowledge needs to be narrowed down by organizations to manage it more effectively. This is because, the best way to manage the knowledge depends on what it means to the organization (Mciver et al., 2013, p.598; Nickols, 2000, p.12).

Philosopher Michael Polanyi (1958) is the first scholar who differentiates knowledge types from each other (tacit versus implicit) in the knowledge management history (Nickols, 2000, p.13). Thus, it is safe to claim that his arguments have opened new doors for new ideas about knowledge types. Some of the scholars have had an integrationist approach towards forms of knowledge. For example, Tsoukas (1996, p.14) claims that tacit (know-how) knowledge is the root element of all kinds of knowledge. On the other hand, some other researchers including Brown and Duguid (1998, p.91) argue that there is a line between tacit (know-how) and explicit (know-what) knowledge because know-how is more about the capacity while know-what is about the practice. Nevertheless, they all agree upon the importance of all types of knowledge and the transition from tacit knowledge to explicit knowledge as it is one of the key processes of knowledge management in the organizations (Lindner & Wald, 2011, p.877). In his article Nickols (2000, p.13) describes knowledge in a more detailed way and divides it into six different sub-groups as tacit, explicit, implicit, declarative, procedural and strategic knowledge. This research paper covers two of them which are tacit and explicit since they are the most relevant with the research topic. Thus, their brief definitions are provided in the following sections.

### 2.2.1.1. Tacit Knowledge

Tacit knowledge can be defined as a hidden knowledge which is gained by personal actions of its owner (Nickols, 2000, p.15; Nonaka, 1991, p.98; Orlikowski, 2002, p.251) without noticing (Polanyi, 1958, p.99), so it is highly related to one’s personal beliefs and thoughts (Nonaka, 1991, 99). Therefore, it is difficult to phrase and share this type of knowledge with others (Bollinger & Smith, 2001, p.9; Polanyi, 1958, p.99).
Moreover, tacit knowledge is almost impossible to be formalized since it is not clearly visible to its owner (McIver et al., 2013, p.600; Nemati et al., 2002, p.145; Nonaka, 1991, p.98). Polanyi (1997, p.136) briefly defines this situation as "we know more than we can tell" and gives an example of recognizing faces in order to make it clearer: “We know a person’s face, and can recognize it among a thousand, indeed among a million. Yet we usually cannot tell how we recognize the face we know” (Polanyi, 1997, p.136).

2.2.1.2. Explicit Knowledge

Explicit knowledge can be thought as the opposite of tacit knowledge because unlike tacit knowledge, this type of knowledge is learned through reports, diagrams, tables and other written sources (Nickols, 2000, p.14). Therefore, compared to tacit knowledge explicit knowledge is much more organized and formal since it usually includes equations, rules and quantitative data which make it more objective and easy to share with others (Bollinger & Smith, 2001, p.9; Nemati et al., 2002, p.145; Nickols, 2000, p.14; Nonaka, 1991, p.98). For instance, for a baker, knowing how to stretch dough is a tacit knowledge since it is only known to him, in other words only the baker has the knowledge of right parameters such as thickness and width for a perfect pastry; however, once his technique is observed, analysed and written down on papers/reports, this knowledge becomes an explicit knowledge which is available for the other people to read and learn as well (Nonaka, 1991, p.98).

2.2.1.3. Relationship Between the Knowledge Types

As mentioned in the previous section, defining the knowledge is very significant for organizations. On the other hand, it is also very difficult to frame the knowledge with sharp definitions due to its flexible nature (Nickols, 2000, p.17). Therefore, it is essential to dwell on transitions between the knowledge types as much as their definitions to have a more accurate view of knowledge management.

Nonaka (1991, p. 99) explains four main steps to create knowledge within an organization: socialization (tacit to tacit), externalization (tacit to explicit), combination (explicit to explicit) and internalization (explicit to tacit); and he emphasizes the importance of repetition of dynamic interactions between these steps since each repetition widens the knowledge base. When there is a tacit knowledge (personal know-how knowledge), the first step is sharing it with others. This step occurs naturally in many cases since the owner is usually not aware of his/her own knowledge. After sharing the tacit knowledge with others, the second step is articulating it by recording, formalizing or documenting, thus the (explicit) knowledge can be useful for the organization. The third step is combining various related explicit knowledge to create a new one. Then the last step is sharing this new (explicit) knowledge with the organization; thus, everyone can internalize it and build their unique and personal tacit knowledge. (Nonaka & Takeuchi, 1995, p.62). Figure 2 demonstrates these transitions between knowledge types.
2.2.2. Knowledge Management & Organizational Learning

“Organizations learn” (Sinkula, 1994, p.43) and this learning can be defined as the difference between the organizations’ current and previous knowledge which arises from experience gained over the time (Bollinger & Smith, 2001, p.9; Fiol & Lyles, 1985, p.803). According to Dodgson (1993, p.377), organizational learning is "the way firms build, supplement and organize knowledge and routines around their activities and within their cultures and adapt and develop organizational efficiency by improving the use of the broad skills of their workforce." That is to say; organizational learning is one of the key actions for organizations to develop their skills by detecting and correcting their mistakes (Argyris & Schön, 1978, p.2). Therefore, it is crucial for organizations to focus on their learning process for creating a behavioural change which leads to long-term improvements in the performance (Sinkula, 1994, p.43). Thus, the organization can obtain a competitive advantage in the rapidly changing environment through gained flexibility and adaptability (De Geus, 1988, p.71; Dickson, 1992, p.71; Nonaka, 1991, p.96). This is also highly related to customer satisfaction since organizations can keep responding to the changing needs of their customers (Day, 1994, p.37; Dickson, 1992, p.70; Sinkula, 1994, p.37). As Rowley (1999, p.416) says: "Companies must innovate or die, and their ability to learn, adapt and change becomes a core competency for survival."

There are four critical steps for the learning process based on organizational learning theory: knowledge acquisition, information distribution, information interpretation and organizational memory (Sinkula, 1994, p.36; Stanley & Narver, 1995, p.66). Huber (1991, p.90) explains these steps in the following quote as:

“Knowledge acquisition is the process by which knowledge is obtained. Information distribution is the process by which information from different sources is shared and thereby leads to new information or understanding. Information interpretation is the process by which distributed information is given one or more commonly understood interpretations. Organizational memory is the means by which knowledge is stored for future use.”

Knowledge management and organizational learning are strongly interrelated disciplines; however, slight differences between them still exist regarding their contents.
The main difference is that knowledge management focuses on managing the acquired knowledge and creating a new one, while organizational learning focuses more on the process of obtaining the knowledge (Argote, 2005, p.43). In other words, organizational learning is interested in the answer of “how does an organization learn?” while knowledge management investigates “how the knowledge should be managed?” (Argote, 2005, p.43). Consequently, any improvement in the organizational learning process would enhance the knowledge management system and better knowledge management would contribute to a more effective learning process (Argote, 2005, p.46).

Therefore, Knowledge Management as a term has been defined in many ways; however, there is no right or wrong definition as the concept and the usage of the knowledge differ from one organization to another (Bollinger & Smith, 2001, p.9). According to Miller (1999, cited in Bollinger & Smith 2001, p.10), knowledge management is gaining tacit and explicit knowledge through the actions such as creating, collecting and applying. Similarly, Davenport and Prusak (1998, cited in Rowley 1999, p. 418) define it as:

“Knowledge management concerned with the exploitation and development of the knowledge assets of an organisation with a view to furthering the organisation's objectives. The knowledge to be managed includes both explicit, documented knowledge, and tacit, subjective knowledge. Management entails all of those processes associated with the identification, sharing and creation of knowledge. This requires systems for the creation and maintenance of knowledge repositories, and to cultivate and facilitate the sharing of knowledge and organizational learning. Organisations that succeed in knowledge management are likely to view knowledge as an asset and to develop organizational norms and values, which support the creation and sharing of knowledge.”

In general, knowledge management can be defined as a set of activities including gathering, identifying, organizing, transferring and creating a knowledge (Al-Hakim & Hassan, 2016, p. 114; Costa & Monteiro, 2016, p.403; Davenport et al., 1998, p.43; Gupta et al., 2000, p.17; Nicolas, 2004, p.20; O'Brien, 2015, p.399) through human capital, resources and documents in order to gain competitive advantage while achieving the objectives of the organization (Grant, 1996, p.110; Nicolas, 2004, p.20). Thus, Table 2 summarizes different knowledge management models which are used by various authors.
Starting from similarities among these models, main activities of knowledge management can be grouped as; **acquiring** the knowledge (get, create, socialize), **transforming** the knowledge (capture, prepare, externalize), **storing** the knowledge (retrieve, combine, build) and **creating** the knowledge (divest, represent, apply, internalize). In this research, knowledge management model is based on these activities (acquire, transform, store, create) and they are explained in the following sections.

**- Acquisition of the Knowledge**

Knowledge acquisition refers to obtaining an existing (tacit and/or explicit) knowledge by identifying the knowledge gap regarding the requirement of organization (Beijerse, 2000, p.166), and finding the source of relevant knowledge (Holsapple & Joshi, 2002, p.51). Internet is one of the biggest data-storage sources to reach and acquire the knowledge, however sometimes it may not be enough depending upon the kind of desired information (Davies et al., 2003). Therefore, in this type of situations the knowledge can be gathered through other ways such as business alliance and partnership (Davies et al., 2003).

**- Transformation of the Knowledge**

Knowledge transformation consists of two important actions which are codification of the existing explicit knowledge, and converting the tacit knowledge into an explicit knowledge and then codifying this new explicit knowledge (Nevo & Wand, 2005, p.561; Nonaka & Takeuchi, 1995, p.62, Zollo & Winter, 2002, p.342). The main principle of this activity is based on the identification of knowledge owners in order to compile their knowledge. Preparing manuals, spreadsheets and online/offline documents are some of the most common ways to achieve that (Zollo & Winter, 2002, p.342). In this way, knowledge becomes reachable for more people when there is a need and it is protected from being lost over time (Argote, 1999; Davenport & Prusak, 1998).
Therefore, knowledge transformation plays a significant role in knowledge management.

-Knowledge Storage

Knowledge storage, as known as organizational memory, keeps the important and relevant knowledge, which is acquired internally or externally, for the future use of the organization such as problem solving and opportunity creating (Walsh & Ungson, 1991, p.72). There are several ways to store the explicit knowledge electronically and traditionally. However, the tacit knowledge is not suitable for storing due to its discrete nature. Therefore, it has to be transformed into an explicit knowledge to become available for storing (Nanoka & Takeuchi, 1995, p.99). One of the biggest issues about the organizational memory is its timeliness (Nevo & Wand, 2005, p.555). This is because, knowledge may lose its relevance and value over time, and therefore it is important to update the organizational memory regularly.

-Creation of New Knowledge

According to Wiig (1993), there are two ways to create a new knowledge. The first way is acquiring an existing knowledge through external sources, as it is mentioned previously. The second way is transforming the explicit knowledge into a tacit knowledge through interpreting and analysing it. In this paper, only the second way is taken as a knowledge creation activity since the first one is separated as knowledge acquisition. According to Polanyi (1962, p.604) knowledge first occurs on person’s mind as a tacit knowledge, and then it is shared with others through socialization. Afterwards, this shared knowledge is documented and/or codified to convert tacit knowledge into an explicit knowledge. After combining it with another explicit knowledge, it is shared with even more people and a new tacit knowledge is created in their minds (Nonaka & Takeuchi, 1995, p.99).

Organizations need an effective knowledge management system to fulfil these activities systematically and efficiently. As Wiig (1997, p.1) propounds there are two main objectives of successful knowledge management: firstly, to make organizations take intellectual actions to ensure their sustainability and success in the industry; secondly, to make organizations realize their best knowledge asset. Moreover, successful knowledge management brings new ideas to organizations and that leads a competitive advantage over their competitors by meeting market needs in a better way (Grayson & O’Dell, 1998). Another benefit of knowledge management is broadening the available resources within the organization to provide an opportunity to employees to increase their knowledge (Bollinger & Smith, 2001, p.10). Therefore, it is vital for organizations to have a knowledge strategy, which focuses on organizational learning, as their business strategy (Wiig, 1997, p.3).

2.2.3. Knowledge Management in Temporary Organizations

Knowledge management is slightly different in temporary organizations compared to permanent organizations due to structural differences between them. One of the key reasons for these differences is the short-term orientation of temporary organizations (Sydow et al., 2004, p.1475). As it is addressed previously, temporary organizations focus on unique tasks, which means they are different than each other. Also, teams are
specifically created around these pre-defined tasks within the temporary organizations and team members tend to have flexible roles. Thus, organizational memory does not have a chance to be developed as in permanent organizations (Lindner & Wald, 2011, p.877).

Challenges which temporary organizations face about implementing the knowledge management system can be categorized into three points; first, the temporary nature of the teams may cause discontinuity in individual and organizational knowledge transfer as teams tend to focus on the task due to the time pressure, therefore intention of sharing knowledge may lose its importance (Bollinger & Smith, 2001, p. 12; Kasvi et al., 2003, p. 572; Prencipe & Tell, 2001, p.1377); second, the knowledge transfer from one project to another may be difficult due to projects’ temporal nature (Boh, 2007, p.28; Shum, 1997 cited in Bollinger & Smith 2001, p. 12) and third, knowledge management needs a long-term perspective in order to align with the strategy of the organization; however, temporary organizations focus on short-term tasks which restrict using knowledge management as a business strategy (DeFillippi & Arthur 1998, cited in Lindner & Wald 2010, p.878).

Considering these structural differences, especially the lack of organizational memory, ‘personal knowledge asset responsibility strategy’ matches better with the nature of temporary organizations. This is because it puts personal knowledge into prominence and makes individuals responsible for sharing their own knowledge (Wiig, 1997, p.3). Thus, knowledge acquisition and transformation stages gain more importance.

**2.3. Putting the Theoretical Framework Together**

Start-ups are newly formed entrepreneurial organizations which aim to disrupt the industry with their innovations (Luger & Koo, 2005, p.17; Lumpkin & Dess, 1996, p.136; Miller, 2011, p.874; Sahut & Peris-Ortiz, 2014). For the purpose of this research paper, the life of start-ups is divided into three stages as existence, survival and success considering the constant change in their organizational structure (Lewis & Churchill, 1983). Many of them start their business with receiving financial support from other organizations and/or investors (Al-Mubarak & Busler, 2010, p.2; Töetterman & Sten, 2005, p.489). During the existence and survival stages they are incubated through financial supports (Al-Mubarak & Busler, 2010, p.2; Töetterman & Sten, 2005, p.489) and they aim to accomplish their tasks with a particular team (McKenzie et al., 2007, p.29) to reach their objectives in a limited time (Busenitz et al., 2003, p.302). In this respect, they highly resemble temporary organizations which have a complicated task to accomplish in a limited time with a skilled team in order to create a unique service or product (Lewis & Churchill, 1983). Starting from this point of view, start-ups are expected to fulfil their existence and survival stages successfully (Shane & Venkataraman, 2000) in order to proceed to the success phase where they start to institutionalize and become a semi-permanent organization by making their own profit (Lewis & Churchill, 1983, p.34).

On the other hand, knowledge is one of the most important strategic assets for all type of organizations to survive in the growing competitive environment (Bollinger & Smith, 2001, p.10). Therefore, it has to be managed wisely. From the reviewed pieces of literature, the combination of knowledge management models is chosen as the base of this research paper. Basically, knowledge management is a set of actions which creates
knowledge transfer through several activities (acquisition, transformation, storing and creation) (Al-Hakim & Hassan, 2016, p.114; Costa & Monteiro, 2016, p.403; Davenport et al., 1998, p.43; Gupta et al., 2000, p.17; Nicolas, 2004, p.20; O'Brien, 2015, p.399) while supporting organizational learning (Argote, 2005, p.46). However, first two steps of knowledge transfer, which are knowledge acquisition and transformation, within the chosen knowledge management framework are mainly focused on the empirical study due to short-term orientation of temporary organizations. It is assumed that successful knowledge management positively affects young start-ups to proceed to the success stage.
3. Methodology

The purpose of this chapter is to identify the methodology chosen through the research philosophy in order to find an answer to the research question. The preconceptions of the authors based on their backgrounds and previous knowledge are also mentioned in the chapter along with their perspectives on research philosophy; ontology and epistemology. Moreover, the process of research approach, data collection and analysis are also discussed within the chapter.

3.1. Preconceptions

Both authors have studied engineering in their Bachelor’s before joining the Master’s in Strategic Project Management program; one geological and the other industrial engineering. Although both of them come from a common ground, they have very different experiences regarding their internships, one of them worked in several construction projects while the other worked in component manufacture and supply for commercial vehicles industry, which give them the opportunity to analyse situations from different perspectives. Throughout their experience, they witnessed the importance of the use of knowledge in projects and how it affects the outcome. Thus, the research topic chosen is the effect of knowledge management in start-ups, especially during the initial transformation phase. Their backgrounds might present some biases during the process of the research, however, the fact that both have experiences in different industries helps to reduce this risk. Moreover, the involvement of different industries in the data collection phase will further reduce the risk of a bias opinion on the research question.

3.2. Research Philosophy

Creating a structure for the chosen methodology for the study begins by defining the ontology and epistemology. These choices have an influence on the research design and strategy as well as the process of understanding the direction of the research and finding answers to research question and objectives (Eriksson & Kovalainen, 2015, p.12). It is important to define the stand point of the authors’ in order to create a clear vision for the readers and to recognize the process of data analysis (Eriksson & Kovalainen, 2015, p.12). Philosophical choices made for the study which are namely ontological and epistemological, are explained in the following paragraphs.

Ontology defines the researchers’ understanding of the reality which can be viewed in two ways; subjective (constructive) or objective (Tuli, 2010, p.99). While subjectivist approach considers the reality as a concept dependent on different individuals and their thoughts which allows more freedom in the methodology; objectivist approach takes reality as a more solid, independent concept (Tuli, 2010, p.105). The research is made to explain the use of knowledge management and its influence along the beginning stages of funding and building a start-up. Knowledge management is a very intangible and fluid concept, which makes it difficult to fit into concrete patterns (Hussi, 2004, p.43). Because of that, it has different meanings for different individuals, based on their background, biases and understanding of the reality and its application is also dependent on the industry and company that uses it. Although it entails all the information used and known to a specific company, it is still not possible to put it into certain patterns. Moreover, for the purpose of the thesis, the transition process of a start-up from a
temporary to a semi-permanent organization is divided in three stages, which are existence, survival and success periods, where existence and survival periods are considered as projects. And Cicmil et al. (2006, p.684) agree that a project itself is a subjective concept and the philosophical choices of the topic tend to lean towards a more constructivist approach. Thus, the relevant approach chosen for the research is subjectivist (constructivist) approach, which relates more to the research question and helps to define the further steps for the methodology.

It is necessary to include the epistemology along with the ontology when doing any research to describe both how the reality and the knowledge is perceived by the authors; which eventually will lead to the methodology chosen for the research (Tuli, 2010, p.106). Epistemology defines what reliable knowledge is and how it is acknowledged by the authors; there are essentially two opposite approaches to epistemology; positivist and interpretivist (O’Gorman, 2015, p.59). Positivist approach focuses on facts and concrete explanations of the things that are being researched upon; while the centre of the interpretivist approach is forming ideas around the relationships and making definitions along the way according to observations and responses of participants of different organizations involved in the research (O’Gorman, 2015, p.61). Focus of an interpretivist research is analysing how perception of an idea differs among different subjects and using observational methods in order to answer the research question (Saunders et al., 2009, p.116). The purpose of the research is to analyse how different start-ups use knowledge management for their advantage to successfully complete the existence and survival stages and continue their way to become a permanent organization. This process will involve the opinions of different individuals, eventually formulating the idea accordingly. Knowledge is a subjective concept, which means it will have different meanings to different individuals, and that it is difficult to find a common ground that most will agree upon. Thus, the epistemology chosen for the research is interpretivist approach, which suits more both with the needs of the researchers and the research question.

Overall, the paradigm chosen for the research philosophy falls under subjectivist (constructivist) - interpretivist, following the belief that knowledge is an element dependent on social individuals and the nature of the research will be observed according to the responses of the participants chosen for the analysis. The aim is to understand how the perception of knowledge and its effects on the transformational period differ in the eyes of different organizations and present the results accordingly.

### 3.3. Research Approach

Defining the research approach sets the base for the research design, deciding whether to use deductive or inductive approach for the rest of the process; with deduction, the aim is to test a hypothesis that is already developed using larger samples for data collection to analyse if it is acceptable or rejected (Saunders et al., 2009, p.124). Induction, on the other hand, is comprised of a more flexible process, where the focus is on the behavioural context of how an individual understands the environment (Saunders et al., 2009, p.126).

Deciding on the research approach is important for further development of the research, in terms of deciding how to do the data collection and analysis and on which approach would provide a better solution for the research question (Saunders et al., 2009, p.126).
All the decisions made about the philosophy and the research paradigm affect the research approach as well; often it is assumed that an interpretivist research would fit better with inductive approach and a positivist research would be more likely to fit better with a deductive approach, however this should not influence the decision of researchers, since there could be some cases where this assumption is not relevant (Cunliffe, 2011, p.655).

For the purpose of this research, the authors agree that inductive approach would be more suitable. The objective is to have a better understanding of the use of knowledge management along with the relation between knowledge management practices and the development of a start-up. Considering the nature of the research and the lack of theory on the topic, it is better to get a better understanding of the study using multiple participants and their perspective on the topic according to their responses and their analysis, adding to the existing literature while building a new theory. Moreover, making a connection between temporary organizations and their use of knowledge management requires observation of individual responses on the subject, understanding how the relation works rather than describing it, which fits with the definition of inductive approach. The choice of the research approach is also aligned with the chosen research paradigm, subjectivist-interpretivist, which encourages the use of qualitative methods, and interviews are planned to be used for the data collection process of the research (Saunders et al., 2009, p.127).

3.4. Research Strategy

According to Bryman & Bell (2015, p.37), there are two main research strategies that can be used for the thesis, quantitative and qualitative research strategy. Authors should make the decision of the research strategy based on its fit with the research question and objectives and previously made epistemological and ontological choices for the study (Creswell et al., 2007, p.238).

Quantitative approach is mostly used with deductive research where the aim is testing a theory through the collection and analysis of extensive amount of information (Bryman & Bell, 2015, p.161). Furthermore, the quantitative strategy is more related with objective epistemological stance, where the nature and understanding of one’s environment is considered to be a solid and objective reality (Bryman & Bell, 2015, p.38). On the other hand, qualitative strategy embraces an inductive approach and gives focus to analysing behavioural differences in individuals along the data collection and analysis process, in order to develop a new theory (Bryman & Bell, 2015, p.38). Moreover, qualitative research strategy is more useful in investigating how different subjects perceive their reality and environment (Creswell et al., 2007, p.238).

The chosen research strategy should be aligned with both the research question and objectives and the epistemological and ontological assumptions made before. As mentioned previously, this research takes a subjectivist – interpretivist approach, with the purpose of observing the use of knowledge management. The objective of the research is to analyse how knowledge management can affect the transition of a temporary organization to a semi-permanent one. Thus, it was decided that a qualitative approach would be more appropriate for the purpose of this study, where the aim is to get a clearer idea on the behavioural aspects, such as experiences and thoughts, of subjects of the unit of analysis (Creswell et al., 2007, p. 238). Furthermore, the use of interviews as the main form of data collection allows to take contextual information into
3.5. Research Design

Research design defines an outline for the data collection and analysis techniques and is chosen based on the suitability of the method to the research in general, especially to answer the research question and objectives, understanding a specific response in a situation (Saunders et al., 2009, p.141). According to Saunders et al. (2009, p.141), there are seven research design strategies which are defined as experiment, survey, case study, action research, grounded theory, ethnography and archival research. Although there are seven different methods, this does not mean that one is better than the other, they all have the same value and the choice purely depends on the nature of the research question, availability of resources and the alignment with the research philosophy.

For the aim of this study, grounded theory will be used for the research strategy, which is based on more qualitative techniques and the chosen strategy along with the reasons behind the decision will be further explained throughout the section (Creswell, 2007, p.249).

Grounded theory revolves around observation and developing the theory based on these different observations, which leads to the independency from the initial theoretical review (Saunders et al., 2009, p.149). What makes the grounded theory approach different from other methods is that the data analysis begins with the first interview; information gained during the first interview is analysed right after, building a guide for the next interviews while including every useful information gained during the previous observations (Corbin & Strauss, 1990, p.6). This data generation process will include constant anticipation and development of the theory while building up on the observations from each interview and adjusting accordingly for future analysis, which makes it especially useful for this study, where the aim is to build up the theory based on the behavioural observations made during the process (Goulding, 2002, p.95). The success of grounded theory is based on the continuous interaction between the gathered information and the interpretation of the researcher, however, Suddaby (2006, p.640) argues that although it seems easy, grounded theory could in fact get complicated and the researchers should be careful when analysing the data and refining their findings.

An exploratory research is defined as a study which aims to investigate a theory form a different perspective where the direction can change depending on new flow of information (Saunders et al., 2009, p.140). Based on its nature and purpose to understand the relation between knowledge management and its contribution to a successful transition in start-ups from different perspectives, this research paper is identified as an exploratory study (Robson, 2002, p.59). Moreover, the use of grounded theory in exploratory studies is very common, considering its observational nature (Ng & Hanse, 2008, p.158).

It was decided to use grounded theory for the exploration and explanation of this research to focus on behavioural observations (Corbin & Strauss, 1990, p.5). The theory also fits well with the purpose of the study considering the choice of inductive research approach and the philosophical assumptions of interpretive process which accounts for the ability of authors to analyse tacit information; thus, making ground theory the most
appropriate strategy for the study (Saunders et al., 2009, p.149). It contributes to the analysis of the research question which is on the exploration of the use of knowledge management in project-based organizations and how its use affects the organizational transition in start-ups while adding to the theoretical gap of knowledge.

Although grounded theory is considered a time-consuming and extended method with the necessity of repeating the process of observation and analysis to get better results until the roots of the problem are reached, the researchers are aware of this fact and know that their lack of experience in conducting a grounded research might affect the process of writing the thesis. However, the writers are confident that this method remains to be the most appropriate one to answer the research question and objectives and the best fit to the ontological and epistemological choices made for the research and they have confidence that they can apply it in the best way possible.

3.6. Data Collection

Data collection is structured accordingly to the grounded theory, which means that there will be a continuous interaction between the data collection and analysis processes, adapting the collection process along the way. The overall data collection process and the methods applied will be further explained within this chapter. Subsequently, the design of the interview process along with the sampling method is characterized followed by the process of selecting the participants and their specific characteristics.

3.6.1. Data Collection Method and Process

There are many sources to collect data in the beginning of a research and they classified as primary and secondary data; questionnaires, surveys and interviews are grouped as primary data while already published information from books or articles are viewed as secondary data (Saunders et al., 2012, p.304).

The research strategy is to examine participants from different industries, comparing their evolution within the company and analysing the similarities and differences between them. Since this paper is identified as an exploratory study, Saunders et al. (2009, p.140) argue that primary data sources should focus around group interviews and extensive literature research. However, this is not always the case, considering the chosen data collection method should be aligned with the research strategy and aim to answer research question and objectives (Saunders et al., 2009, p.321).

Within qualitative data approach and grounded theory, main sources of data collection are identified as interviews and observations, followed by articles, books and other published documents (Corbin & Strauss, 1990, p.5). Grounded theory is primarily based on comparing the collective information from different interviews (Suddaby, 2006, p.635). The philosophical approach of the research is determined as the interpretivist-subjectivist one, which focuses on understanding and building up a theory based on observations made on participants’ experience and opinions (Cunliffe, 2011, p.649). Therefore, qualitative interview technique is decided to be the most appropriate method for collection of primary data within this research, considering it entails getting the information directly from the interviewee, seeing the reality through their perspective, understanding their opinions on the subject (Saunders et al., 2009, p. 323).
According to Saunders et al. (2009, p.320), interviews could have either structured, semi-structured or unstructured nature. The use of semi-structured and unstructured interview types is more common in qualitative research, while the structured interview form is generally used for quantitative research (Bryman & Bell, 2015, p.479). As mentioned above; the research is identified as an exploratory study and the chosen data collection method is qualitative approach. Thus, a combination of semi-structured and unstructured interview methods is the best fit for the study, supporting the development of theory to help answer the ‘how’ and ‘what’ elements of the research question (Saunders et al., 2009, p.321).

Data collection will be conducted in two stages; the first stage will include unstructured interviews, where the general idea of the paper will be explored in detail (Saunders et al., 2009, p.321). Although there will be no fixed questions for this first stage, the researchers still have a precise idea on the context of the interview and what they want to take out of it. However, the participants are meant to express themselves freely and the researchers are not leading them in any way for this first set of interviews (Bryman Bell, 2015, p.482). This whole process is consistent with the grounded theory, concerning the purpose of observing the interviewee and developing the theory without having fixed initial intentions (Corbin & Strauss, 1990, p.6).

The first stage of these unstructured interviews leads the way to the second stage, where semi-structured interviews will take place. Within this second stage ideas discovered and discussed during the unstructured interviews will be explored in further detail, which again fits with the idea of implementing the first set of knowledge into a subsequent discussion of grounded theory (Corbin & Strauss, 1990, p.6). During this second stage, the aim of the researchers will be connecting the ideas and concepts gathered in the first round with a set of interview questions to further explore them. However, this set of questions and concepts might be altered from interview to interview in order to better fit with the specific participant (Saunders et al., 2009, p.320). Throughout the process of conducting interviews, the collected data will continuously evolve starting from the original idea, until the core category is reached which according to Ng & Hase (2008, p.157), creates the base for the behavioural differences of the participants.

The research study follows a cross-sectional time horizon data collection approach, which is described as the data collection process that is completed at one specific point in time (Saunders et al., 2009, p.155). The reason for this choice is not based on the research strategy but rather is dependent on the time constraint faced by the researchers to finish the thesis, which does not allow more time to be put in the data collection process. The total process of data collection, combination of the first and the second stage of interviews are completed between the dates 1st of November and 5th of December. Although a longitudinal study would fit better with the research, regarding analysing the process of how the start-ups are evolving and how knowledge management can affect the competitive advantage in the long run, this approach was not possible to implement within the study. However, the researchers are confident that a cross-sectional approach to the data collection will be sufficient to make a connection not only at a specific point in time, but also make implications between the past and the future of the company based on the interview questions prepared.
3.6.2. Interview Design

According to Saunders et al. (2009, p.321), there are several different forms to conduct an interview; the non-standardised interview method is chosen for the research, which can be organized as one-to-one or one-to-many interviews. The interviews will be on one-to-one basis, although the selected participants always work in bigger teams of up to 20 people. And the same participant will be interviewed for both stages of the process, which helps to eliminate potential bias, since different people might have different ideas in the same subject, consistently with the grounded theory approach of careful observation of every action of the participant during the process (Ng & Hase, 2008, p.160). Moreover, this approach also fits with the previous epistemological choices, which argue that the interpretation of the nature depends on the individual. The one-to-one approach is also preferred because of the concept of the interview process, considering the time participants have to put in for the two stages of the interviews, the way this process will lead to a more focused interview where researchers can focus on their specific questions and give the sense of building a closer relationship with the founders of start-ups.

There are different methods to do the interview; face-to-face, telephone and internet/intranet use in interviews (Saunders et al., 2009, p.321). In this research, Skype will be the main driver to conduct both unstructured and semi-structured interviews, which is an online application used to make video calls and where it is possible to observe the body language and facial reactions of the participants. However, other options such as telephone interviews are also considered where it is necessary, even though face-to-face interviews will be more beneficial for the purpose of the study considering the possibility to build a better connection with the interviewee especially when asking more sensitive questions, increasing their eagerness to answer them (Saunders et al., 2009, p.349). Although the start-ups chosen for the research are based in Sweden and Turkey, it was not possible for the researchers to travel to conduct the interviews due to the time and budget constraints involved. Following the suggestion of Saunders et al. (2009, p.349), the permission to record the interviews are asked to all participants and the results are fully transcribed for further analysis.

Grounded theory is based on careful observation and analysis of every gesture of the participant (Ng & Hase, 2008, p. 160). Thus, interviews are held in English to eliminate the risk of losing important information along the process of translating, with the aim of creating a common ground and a clear understanding of the terms used during the interview process, even though English is not the mother tongue of the researchers. Use of English in the interviews is more appropriate both for participants and researchers, considering the benefit of avoiding translations and misinterpretations of terminology. Moreover, the interviewees’ good level of English left no to small space for any misinterpretations that might happen during the process. However, several companies from researchers’ hometown also participated in the research, and those interviews were held in their mother tongue to avoid confusion for the interviewee. Since, both authors speak the same language, they could both participate in the interview and the bias was reduced to a minimum during the transcription process.

An e-mail is sent out before the interview, giving the interviewees some information about the process, the duration of the interview and the thesis topic. Moreover, a consent form was included in the attachment, which included information on the data
collection and analysis process, assuring the interviewees of their confidentiality. Thus, the connection between the researchers and the participants was made clear from the beginning without giving away the main purpose of the research in order not to steer the answers of the interviewees. The researchers prepared for the interview by gathering as much information possible from the website of the start-ups, getting an understanding on their business idea.

The interviews were conducted in two stages, a first stage of unstructured interview and a second stage of semi-structured ones. Unstructured interviews began with the introduction of researchers themselves and the general idea of the master’s thesis and subsequently the participants were asked if they were okay with the recording of the interview. The next part included questions about the start-up, to have a clear understanding of their business plan and if it was consistent with the definition of a start-up made in the research to see if it was fit to be included, in order to combine organizations of similar size. The third part of the interview was dedicated to exploring the use of knowledge management and the strength it brings to the existence of the start-up. In this first stage of interviews, the researchers did not plan a list of questions, but rather followed an exploratory process, giving freedom and flexibility to the participants without limiting them to some specific context. However, whenever it was needed, depending on the answers of the interviewee, the researchers took the freedom to explore further with extra questions to help build up the theory. Overall, the purpose of these first interviews was to explore and learn more about the initial concept, gathering enough information to conduct a thorough analysis to be used during the second stage of interviews. These interviews took approximately an hour for the first stage.

Moving accordingly to the interactive connection between the data collection and analysis process of grounded theory, during the semi-structured interview stage, questions about the relevant concepts discovered during analysis the first stage of interviews were prepared. The aim of this second stage of interviews is to take the refined information from the first stage and discover them further. Dominating ideas out of the first stage of interviews are how the idea of the business was born and how the initial starting process was handled, where the researchers had the chance to observe different situations. Thus, these ideas were further developed with the second stage of interviews. Questions were prepared specifically for the second stage interviews, making some alterations for each interview concerning the different start-ups that were involved, which fits with the process of semi-structured interviews. Even though a set of questions were prepared for the second stage, they were not sent out to the participants to not affect their judgement from the beginning, and to create a more natural environment for the interview without bias. The duration for the second stage of interviews was around 40 minutes.

### 3.6.3. Theoretical Sampling

According to Saunders et al. (2009, p.211), sampling can be conducted by probability or non-probability, where probability sampling uses statistics as the main estimator and for non-probability sampling, it is not possible to use statistics to achieve an overall view of the population. Moreover, several techniques such as quota, purposive, snowball, self-selection and convenience sampling can be chosen within non-probability for the data collection (Saunders et al., 2009, p.236). The selection of the sampling method should be aligned with the research question and objectives. Regarding the exploratory nature
of the research study and its purpose, non-probability sampling was chosen to be the
best fit, since statistical approach cannot be implemented (Saunders et al., 2009, p.233).

Purposive sampling is chosen for the study, which encourages the use of judgement
along the process of picking within small samples, that are particularly useful to answer
the research question and objectives while staying aligned with the principles of
grounded theory (Saunders et al., 2009, p. 237). The selection of the most appropriate
cases for the data collection will evolve during the process, according to the grounded
theory. Authors have conducted an extensive research to create a list of start-ups that
fits with the description and characteristics defined in the literature review. Since it is
common to use sampling for the data collection, it is also considered fitting for this
study, considering the researchers are not focusing on a specific country or industry,
which leads to a vast population to sample from (Saunders et al., 2009, p.212).

It was not possible to determine a certain number of samples from the beginning of the
research, since grounded theory claims that the sample size depends on the quality of
data and when there are no new concepts emerging, it means that the sampling is
finalized and ready to be used for the addressing of research question and objectives
(Ng & Hase, 2008, p.159). The interviews were conducted until the researchers have
decided that a theoretical saturation is reached, which meant that the collected samples
were representative and consistent enough to be used (Corbin & Strauss, 1990, p.9).
This saturation was reached after interviews with eight start-ups, where the second stage
of interviews did not add any new knowledge, but rather helped to further identify and
analyze the concepts and findings gathered from the first stage of interviews. The
sample comprises start-ups from different countries, where not one specific industry
was chosen, to have a wide range of perspectives on the use of knowledge management
and its effect on different sectors, though one common ground is the innovativeness of
these different start-ups.

3.6.4. Participant Description

Description of the participants selected for the study is made within this section. Reflectivity and the consistency of the selected samples with the definition of the characteristics of a start-up made previously in the study were compared during the first stage of interviews. And if an inconsistency was found during the process, that particular start-up was planned to be eliminated from the sample population. However, all selected samples were proved to be consistent with the descriptions made before and they all could be used for the research. The purpose is to look at start-ups as individual projects and analyse the process of idea development and evolution of them in the beginning with perspectives from different industries and how it differentiates depending on the individuals.

The characteristics defined for the start-ups include, business age, business idea, knowledge database, use of project management tools, organisational structure and innovativeness. In total, eight start-ups were interviewed for the data collection and analysis, in which theoretical saturation was reached and there was no new flow of knowledge gained from further interviews. Only five out of eight start-ups were fit to be interviewed for the second stage, discovering more in depth information of the concepts gathered during the first stage, to be able to make a better analysis and build up the theory.
Overall, eight interviews were conducted, of which an overview is represented in the Table 3 below. The age and a brief description of the start-ups selected for the study are also included in the Table 3. Since the interviewees were treated with confidentiality, start-ups are represented with a code name that shows the sequence of the interview process.

Table 3. Overview of suitable participants

<table>
<thead>
<tr>
<th>Code</th>
<th>Age</th>
<th>Start-up Description</th>
<th>Second interview</th>
</tr>
</thead>
<tbody>
<tr>
<td>SU1</td>
<td>3 years</td>
<td>App-based video sharing platform</td>
<td>No</td>
</tr>
<tr>
<td>SU2</td>
<td>6 years</td>
<td>Online social content platform</td>
<td>Yes</td>
</tr>
<tr>
<td>SU3</td>
<td>6 years</td>
<td>Delivery service</td>
<td>No</td>
</tr>
<tr>
<td>SU4</td>
<td>5 years</td>
<td>Collaborative program for project management</td>
<td>Yes</td>
</tr>
<tr>
<td>SU5</td>
<td>7 years</td>
<td>Provider of daily household services</td>
<td>Yes</td>
</tr>
<tr>
<td>SU6</td>
<td>3 years</td>
<td>Delivery service for grocery items</td>
<td>Yes</td>
</tr>
<tr>
<td>SU7</td>
<td>3 years</td>
<td>Recycled shopping mall</td>
<td>Yes</td>
</tr>
<tr>
<td>SU8</td>
<td>5 years</td>
<td>Connecting projects with sponsors</td>
<td>No</td>
</tr>
</tbody>
</table>

3.7. Data Analysis

For the data analysis, grounded theory approach is decided to be the best option, in which the analysis is completed by going back and forth between the process of data collection and analysis, in order to make a comparison between them figuring out the different and similar properties (Ng & Hase, 2008, p.159). The main purpose is to build up the core category, which is completed by using the data from the interviews to define categories and develop the relation between these categories recognising the similarities within them (Ng & Hase, 2008, p. 159). Having a clear idea of the data analysis process helps to make it easier to refine the data considering the massive amount of knowledge collected through unstructured and semi-structured interviews.

Coding is divided into open, axial and selective according to the grounded theory and is used to refine the data into units, categorising them accordingly while exploring the core categories (Creswell et al., 2007, p.241). The first step is to use open coding to break the data into smaller units and put them into relevant categories (Saunders et al., 2009, p.509). The categories are further analysed and named only if same concept is repeated several times during the interview process (Corbin & Strauss, 1990, p.6). Vast amount of information gathered during the data collection was compared with each other, defining different categories and putting the relative data within, narrowing the focus of remaining process (Saunders et al., 2009, p.510). The next step is the axial coding, where more open coding categories were identified using more data and looking over the previously collected ones, while building up the theory (Creswell et al., 2007, p.249). Furthermore, this additional data was collected and compared through the second stage of interviews. During axial coding, the previously identified categories of open coding are compared to create a relationship between them, and are reordered into
hierarchical form of further emergent subcategories (Saunders et al., 2009, p. 511). The final model created during the process will be explained in the upcoming chapter.

The last step is the selective coding, where the core category is defined and other subcategories are placed around it according to their relationship (Corbin & Strauss, 1990, p.511). Researchers see the core category as the main problem of the study around which most of the pattern or behaviour change is happening (Ng & Hase, 2008, p.159).

3.8. Quality Criteria of the Study

Setting a quality criteria for the research is important to make an assessment of the study and the findings as a whole in order to produce a better-quality research (Mays & Pope, 2000, p. 50). These criteria should be chosen based on the nature of the study, and for the qualitative research, credibility, transferability, dependability, confirmability and authenticity criteria are commonly suggested (USBE, 2016, p.20). The researchers will give brief explanations to all criteria mentioned before, however, more weight will be put on validity, reliability and credibility, considering the use of grounded theory and the nature of the study Corbin & Strauss, 1990, p.16).

3.8.1. Credibility

According to Saunders et al. (2009, p.156), the credibility of the study depends on how confident the readers feel about the results, after they have read the entire research. Credibility is supported by a detailed explanation of the concept, data triangulation and crystallization along with their implementation within the study (Tracy, 2010, p.843). Even though they are both quite similar, triangulation suggests the use of multiple techniques for data collection and analysis, while crystallization aims to create results that are based on extensive understanding of the phenomena (Tracy, 2010, p.844). There are several ways that can be used to achieve credibility within the study; first is the creating an alignment with the research method and the research question and the second is picking the appropriate sampling method that fits with the previous choices made for the research (Morse et al., 2002, p.18). The authors chose grounded theory as their research method, considering the nature of the study and the purpose of creating a link between the use of knowledge management in temporary organisations and its effect, moreover, the start-ups to be interviewed were selected accordingly to the description made in the literature review, and the data collected from various interviews were continuously compared with each other to achieve better results and get a better understanding of the topic.

Multiple sources of data were used and analysed to create the theoretical framework of the study and interviews were conducted in order to further investigate the findings. Even though interviews were the only technique used for the data collection, considering the time constraints to finish the research study, the authors believe that it was enough to produce reliable conclusions for the study.

3.8.2. Transferability

According to Saunders et al. (2003, p.102), transferability aims to figure out how much the study results can be generalised. To measure this criterion statistical analysis is used
for the quantitative research; however, the same method cannot be implemented within qualitative research, where the authors should give a detailed overview to the research, its limitations and assumptions in order to achieve transferability (Shenton, 2004, p.70). Within this study, the researchers clearly identified the philosophical and theoretical aspects and choices, along with entire data collection and analysis period which includes the selection process of the interviewees, the number of them and the description of the interview process.

### 3.8.3. Dependability

Achieving dependability is important for future studies conducted on the same subject, assuring that the study is consistent and can be used for reference where the structure of the study design and the strategical choices made within are clearly explained (Tobin & Begley, 2004, p.392). Therefore, the authors gave a detailed explanation of each step, starting from the creation of research design, followed by the reasons to use the chosen methodology and the data collection process.

### 3.8.4. Confirmability

Confirmability criterion aims to show readers the neutrality of the authors, and their unbiased posture throughout the research process (Tobin & Begley, 2004, p.392). Therefore, the researchers have provided a detailed description of the decisions made for the study, allowing the readers to trace every decision along the way (Shenton, 2004, p.72). Moreover, extensive literature review is completed to further familiarize with the topic along with careful attention during the interviews, in order to eliminate the possible bias of the authors (Saunders et al., 2009, p.328). The researchers acknowledge that the nature of the research and its observatory elements might lead to double meanings, especially concerning the language differences and assumptions gained through the literature research (Sayer, 2000, p.17). Therefore, the interviews are fully recorded and transcribed and available for further analysis if necessary. Even though the nature of interpretivist approach and grounded theory method suggests the use of observations, which can lead to different interpretations depending on the individual, the authors collectively discussed and combined their ideas to reduce the bias to a minimum.

### 3.8.5. Authenticity

Authenticity can be related to sincerity, which refers to self-reflection and transparency of the process of developing the study (Tracy, 2010, p.841). Self-reflection is achieved by being open about the assumptions and biases that might present themselves along with the weak points of the study that need to be further developed (Tracy, 2010, p.842). The authors have reflected upon their own work by addressing the problems that occurred during the process, such as the difficulties of understanding the implementation of the grounded theory and the lack of experience to develop the method. Secondly, transparency is defined as the ability of readers to trace the steps taken by the authors through every stage, starting with their motives to begin the research, the level of involvement and the difficulties that were faced (Tracy, 2010, p. 842). Additionally, both researchers were fully committed and involved with the study
from the beginning, and were ready to face the challenges that came with the chosen methodology and the use of grounded theory.

3.9. Ethical Considerations

Ethics is an important aspect to cover in any research study; it is implemented throughout the research, from the definition of the topic to data collection and analysis and finally, producing the results (Saunders et al., 2009, p.184). Thus, researchers should set a base of guidelines to follow during the process and assure that the ethical considerations are appropriately mentioned (USBE, 2017, p.6). These guidelines could include consent form, concerns in confidentiality and privacy, concerns with deception of participants and non-harmful intentions during the entire process of the study (Bryman & Bell, 2007, p.128). The interest in the topic of knowledge management and temporary organizations came natural to the authors, there were no external pressure on the researchers during any stage of the research and the authors were confident that their choice of topic would be useful for further studies to be conducted on the subject (Saunders et al., 2009, p.188). Moreover, an email was sent to all participants, giving brief descriptions of the research topic, interview process, analysis of data and how the collected data will be used within the study, to give them an idea of the entire process (Saunders et al., 2009, p.190). In accordance with Saunders et al. (2009, p.192), prior to the interviews, the participants were assured of their anonymity and confidentiality with the use of a consent form attached to the email. The authors managed to keep their objective and unbiased approach by doing an extensive literature review on start-ups and then trying to gather more insight during the first stage of unstructured interviews prior to transcribing all the findings and conducting a fully detailed analysis on the subject. To further minimize the potential personal bias, both authors were always present during the interviews. Considering the personal state of conducting interviews, ethical consideration was especially important for the study (Saunders et al., 2009, p.194). Therefore, it was important for the authors to build a trust based relationship with the interviewees, providing clear information about the process, setting the interviews at a time most convenient for them, making sure that they are comfortable throughout the process and asking questions that would not put pressure on them (Wolgemuth et al., 2015, p.368). During the data processing, no personal information was stored or used; and the authors aimed to keep their objectivity during the data analysis and the result production phases of the study. To further build the trust between the researchers and the participants, they were given the chance to access the study after it has been completed.
4. Empirical Findings

Empirical Findings chapter is built on the information obtained from two stages of interviews. Grounded theory analysis is used for the grouping of information that starts with a thorough examining of the collected data which leads to first order concepts and then grouping them into categories that are called second order themes and lastly, putting them into core categories. Through this chapter, each stage will be further outlined, however, the emphasis will be on the explanation of second order themes. The process of creating the first order concepts and putting them in second order themes will be explained in detail, along with the empirical findings obtained from the interviews and how they were grouped together accordingly considering the previous information mentioned in literature review. Moreover, in order to create a clear picture for the reader, tables containing quotes related to second order concepts are also included in this section. The sequence of the chapter is prepared in a way that would logically fit the research objectives and answering the research question.

4.1. Knowledge Management along the Development of a Start-Up

The aim of this research is to investigate the transition of a start-up from its infant stage where the idea is formed, to the success stage where it begins to be institutionalize; and the role of knowledge management on the entire process of transformation. According to this purpose and the research question ‘How does knowledge management affect the transition of a start-up from a temporary to a semi-permanent organization?’, three major core categories were identified that will provide a better understanding: creating a start-up, developing a start-up and implementing knowledge management practices. These three core categories all include second order themes that are aggregated within them. All the core categories are discussed in the following sections and a more detailed version of all the aggregated levels are shown in Appendix.

4.1.1. Creating a Start-up

The development process of a start-up comprises of the process of starting with an idea and the making the decision to bring it to life. The following section will discuss how each start-up came up with the idea and how the decision evolved, along with the idea of what a start-up is, based on the information obtained from the interviews. This core category is explained through second order themes that are gathered from the analysis of first order concepts. The further discussed themes are as followed; building the idea and start-up as a temporary organization.

4.1.1.1. Building the Idea

During the first round of exploratory interviews, the concept of idea formation emerged. There were mainly two different approaches to building up the business, finding a gap in the related industry and creating a new service or product from scratch. This idea was previously identified as opportunity construction by some scholars, where they include both approaches into one and define it as creation of opportunity by a discovery process (Edelman & Yli-Renko, 2010). Two different methods surfaced according to the answers of the interviewees on how the idea was created in the beginning.

Regarding the idea formation or opportunity creation process, most of the participants claimed that they first did a market analysis and discovered a gap that they can
contribute to, which led to the scheduling of several brainstorming meetings where they decided whether the idea was worth pursuing after and committed to their decision. Lundin & Söderholm (1995, p.442) agree that commitment building is achieved through the discussion process between team members of a temporary organization and that this process is common for most venture creations. Moreover, entrepreneurial attempts are clearly observed during the opportunity creation process, considering several interviewees mentioned that they developed their idea along the process and transformed it into a start-up (Edelman & Yli-Renko, 2010, p.840).

Table 4. Participants’ quotes for the second order theme ‘Building the Idea’.

<table>
<thead>
<tr>
<th>Participant</th>
<th>First order concepts</th>
<th>Quotes from participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>SU7</td>
<td>The need for a specific service</td>
<td>Environmental concerns are increasing and becoming one of the main issues in the world that we are living in. Starting from this fact, we wanted to create a place where sustainability drove the community and there were not any examples of it. Thus, we wanted to take advantage of the opportunity and create the first in the industry for what we have built. To this day, we are still the first and only example for our sustainable recirculation of goods.</td>
</tr>
<tr>
<td>SU6</td>
<td>Process of choosing the right idea</td>
<td>We had an already existing business and we played with the idea of building up on it rather than starting a new project. After a lot of intense discussions, we decided that it was better to create a new venture. It was better in the sense that having something separate would make it easier to separate the two projects and focus on a more specific thing and dealing with the possible future growth would also be easier in the long run.</td>
</tr>
</tbody>
</table>

Moving from the idea to developing the start-up, most of the participants agreed that once the idea was established, they were doing a project and they saw the initial process as one they needed to complete, with all the time, budget and scope constraint that come with it. However, some participants preferred not to label it as a project, but instead used the terms ‘product’ or ‘service’ instead to explain the process. In conclusion, this idea forming or opportunity construction phase is seen as the first stage to build a start-up.

4.1.1.2. Start-up as a Temporary Organization

During the interviews, the second order theme; start-up as a temporary organization surfaced following the discussion of how to develop the business and form the idea. Although most participants agreed to consider their start-ups as projects, not all of them used the term. Some of them even purposely avoided the term project: ‘I don’t like to think of it as a project, because it means that it has an ending and it will be finished and something new will replace it afterwards’. Even though the literature lacks in the definition of a start-up and its relationship with projects and temporary organizations;
all participants agreed that properties of temporary organizations such as time, external pressure and transition all fit with the process of development of a start-up, which makes it easier to form a connection between the two (Jacobsson et al., 2015, p.15).

Table 5. Participants’ quotes for the second order theme ‘Start-up as a Temporary Organization’

<table>
<thead>
<tr>
<th>Participant</th>
<th>First order concepts</th>
<th>Quotes from participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>SU4</td>
<td>Start-ups as projects</td>
<td><em>I do see it as a project if I think about it. When we first started, it was just a few people trying to make it happen, and we treated it like a project. Even now, I know that we have evolved in the process, but I still see it as my project, my baby.</em></td>
</tr>
</tbody>
</table>
| SU2         | Pressure from environment | *Even though I think we are in a strong place right now in the market, I think we can still improve and do more, our aim is to reach more customers in the next 6 months and continue our innovative growth, without letting our competitors catch up to us.*  
*We set high goals for ourselves and try to reach them within a predetermined period.* |
| SU1         | Time constraints in every stage | *My product is very innovative and technology-based, which makes it very vulnerable in time perspective. If I’m not the one improving my software or including newer more innovative aspects to my product, I will be out of the business very soon.*  
*This knowledge keeps me on my toes and motivates me to set milestones for myself where I can keep on improving and not be stuck in the same spot.* |
| SU5         | Transitory nature of start-ups | *I still see it as a start-up, even though I have been involved with it for over 5 years. I can confidently say that I have been here from the beginning and witnessed all the phases that got us here.*  
*When we first came up with the idea, we didn’t know where to start, then we got support from companies and feedback from customers which helped us get on our feet and now we are in the next stage where we are more established but still away from being considered a permanent organization.* |

As mentioned above, all participants mentioned the similarities between temporary organizations and start-ups regarding external pressure, time and transition. Some examples for eternal pressure gathered from the interviews are stakeholders, competitors and legal aspects. Another point agreed by all interviewees is the time pressure, which makes it temporary. For some, time pressure signified the transition to a more permanent organization, while for others it meant they could use an exit strategy to terminate and move on to another venture. Although some participants mentioned their exit strategies, most of them believed they would be working on the start-up for a
longer period of time, setting goals and turning it into a more permanent organization in
the future; ‘I know that only a few start-ups become successful in the long run, but I
believe that if we keep working hard and complete the milestones we have set for
ourselves, there is no way of knowing if we would fail or not and I believe that we will
be sticking around for the future’. Lastly, temporary organizations involve transition in
each stage, from the current state to the next one (Jacobson et al., 2013, p.581).
According to this definition, authors are taking start-ups as temporary organizations that
will evolve in time, and focusing on their transition process to a permanent one.

In conclusion, even though not all participants agree to view their start-ups as projects,
they all agree on the existence of the external pressure put on by stakeholders and the
fact that their time is limited. Having time constraints is the main concept of a
temporary organization and along with the transitory nature of start-ups, it is easy to
make a connection between a start-up and a temporary organization (Packendorff, 1995,
p.43)

4.1.2. Developing a Start-up

The process of finding or creating the opportunity and making the decision to start the
project is discussed in the previous section, the following will focus on the next steps
for the development, which is choosing which service/product to introduce with the
start-up. Although the idea formation process is completed at this stage, there are still
open discussions on which service to provide within that idea, and in this section, the
process of brainstorming and analysing different options to finally make the right
decision will be further explored. From the first order concepts, two second order
themes have been collected, which are initial decision making and further decision-
making, which are related to the core category of developing a start-up process and the
following will include the discussion on each of the second order themes.

4.1.2.1. Initial Decision-Making

Initial strategic decision making is one of the second order themes derived from several
first level concepts. When asked about the starting stages during interviews, each
participant had a different story about where their business idea came from and how
they decided on one service/product to be further developed. However, they all agreed
that they had a vision from the beginning, and even though they had different options, it
was more about choosing where to start rather than disregarding the other ideas
completely; ‘We had an idea of where we wanted to be in 5 years’ time, and with which
products we wanted to be released by that time; the only question was which one to
start with’. Although strategy was not discussed in detail during the interviews,
considering this statement, it can be concluded that every choice made from the
beginning had to be strategic when dealing with start-ups. The participants made their
choice for the first product after many meetings where the opportunities, disadvantages
and possible outcomes were discussed thoroughly, which resembles the process of
strategic decision making. Moreover, it is very critical for the success of a start-up to
make strategic choices in order have a clear idea for the future that helps to make better
decisions and focus on most appealing opportunities (Johnson, 2015, p.193). The
participants agreed that strategic decision making was a big part of the decision and that
their biggest criteria was the alignment with the business plan that is previously drawn
out; ‘Even though it was a tough decision to choose between several opportunities, we
had to think critically and pick the one that would be the most beneficial in the beginning, and we put the other idea into our archives to be used in the long run’.

This initial decision making process can be considered as a strategic choice that helps to break the core business idea into smaller, more manageable pieces that could be considered as projects that can be grouped according to their alignment with the business idea and urgency for the short-term success. Even though there is literature about the connection between strategy in entrepreneurial organizations and projects; they mostly focus on bigger, more established organizations and how they achieve innovation through strategic decision-making (Meyer & Hapard, 2000, p.6). On the other hand, some scholars attempted to explore the portfolio approach in start-ups, which puts the focus on resources and alignment with the strategic choices in order to minimize the risk of failure (Midler & Silberzahn, 2008, p.241).

Overall, it is evident that finding the gap in the industry and developing the start-up is not an easy process. Even though the specific industry to be involved in is decided, there are still many other decisions to be made, most important of them being the product or service that will be provided by the start-up. This decision-making process is also very crucial and lengthy, considering the meetings and discussions that need to be held beforehand. During the interviews, it was acknowledged that most participants considered the strategic alignment with the business plan along with the short term and long term needs and goals of the organization during the decision-making process, in order to choose the right approach and make a decision that will be the most beneficial one for the growth of the start-up.

Table 6. Participants’ quotes for the second order theme ‘Initial Decision Making’

<table>
<thead>
<tr>
<th>Participant</th>
<th>First order concepts</th>
<th>Quotes from participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>SU7</td>
<td>Vision for the organization</td>
<td>We want to encourage people to adopt a more sustainable lifestyle, while improving our services to reach more people over the next 5 years. We’re aiming to reach the level that the best in the industry is at right now, we want to be the best in the industry where we are.</td>
</tr>
<tr>
<td>SU6</td>
<td>Strategic decision making</td>
<td>When we first developed the idea, we knew we wanted to do a delivery service; however, we had to decide which products to involve in our service and we decided that it was best to start with the basic groceries that every household keeps daily. I wanted to create a platform where all team members can have access to all the changes made by others and they can comment on them and openly communicate on the same platform, I didn’t know how to make it come to life, and after several intense meetings with developers, we decided on a software that is easily understandable and interactive at the</td>
</tr>
</tbody>
</table>
4.1.2.2. Further Decision Making

Each stage along the development of start-up and each decision made during the process can be seen as a project, considering the similarities of time and scope constraints. This includes the decision to include more products or expanding the services to a new city. Moreover, most interviewees mentioned that they see the start-up as the core and every decision that is to be made falls under it in the form of smaller scale projects. This concept strengthens the argument that projects are essential for the growth of a start-up in assuring that goals will be reached during the development stage. This project perspective sets clear time constraints for the team members and encourages them to comply with milestones to finish each project, creating a network where the business is compartmentalized. The project succession approach is in line with the lineage method of Midler & Silberzahn (2008, p.481), where strategic choices are meant to create a structured way to follow up on the progress of projects and lead the start-up to success.

After the initial release of the start-up, the founders had the opportunity to receive and analyse the feedback from customers and stakeholders. Considering the fact that start-ups thrive on innovation to keep their place in the industry, it is crucial for each of them to keep on improving themselves whether in terms of releasing new products or upgrading the existing service that is provided. This process again is a project in itself, where the feedback is thoroughly explored in order to clearly identify the needs of the market and the areas that need improvement. The choice of further product development and which area to focus on not only depends on strategic alignment with the business plan, but also availability of resources, time and budget constraints, fitting with the needs of any project. After the consideration of each of these factors, they can make a decision on which option to pursue for the moment and which one to review in the long-term, ‘When we wanted to include a new segment in our website; we went through many options, did surveys between our customers and decided what to include, however, just because we couldn’t realize all of our ideas now is not discouraging for us; it just means we have more to explore and look forward to in the long-term and we are confident that we will have the chance to see them come to life as well’.

As mentioned above, this process of breaking down into smaller pieces supports the claim that projects are essential parts of the start-up, improving the efficiency of the teams, leading to completion of several small tasks in parallel and assuring a successful transition of the organization. Although not many scholars focused on the subject, the idea of dividing the main task into smaller projects is aligned with the theory that founders who create their business plan become projects managers when they start dealing the development of their start-up that is suggested by Kuura et al., (2014, p. 222).
In conclusion, the conducted interviews focused on the importance of seeing the tasks as projects and managing several at the same time in order to have a better control over the whole process. These smaller projects can also be effective when making decision for the future, especially in the short-run when deciding on which new feature to add.

Table 7. Participants’ quotes for the second order theme ‘Further Decision Making’

<table>
<thead>
<tr>
<th>Participant</th>
<th>First order concepts</th>
<th>Quotes from participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>SU7</td>
<td>Creating a sequence of projects</td>
<td>We wanted to create a place where all the different materials can be purchased and sold at, however, in order to do it, we had to think of every department as a new project and treat it accordingly. Only then, we could clearly see the whole picture and several people were working on different tasks to finish it within the determined deadline.</td>
</tr>
<tr>
<td>SU6</td>
<td>Use of projects to make future decisions</td>
<td>We started with the delivery of basic needs, but then our customers started to give suggestions to which product they would like to see in the catalogue, and according to their requests, we are constantly adding new products and now, we are on our way to develop a new function for our customers, which was again suggested by them.</td>
</tr>
<tr>
<td>SU2</td>
<td>When we first started, the idea was to create a platform where people can share their opinions freely and see what others are saying about the same subject, but rapidly our users started adding new content and we had to implement these new ideas to keep up with the needs of customers.</td>
<td></td>
</tr>
</tbody>
</table>

4.1.3. Implementing Knowledge Management Practices

Knowledge Management system consists of four main activities which are acquiring, transforming, storing and creating the knowledge (Al-Hakim & Hassan, 2016, p. 114; Costa & Monteiro, 2016, p.403; Davenport et al., 1998, p.43; Gupta et al., 2000, p.17; Nicolas, 2004, p.20; O'Brien, 2015, p.399). In the following sections application of the knowledge management system within each start-up is discussed in consideration of interviewees' answers. Each Knowledge Management activity (acquisition, transformation, storage and creation) represents a second order theme of the grounded theory in this empirical study.

4.1.3.1. Knowledge Acquisition

During the second round of interviews, ideas about the application of knowledge acquisition within start-ups were collected from interviewees. As it was mentioned in the literature review, there are many ways to acquire the required knowledge such as internet research, professional meetings, receiving help from a consultancy, creating a
partnership and so on (Davies et al., 2003). However, each start-up had different preferences about the way they would follow for the knowledge acquisition due to their diverse backgrounds and sectors.

All of the participants claim that they did a market research in the beginning by using the internet in order to acquire broad information about the business that they involved in. Afterwards, some start-ups gained the knowledge by attending various meetings with the professionals while others obtained the knowledge from their potential clients by using online platforms. The knowledge that they acquired was used for two primary purposes; first, to develop the young start-up by improving its services and products, second, to be more effective in their activities in order to fulfil objectives of the start-up on time.

Table 8. Participants’ quotes for the second order theme ‘Knowledge Acquisition’.

<table>
<thead>
<tr>
<th>Participant</th>
<th>First order concepts</th>
<th>Quotes from participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>SU6</td>
<td>Improving the service &amp; product</td>
<td>First, we decided what to keep in our warehouses by doing online research about the most consumed products. Some products expire fast, because of that, for us the most important thing is figuring out the demand. For that, we created an online platform where our clients can recommend us a product to add to our product base. Thus we can learn market needs and improve our service.</td>
</tr>
<tr>
<td>SU4</td>
<td></td>
<td>We all had a project management background, but we weren't IT guys. So we needed someone from outside to discuss our idea and then to improve the convenience of our product in order to create a disruptive project management tool in all sense.</td>
</tr>
<tr>
<td>SU6</td>
<td>Being more effective</td>
<td>The purpose of our service is delivering the order to its destination in a concise time in such a big city where the traffic jam never ends. In order to make it happen, we have thought about many options, such as preserving products in vans or creating a partnership with supermarket chains. But, because of the budget limitation we needed to find the most efficient way as soon as possible. We didn't have a luxury of fail, because of that we got consultancy help from our networks and decided to have our own warehouses.</td>
</tr>
<tr>
<td>SU5</td>
<td></td>
<td>Knowledge acquisition is everything for us due to the business we are doing right now. We have to follow all trends and news around the world in order to stay updated and keep our clients’ curiosity alive.</td>
</tr>
</tbody>
</table>

Except for one start-up, none of them were aware of the term knowledge acquisition as a part of knowledge management model. However, most of the participants agreed that
they acquired information and/or knowledge from external sources during the beginning of their business. Some of them claimed that it was more "instinctual" than something strategic due to the nature of the newly created venture. As one of the participants mentioned "when you create your own business from zero, every day you face a new knowledge gap which has to be filled as soon as possible. This is something you have to do to survive.” As a conclusion, they all agreed that knowledge acquisition (filling the knowledge gap) was necessary for the development of their business and the improvement of their services and products.

4.1.3.2. Knowledge Transformation

As it was mentioned previously, knowledge transformation occurs in two ways: codifying the explicit knowledge and converting the tacit knowledge into an explicit knowledge (Nevo & Wand, 2005, p.561; Nonaka & Takeuchi, 1995, p.62, Zollo & Winter, 2002, p.342). At this step of knowledge management, socialization and communication between the employees play an essential role (Mciver et al., 2013, p. 602). Because of that, during the second round of interviews, participants have answered questions regarding the communication and knowledge share practices within their start-ups.

All participants mentioned various online tools which they have used in order to have an effective, fast and healthy communication between team members. Also, in most of the start-ups weekly or monthly meetings were held to share the updates about the organization and/or projects. However, only one of them put emphasis on reinforcement of the communication through social events within the company. Participants were asked about the benefit of knowledge sharing and codification of knowledge, given answers can be grouped in four different concepts: improving communication between the employees, increasing employee engagement, improving employee qualification and creating a knowledge flow.

Table 9. Participants’ quotes for the second order theme ‘Knowledge Transformation’.

<table>
<thead>
<tr>
<th>Participant</th>
<th>First order concepts</th>
<th>Quotes from participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>SU7</td>
<td>Improving communication between the employees</td>
<td>Like many other companies, communication is important for us too. We always encourage our employees to share their ideas and/or experiences with others without any hesitation. We also want them to take initiatives. As I told you before we don’t have a definite hierarchy here. So yes, we believe that supporting knowledge share improves the communication within our company. Especially, considering that sustainability is one of our fundamental values.</td>
</tr>
<tr>
<td>SU2</td>
<td>As a social media start-up, communication is one of the most important things for us. So, of course we support anything that can improve the communication. We have to keep track of national and international trends through the internet, and as you know, web is just so endless. You can either find gold or just a pebble. When we hire a new employee, we want to see their interest. I mean, they should know the internet like their backyard; all the useful web-pages, exciting sources, trend influencers and so on. And then, they have to share this knowledge with others; we value the team. Once they start sharing their nerdy things with each other, the communication naturally improves.</td>
<td></td>
</tr>
<tr>
<td>SU2</td>
<td>Increasing employee engagement</td>
<td>I can define us as a big start-up. We are not an institutionalized, permanent company yet, but we have around 1000 employees. When we first established this business, we were a few people and I would say we were already friends. There were lots of pressure on us; our limited budget, time, worries about failure, our expectations and many more. Then, we decided to separate one day in a month for us just to chill. In those days, we were either having a picnic or watching a movie or some activities like that. Those days were our biggest motivation. So, we wanted to keep this routine even we grow and grow. Now, we are facing a different type of stressful challenges, but I believe our monthly activities keep motivating people and they feel that they are the part of this family.</td>
</tr>
<tr>
<td>SU5</td>
<td>Improving employee qualification</td>
<td>From the beginning we do have training sessions. For first years, I would say they were not that formal, but now they are regular and much more serious.</td>
</tr>
<tr>
<td>SU2</td>
<td>We value the self-improvement of our workers. We want them to be all-rounders. So, we organize various trainings regularly.</td>
<td></td>
</tr>
<tr>
<td>SU4</td>
<td>We use our own product to keep the communication between us and share the ideas.</td>
<td></td>
</tr>
<tr>
<td>SU2</td>
<td>We use Slack like many others. It helps us to share anything we want with others and to keep everyone updated.</td>
<td></td>
</tr>
</tbody>
</table>

During the interviews, authors realized that most of the participants were not familiar with terms of "explicit" and "tacit" knowledge. Only one of them had a complete knowledge about knowledge types due to his background and his current business. Interviews showed that the knowledge share is significant for all of them. However, none of them have a formal system to codify the knowledge, except keeping monthly and/or weekly meeting minutes. That is to say, they all encourage the knowledge share through formal and informal communication between employees from the beginning,
but they don't have established methods to keep transforming the tacit knowledge into an explicit knowledge.

4.1.3.3. Knowledge Storage

Knowledge storage or organizational memory is highly related to previous knowledge management steps which are knowledge acquisition and knowledge transformation. As it was described in the literature review, organizational memory refers to recorded information such as written and electronic documents (Walsh & Ungson, 1991, p.72). Thus, it is safe to claim that knowledge storage is mostly related to explicit knowledge which can be easily articulated (Nanoka & Takeuchi, 1995, p.99). Moreover, this step of knowledge management is more concerned with the organizational strategy compared to previous activities (Walsh & Ungson, 1991, p.72). Because of that participants were asked about the importance and the use of knowledge storage within their start-ups from the beginning of their establishment.

However, only some interviewees could answer those questions; many of them claimed that they were not familiar with the term of organizational memory in the beginning of their enterprise. According to ones who were aware of knowledge storage practices, it helped them to learn from their experiences and create new opportunities. Thus, the first order concept of knowledge storage is divided into two groups as learning from experiences and creating opportunities.

Table 10. Participants’ quotes for the second order theme ‘Knowledge Storage’.

<table>
<thead>
<tr>
<th>Participant</th>
<th>First order concepts</th>
<th>Quotes from participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>SU5</td>
<td>Learning from experiences</td>
<td>First of all, we needed to reach people who are trustable and qualified in their work (domestic work) to convince them to work for our company. In Turkey, if you need a maid, the first thing you do is asking your friends if they know someone. So, this business line highly depends on networking. This is what people are used to. On the other hand, we try to change it and carry this business to a more professional platform. In the beginning, we saw that our way wasn’t working to convince people. We stored all the inputs and outputs, and improved ourselves accordingly. It was like a trial and error, but at least we had an electronic “storage” which showed us what we did and what we got.</td>
</tr>
<tr>
<td>SU2</td>
<td></td>
<td>We have a platform which keeps all feedbacks and demands of our customers. Thus, we can see what we did wrong and what we did right.</td>
</tr>
</tbody>
</table>
Creating opportunities

We use Cloud to keep all the data. I can even say it is like our history book but with one extra. We also keep our creative ideas there. Some of them are already actualized, some of them are still waiting for the right time.

As it was mentioned previously, conducted interviews showed that the term "organizational memory" hasn't well established in the beginning of start-ups' life-span. The temporary nature of young start-ups can be one of the reasons for that. During the interviews, one of the participants mentioned that “In the very beginning we all focused on tasks we had to do, we neither had time nor budget to invest on a proper knowledge storage system." In consideration of these answers, it is safe to claim that concept of organizational memory is not suitable for every start-up due to their different priorities; however, the ones who created their knowledge storage system in the beginning had various advantages of it regarding developing their business.

4.1.3.4. Knowledge Creation

Knowledge creation is the last step of knowledge management model, where individuals create their new tacit knowledge through explicit knowledge which was stored in organizational memory (Nonaka & Takeuchi, 1995, p.99). Since the conversion is from explicit to tacit knowledge, knowledge creation can be taken as the most subjective step of knowledge management system (Nonaka & Takeuchi, 1995, p.99). Moreover, it is difficult to detect the insight of an individual who just learned something new. Because of that, during the second part of interviews, authors tried to ask the most relevant questions which were related to the reaction of individuals.

Those questions were also difficult to answer for participants, especially for the ones who work in a bigger start-up regarding the number of employees. On the other hand, start-ups which don't have a proper organizational memory were asked to evaluate this situation after the knowledge transformation step. Many of them indicated that they hadn't paid attention to this stage. However, some of them related the knowledge creation with creativity. Starting from this point of view, the knowledge creation has only one first order concept which is enhancing the creativity.

Table 11. Participants’ quotes for the second order theme ‘Knowledge Creation’.

<table>
<thead>
<tr>
<th>Participant</th>
<th>First order concepts</th>
<th>Quotes from participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>SU4</td>
<td>Enhancing the creativity</td>
<td>This is a very tough question to answer. But somehow I can relate it with the creativity. Sometimes you learn something but then it clicks something different on your mind. In our case, I can't know the thoughts and feelings of everyone, but I can say that sharing new information with employees may open new windows and they can connect this new information with something else and create something totally new and unique.</td>
</tr>
</tbody>
</table>

Answers of participants revealed that this stage of knowledge management is not the primary focus in start-ups. The vague and discrete nature of tacit knowledge makes
knowledge creation even more difficult to track. Most of the interviewees referred to spontaneity of the process and mentioned the difficulty of creating a system to follow this stage of knowledge management. However, as it is showed in Table 11, creation of new tacit knowledge can be related to creativity, because adopting new information and blending it with personal experiences can give birth to new and unique knowledge.
5. Data Analysis

The purpose of this chapter is to answer the research question following the detailed analysis of the core categories and second order themes given in the previous section of the study. A model is drawn out that shows the relationships between the second order themes and core categories, which is used as the base for the explanation of how a start-up transitions from a temporary to permanent organization using knowledge management. And lastly, findings of the study are discussed with the help of three propositions.

5.1. The Model of Start-ups’ Transition

The aim of this study is to identify start-ups as temporary organizations and investigate the effect of knowledge management on their transition process from temporary organizations to semi-permanent ones. In order to create a clearer picture for the reader and find an answer for the research question, a model is drawn out according to the analysis made in the previous chapter, which shows the relationships between second order themes (building the idea, start-up as a temporary organization, initial decision-making, further decision-making, knowledge acquisition, knowledge transformation, knowledge storage, knowledge creation) and core categories (creating a start-up, developing a start-up, implementing knowledge management practices). The model below shows these relationships and a more detailed explanation will be provided throughout the chapter.

![Figure 3. Model of the transitory process](image-url)
Three processes were identified in the previous chapter, which are creating a start-up, developing a start-up and implementing knowledge management practices and their explanations will be given in the following sections.

5.1.1. Creating a Start-up

This core category focuses on the process of creating a start-up and defining it as a temporary organization, considering the similar properties that are present in both. Even though not all interviewees agree to see their start-up as a project or temporary organization, because of their personal perspectives, the relationships between start-ups, projects and temporary organizations were continuously brought up during the interviews and the collected data reflects the existence of the connection.

The development of a start-up begins when the future owners notice an opportunity in the market and start thinking of an idea that would be beneficial in filling it. And the next step will be to fully commit themselves in developing the idea and realize it: ‘I saw the need to be more sustainable in my city and thus, wanted to create a place where sustainability is at the core and anyone who comes through the doors can either learn about how they can be more environmental friendly or contribute to the cause by bringing their used goods to be recycled and rebought by others’. There are several properties in start-ups that resemble temporary organizations, most apparent of them being the external pressure and time constraints. Especially during the initial stages, start-ups experience external pressure from customers, stakeholders and so on, which makes the temporariness of it very apparent. Moreover, when a start-up is being incubated, they have to follow deadlines and accomplish certain tasks within time constraints, which also strengthens the connection between start-ups and temporary organizations: ‘Since we were getting help from an investor, we had to be careful with how we spent our time; distribute tasks accordingly in order not to waste it and try to accomplish our goals in the most efficient manner’. However, according to the participants, this temporary nature of the start-up doesn’t imply an end for them, it rather signifies a transition and a possibility to become a more established organization. All interviewees agree that even though they had short term goals in the beginning, they all aimed to develop it further and turn their idea to the core of a permanent organization.

5.1.2. Developing a Start-up

Process of development reflects how the decision making evolves from choosing the business idea to adding new services and different participants’ perspectives on how this process is realized.

The initial business idea evolves from the different options and the process of choosing the right one for the start-up is not an easy process according to the participants, most of them give importance to the strategic alignment: ‘When we were building up our business, even though we knew where we wanted to be in several years and had an idea of what we wanted to bring to the market, we still had to make changes in the initial product, or even change some parts completely in order to create something that we thought would fill the gap and was aligned with our vision’. Moreover, the challenge doesn’t stop after the start-up is launched, the next step is to comply with customers’
requests and further improve the product or services that is being developed. And since there are more tasks to deal with at this stage compared to the existence stage, the interviewees claimed that it was easier for them to control the overall progress by breaking down these tasks and making different teams work on smaller tasks in parallel; ‘When it was time to add a new service, the first step was to go through the customer feedback and stakeholder reports, we also had meetings where different ideas were discussed and then it was all about considering all these different aspects together to come up with the best solution for the new service; we wanted this process to go smoothly and as quick as possible, which is why we assigned different teams for each task, gathered and analysed the reports afterwards, which made it easier for us to control’.

In conclusion, the interviews showed that breaking down a main task into smaller projects provides an efficient system for start-ups, where the control over the process is easier and different tasks are handled at the same time. Moreover, these smaller projects prove to be especially effective when making decisions for the future, especially in the short-run when deciding on which new feature to add.

5.1.3. Implementing Knowledge Management Practices

Main activities of knowledge management and their application in start-ups from the second order themes for this core category. Each activity represents a different effect and the perspectives of participants are viewed in detail within this section.

The first step of knowledge management application is knowledge acquisition. The interviews showed that although they all did a market research, each start-up prefers a different technique for this activity, according to their backgrounds and sectors. Most of the participants used the internet for their initial data gathering, while others arranged meetings with professionals or created online surveys for potential clients for the same purpose. Knowledge acquisition improves services and products and increases the effectiveness of activities, since a new start-up lacks in human capital and practical experience to manage all aspects of the business. Getting external help from experts could improve the situation, increasing the quality of product and services without going through a period of trial and error and preventing the risk of mistakes that could occur out of inexperience; all participants agreed that knowledge acquisition was important for the business, not only in the initial stages but throughout the development of the start-up: ‘When you create your own business from zero, every day you face with a new knowledge gap which has to be filled as soon as possible. This is something you have to do to survive’.

The second activity is knowledge transformation, in which socialization and communication play an important role. Even though all participants mentioned they used various online tools to have an effective communication between team members, most of them were not familiar with terms “explicit” and “tacit” knowledge; only one of the interviewees had a complete knowledge on the subject, due to his background and current business. Furthermore, although, most participants revealed that they don’t have established methods to keep transforming tacit knowledge into an explicit knowledge, they still recognised the importance of creating a sharing culture; where employees feel free to express their opinions and an open communication between team members is established, which leads to an increase in the level of engagement and motivation of
employees along with the creation of more qualified team members; ‘When we started to involve all team members in various discussions, we soon realized that the productivity was increasing, since the information flow was constantly evolving and refreshing with the input of different perspectives’.

Next activity in the model is knowledge storage, which is more related with the organizational structure and activity. The interviews revealed that the use of knowledge storage helped in organizing the data, learning from experiences and creating new opportunities. Creating a knowledge storage system makes experiences become more solid and accessible for future use, which prevents repetition of previous mistakes; it also helps to visualize what has already been done; which helps to spot market gaps and develop products accordingly. However, due to the temporary nature of start-ups at the existence stage, most of them were not aware of organizational memory or haven’t used it: ‘In the very beginning we all focused on tasks we had to do, we neither had time nor budget to invest on a proper knowledge storage system’. It can be said that although the concept of organizational memory is not suitable for every start-up due to the difference in their priorities, the ones who created their knowledge storage system from the beginning saw its benefits regarding business development.

The last activity in the knowledge management model is knowledge creation, which focuses on creating new tacit knowledge through explicit knowledge that is found in organizational memory. Through knowledge creation, the overall creativity can be enhanced considering it is a subjective concept and putting different ideas together can be more effective in the product development stage. However, most participants revealed that they did not see this activity necessary for their business and claimed that the creativity process could be used instead, regarding their spontaneous nature. Moreover, since adopting new information and blending it with personal experiences can give a birth to new and unique knowledge, it is easy to make a connection between knowledge creation and creativity.

Overall, it is clear that all these activities are factors that affect the shaping of organizational structure in a start-up and making them more institutionalized; ‘Through different strategies that we used regarding what we considered as knowledge management, we could see rapid improvement within our organization. We recognised that through these practices, foundations of a more permanent organization were being built’. Moreover, considering the benefits these activities provide to an organization, start-ups should consider implementing them in their practices, especially in the existence and survival stages, in order to start on a more solid base and rapidly move towards becoming a more permanent organization.

5.2. Research Propositions

The following section will comprise of propositions for the subject, which also gives room for further research. The authors propose three propositions that reflect the model suggested previously in this chapter. During the process of data analysis, the authors discovered the connection between start-ups and projects, which is supported by Lindgren & Packendorff (2003, p.86), who suggested that entrepreneurship can be looked at from a project perspective. Then, the view of start-ups as temporary organizations is proposed, where the difference between temporary and permanent organizations are discussed beforehand. However, this is an area that still needs further research considering the lack of explanation of their interaction in the literature (Ekstedt
et al., 1999, p.5). Some scholars argue that temporary organizations are transitory subjects within permanent organizations, considering their goal of becoming permanent (Jacobsson et al., 2012, p.579). However, the authors took start-ups as temporary organizations that in time will transition to permanent organizations following the successful completion of their tasks. And this idea was supported by the participants: ‘When we first started developing our idea, we didn’t what it would become but our goal was always to turn it into a company, a permanent organization where we can continue to make a difference and stay around for the future’. Considering this transitory concept, relationship between temporary and permanent organizations and the transition process in particular, have been thoroughly discussed within this study and the propositions are presented in the following sections.

**P1: Start-ups are temporary organizations in transition to permanent ones.**

As mentioned previously, although not all participants agree to identify their start-up as a project, all of them agree on its temporary nature and set short-term goals to be accomplished rather than making concrete long-term decisions, ‘We do want to continue to stay in business in the long-term as well, but we recognize the current stage of the business and try to take slower more rational steps in order to establish our roots firmly’. Thus, researchers continue to build on the knowledge that since start-ups are seen as temporary units, their use of strategy will also evolve accordingly, emphasizing on the accomplishment of short-term objectives.

The authors defined start-ups as temporary organizations and used the transition model suggested by Lewis & Churchill (1983) to divide the life of a start-up into three stages; existence, survival and success; in which existence and survival stages represent a temporary organization and with the success stage they start building semi-permanent roots. All the start-ups that are interviewed are currently in their success stage, which help authors to clearly investigate the different stages they went through before arriving to this one. Even though all participants have a different idea of how much they accomplished and how far away they are from being a permanent organization, all of them agree that they grew out of their infant stages and arrived to a place in which they are more established and closer to becoming an institutionalised entity. Even though, literature lacks in the interaction between entrepreneurial venture and projects and some scholars argue that strategical decision do not affect the outcome of the business (Collis, 2016, p.63), interviewees disagreed to this notion claiming that throughout these different initial stages, they had to handle many decision-making sessions, where strategical alignment was considered. The use of strategic decision making in different stages of development and its importance is proposed in the following proposition two.

**P2: Strategic alignment is considered during the decision-making process in each stage to achieve maximum success and bring the results to customers.**

Another activity that has come up repeatedly over the interviews is the process of decision making, how it is present in every stage and how it changes through the development of the business. Participants mentioned that choosing which product to release first was a struggle and all of them agreed that they went through several meetings and discussion before deciding on the most appealing product; ‘We had to think very hard on what would be one product that represents our core business and what we want to contribute to the market while at the same time would get the attention
of customers, and considering where we are today, I think we did a pretty good job’. Data analysis showed that after the release of the first product, the decision-making process becomes easier, since other elements such as feedback from customers and stakeholders are involved that make an impact on the final decision (Collis, 2016, p.67). Interviews showed that in order to select the next product or service to release, start-ups break down their main idea into smaller projects to deal with them more effectively. Moreover, all the ideas that are discussed and decisions that are made should be strategically aligned with the business idea, which in the end help to bring the maximum value for the customers.

Another repeated element was the value of the customers, especially in the later stages where the decision making is based on customer reviews and expectations and the highest priority is given to them, in order to build a long-term relationship; ‘When it was time to release a new product, we took into consideration the feedback we had from customers and our stakeholders and set out to improve and develop a product that would meet their expectations while also keeping us ahead of our competitors’. Therefore, it is concluded from this quote that start-ups try to combine the strategic alignment of the projects to the business with the customer response in order to create a loyal customer base. Along with strategy there are other methods that can be used to increase effectiveness and ease up the development process, such as knowledge management practices, which is suggested in the following section.

P3: Knowledge management practices prove to be useful for the development of a start-up, especially in the initial stages where it is trying to build a strong foundation amongst others.

As mentioned above, knowledge management practices comprise of acquiring, transforming, storing and creating knowledge. These stages have different effects on the development process and applying one after the other will make it easier to manage collected knowledge in the future. When asked about knowledge acquisition, most participants were not familiar with the term as part of a model, however, they saw it as a part of their everyday routine where it was mainly used for improvement of the services and effectiveness in completing tasks; ‘when you create your own business from zero, every day you face with a new knowledge gap which has to be filled as soon as possible. This is something you have to do to survive’. Although most participants mentioned they used various methods to improve the communication between team members, they don’t have an established method to transform tacit knowledge into explicit knowledge regularly. Moreover, organizational memory is not a concept well established in start-ups due to temporary nature of the business. One participant claimed that, ‘In the very beginning we all focused on tasks we had to do, we neither had time nor budget to invest on a proper knowledge storage system’. However; according to one interviewee who had experience of using knowledge storage systems argued that it helped them to learn from their experiences and create new opportunities, which supports the positive effect of using knowledge management for the business. As with the other stages, knowledge creation was also not very well known among the participants. Most of the interviewees highlighted the difficulty of creating a system to follow this stage of knowledge management, and claimed that the process occurs naturally within their teams and they consider it as creativity rather than an activity of the knowledge management model.
The data collected from interviews shows that even though most participants don’t have a complete understanding of knowledge management, they still use its practices without realizing and all of them agree that having some sort of a system helps to keep the business more organised and makes it easier for the future when new ideas need to be developed and previous knowledge on the subject is needed.
6. Last Thoughts and Conclusion

In this last chapter, all of the theoretical and empirical findings are summarized to conclude the conducted research. Moreover, possible theoretical and practical implications of the study are represented. In the end, limitations of the study are investigated and elaborated, and then several suggestions are provided for the further studies on the similar topics.

6.1. Conclusion

The primary goal of this study was investigating one of the new and untouched research areas which create a bridge between start-ups, temporary organizations and knowledge management practices by answering the following research question:

*How does knowledge management influence the transition of a start-up from a temporary organization to a permanent organization?*

The authors succeeded in their attempt to build a new theory by using grounded theory approach for the analysis of data which were collected from eight different start-ups with different sectorial backgrounds. First of all, the life of a start-up is categorized under three main stages which were existence, survival and success. Afterwards, the structural similarities between temporary organizations and first two stages (existence and survival) of start-ups were explored, and then knowledge management practices and their effects on the transition process of start-ups were investigated.

It is safe to claim that start-ups intend to transform into a permanent organization at the end of their journey since they aim to develop themselves and grow their business to strengthen their position within the industry. Therefore, the similarities between temporary organizations and start-ups tend to decrease from the existence stage to the success stage. However, showing the same characteristics with the temporary organizations during the existence and survival stages, frames start-ups’ strategies as short-term goals. Likewise, knowledge management practices are usually ignored by start-ups because of the same reason. In other words, knowledge management is often not taken into consideration due to its long-term orientation. Despite this situation, the authors investigated start-ups which were in the success stage of their life-span to explore the knowledge management activities which took place during their initial stages. The research has shown that, even though they don’t have an established knowledge management model, knowledge management practices still occur within each start-up to a different extent. Moreover, young start-ups get benefit from these practices in many ways during their transition process.

As a conclusion, the findings of this research highlight the supportive and significant role of knowledge management system for start-ups’ performance and their transition process from a temporary organization to a permanent organization.

6.2. Theoretical and Empirical Implications

As it is introduced previously, the purpose of this study is to investigate the transition process of start-ups from temporary organizations to permanent organizations while exploring the effect of knowledge management on this process. Therefore, the authors
first examined the literature on start-ups in terms of its definition and organizational structure. Thus, the link between their initial stages and temporary organizations was revealed. Then, knowledge management practices and its effects within temporary and permanent organizations were studied by reviewing many conducted researches. However, until now there was no serious attempt in academic literature to discover the knowledge management practices in start-ups and its impact on the organizational change. For this reason, grounded theory was chosen for this study to build a new theory and bring light into this new area. In the end, the authors came up with three new propositions for further studies in this area.

Furthermore, the conducted empirical research proved that the concept of the temporary organizations matches with the organizational structure of start-ups which are in their existence and survival phases. Moreover, empirical findings discovered the effect of knowledge management practices on the journey of a start-up from a temporary organization to a semi-permanent organization. However, it also showed that there are some challenges that young start-ups face during the application of the knowledge management model. Nevertheless, the study uncovered that even partial implementation of knowledge management improves the activities within start-ups in many dimensions and help them to proceed to the success stage.

6.3. Practical Implications

In terms of practical implication, this study provides various perspectives to implement in real life. First of all, the authors believe that considering newly established start-ups as temporary organizations would provide helpful insight to their founders. The study has shown that the term "project" is not preferred by many start-up founders to address their new enterprises; however, adopting stage by stage approach (existence, survival and success stage) towards start-ups' lifespan would be beneficial for them to observe the development of their start-ups. Thus, their journey from the temporary organization to a permanent organization can be managed more efficiently. Moreover, this perspective is not limited to one type of enterprise since the conducted study includes start-ups from diverse industries. Therefore, it is safe to claim that, this approach can be applied to a variety of start-ups with different backgrounds.

Furthermore, by taking the effects of knowledge management into account, founders and team members of start-ups may consider implementing the knowledge management model in their enterprise in order to improve the transition process. This is because, the study has revealed that the knowledge management practices enhance numerous activities within young start-ups such as; improving the service/product, intensifying the communication, increasing the employee engagement, creating opportunities and developing creativity. However, the study also showed that many start-ups partially practice the knowledge management model during their existence and survival phase. Therefore, promoting knowledge management model and creating a knowledge culture within a new-born start-up would fasten its transition process. Further, this may also guide incubators and investors to re-plan their entrepreneurial support programs.

Lastly, this research may help future entrepreneurs to increase their understanding of stages of a start-up and importance of knowledge management system by providing them a different perspective about their new venture and demonstrating the positive impacts of knowledge management practices. Thus, they may have a smoother
existence and survival stage in terms of organizational performance and reach their goals more easily than usual.

6.4. Limitations & Further Studies

Limitations can be defined as unmanageable conditions which depend on research criteria; thus, they have impacts on the progression of the study (Denscombe, 2013). This study contains various limitations regarding the collected data and qualitative nature of the research. First of all, studies which include explorative and qualitative analysis are criticized as not being objective; however, in this case, the subjectivity of chosen research method suits the research topic which is highly based on interpretations and judgments. Moreover, the number of collected data doesn't create a convenient setting for quantitative analysis due to its small amount. Therefore, the statistical approach is not applicable to this research. Nevertheless, collected data from eight companies provided sufficient base for authors to implement the grounded theory in their research which is about the effects of knowledge management practices on young start-ups' transition from a temporary organization to a semi-permanent organization. Regarding the chosen methodology, experience in grounded theory is required to make a proper analysis due to its complicated nature (Suddaby, 2006, p. 640), therefore the authors tried to close the gap in their experience with receiving help from their supervisor, colleagues and research methodology books. However, it is still possible to encounter some weaknesses in the analysis part of the research due to authors' lack of experience in the implication of grounded theory. That is to say; this situation can be considered as a limitation of the research since it creates a potential risk of misinterpretations of subjective data.

Furthermore, even though knowledge management and start-ups are the popular topics of today’s dynamic and competitive business environment, there is not enough number of literature about these topics. Especially, the term start-up still preserves its mystery regarding its fluid structure and operations. Therefore, the authors investigated every emphasized standpoint about the start-ups to ground their framework on the most eligible theories. However, the absence of an adequate number of academic literature creates a theoretical limitation which hinders the richness of the theoretical study.

Besides the theoretical limitations of the study, the authors acknowledge several empirical limitations as well. Firstly, the time limitation of the study can be expressed as one of the most significant constraints for the conducted empirical research. This is because, as it is mentioned above, the grounded theory requires a rich set of data to reveal more accurate results. For this reason, the authors reached as many companies as they could in a limited time. However, the authors still believe that conducting the same research with more interviews could have provided a deeper understanding of the study.

Secondly, only one person from each start-up was interviewed for the empirical research. The common characteristic of the chosen interviewees was that they all had been a part of their start-up from its establishment. In other words, all of the participants have had enough knowledge about the stage by stage progress of the development of their start-up. However, interviewing more than one person from each company would have decreased the bias and subjectivity of the collected data about the effects of knowledge management on the development process of the start-ups.
Lastly, chosen start-ups are located in two different countries: Sweden and Turkey. Authors’ familiarity with the culture of these two countries was the main reason for them to choose the data set from these countries. Additionally, all chosen start-ups come from different industries such as IT, delivery, entertainment and so on. Nevertheless, as it was mentioned previously, the aim of the study is to discover the effects of knowledge management practices on start-ups regardless their industry and cultural base. For this research, chosen start-ups were expected to have two important common traits which were being incubated during the “existence” and “survival” stages, and currently being in the “success” stage without receiving any financial help from an incubator. Besides, the authors believe that collecting data from various countries and backgrounds would provide rich insight and hinder the nation and industry-based biases. On the other hand, for the future studies, researchers can focus on a specific country or industry to reveal their effects on knowledge management processes within a start-up.

In general, authors avoided biases and misinterpretations as much as possible to reach the most accurate result. For that, each interview was separately analysed one by one by both authors. Afterwards, both analyses were compared and discussed intensely. Even so, there might be some overlooked points due to chosen interpretivist approach, language barriers and authors’ lack of experience in knowledge management practices.

As a conclusion, the study aims to investigate the transition stages of start-ups from temporary organization to a permanent organization while revealing knowledge management practices’ effect on this development process. Regarding data analysis, authors observed that all of the chosen success-stage start-ups have partially performed knowledge management practices during their existence and survival stages. However, this finding should not be perceived as knowledge management is the only factor for the start-ups’ development as the transition process within the start-ups is dependent on numerous internal and external determinants. Therefore, the authors recommend to investigate the interactive relation between the knowledge management and other success factors, and their mutual effect on each stage of start-ups’ development for the further studies to create a more comprehensive and detailed understanding of the topic.
References


**APPENDICES**

**Appendix 1: Interview guide for the unstructured interviews.**

**Part I: Introduction**

- Introduction of the authors themselves, a brief description of the thesis and appreciation for the time and willingness of the interviewee
- Asking for the consent to record the interview

**Part II: Questions about the start-up**

- When did you start the process of building your organization?
- How did you come up with the idea?
- What is your position and duties in the organization?
- How did you build your team and how many people are working?
- How is the communication between team members arranged?
- How did you fund the start-up; did you get any help from business incubators?

**Part III: Exploratory questions related to the concepts in the research**

These are unstructured questions to further explore the concept of the research, and to create a base for the second stage of interviews where more specific questions will be asked.

- Creating a link between start-ups and projects
- Exploring start-ups as temporary organizations
- Understanding if knowledge management is used within the start-up and at which stage it is used

**Concluding remarks:** Thanking for the participant’s time to conduct the interview and ask permission for future contact, for the second stage of interviews.
Appendix 2: Interview guide for the semi-structured interviews.

<table>
<thead>
<tr>
<th>Part I: Introduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Thanking for the time and willingness to take part in a second interview</td>
</tr>
<tr>
<td>• Asking for the consent to record the interview</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part II: Questions about the organization</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Did you have previous knowledge on the industry or the product that you are developing?</td>
</tr>
<tr>
<td>• Did you try to acquire knowledge on the subject before starting your business?</td>
</tr>
<tr>
<td>• What do you consider as a start-up?</td>
</tr>
<tr>
<td>• At what point, will the start-up stop being a temporary organization?</td>
</tr>
<tr>
<td>• What is your target market?</td>
</tr>
<tr>
<td>• Have you encountered any challenges when the idea was first developed?</td>
</tr>
<tr>
<td>• How did you deal with these challenges?</td>
</tr>
<tr>
<td>• Do you have any competitors, what makes you stand out among them?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Part III: Questions about knowledge management and its use within the start-up</th>
</tr>
</thead>
<tbody>
<tr>
<td>• How did you decide which service to include/ that the idea would be successful?</td>
</tr>
<tr>
<td>• You are providing your services in several cities, how do you choose which city to expand to?</td>
</tr>
<tr>
<td>• Are you planning on adding new services, if yes, what are the criteria for choosing the new service?</td>
</tr>
<tr>
<td>• How are you managing the advertisement and marketing of the start-up?</td>
</tr>
<tr>
<td>• How are you managing the knowledge that has accumulated until this point, do you have a system to store the knowledge?</td>
</tr>
<tr>
<td>• How do you share this knowledge among team members?</td>
</tr>
</tbody>
</table>

Concluding remarks: Thanking for the participant’s support for the thesis and time to conduct a second interview.
Appendix 3: Start-up properties of SU1.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviewee</td>
<td>PR &amp; Creative Manager; 3 years’ experience in editorship.</td>
</tr>
<tr>
<td>Age of the Start-up</td>
<td>3 years old (2015-present)</td>
</tr>
<tr>
<td>Size</td>
<td>13 full time employees; 9 interns</td>
</tr>
<tr>
<td>Sector</td>
<td>Social Media</td>
</tr>
<tr>
<td>Type of the service/product</td>
<td>App-based video sharing platform</td>
</tr>
<tr>
<td>Entrepreneurial Idea</td>
<td>“Founders of SU3 come up with this idea while thinking about creating something like EKşişözlük which is one of the biggest knowledge and idea sharing platform in Turkey, so they decided to create its video-based version.”</td>
</tr>
<tr>
<td>Organizational Structure</td>
<td>Simple and informal; regular meetings take place each month.</td>
</tr>
<tr>
<td>Innovation Strategy</td>
<td>“Taking social media experience to a new, exhilarating level.”</td>
</tr>
<tr>
<td>Knowledge Share Technique</td>
<td>The knowledge is shared through social network apps.</td>
</tr>
<tr>
<td>Incubation Status</td>
<td>SU1 hasn’t been incubated from the beginning.</td>
</tr>
</tbody>
</table>
Appendix 4: Start-up properties of SU2.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviewee</td>
<td>Administrative Affairs Supervisor; 9 years’ experience in social media sector.</td>
</tr>
<tr>
<td>Age of the Start-up</td>
<td>6 years old (2012-present)</td>
</tr>
<tr>
<td>Size</td>
<td>150 employees including freelance workers</td>
</tr>
<tr>
<td>Sector</td>
<td>Social Media, Entertainment</td>
</tr>
<tr>
<td>Type of the service/product</td>
<td>Online social content platform.</td>
</tr>
<tr>
<td>Business Idea</td>
<td>Providing online platform for users to create their own content and share with others.</td>
</tr>
<tr>
<td>Entrepreneurial Idea</td>
<td>“Founders came up with this idea while they were watching 2012 local election in Turkey. They wanted to create a platform which gives voice to people and lets them create their own contents.”</td>
</tr>
<tr>
<td>Organizational Structure</td>
<td>Flexible, employees have overlapping roles, semi-institutionalized.</td>
</tr>
<tr>
<td>Innovation Strategy</td>
<td>Aim to be BuzzFeed Turkey.</td>
</tr>
<tr>
<td>Knowledge Share Technique</td>
<td>There are regular meetings; Slack platform and Cloud are actively used for knowledge transfer.</td>
</tr>
<tr>
<td>Incubation Status</td>
<td>SU2 was incubated in the beginning.</td>
</tr>
</tbody>
</table>
**Appendix 5: Start-up properties of SU3.**

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interviewee</strong></td>
<td>CEO, founder and owner; 6 working experience in public transport companies.</td>
</tr>
<tr>
<td><strong>Age of the Start-up</strong></td>
<td>6 years old (2012- present)</td>
</tr>
<tr>
<td><strong>Size</strong></td>
<td>9 full-time employees including the founder &amp; co-founders and temporary part-time employees.</td>
</tr>
<tr>
<td><strong>Sector</strong></td>
<td>Transportation / Delivery</td>
</tr>
<tr>
<td><strong>Type of the service/product</strong></td>
<td>Delivery Service</td>
</tr>
<tr>
<td><strong>Business Idea</strong></td>
<td>“Creating a cycle logistic service which is specialized in goods transport, up to 300 kg by using human powered bikes. Restocking shops, transporting food for catering services, delivering and picking up packages as well as furniture.”</td>
</tr>
<tr>
<td><strong>Entrepreneurial Idea</strong></td>
<td>“The idea emerged from bike enthusiasts in a rainy day, while they were thinking about finding a way to carry bikes from bicycle shop to central station in Malmö. Then, SU1 was founded in order to give a sustainable, cheap and modern delivery/transportation service.”</td>
</tr>
<tr>
<td><strong>Organizational Structure</strong></td>
<td>SU1 is a loose franchise organization. The communication between franchises is not strong. Founders have a platform to talk and discuss, however discussions and meetings are not regular.</td>
</tr>
<tr>
<td><strong>Innovation Strategy</strong></td>
<td>Have a plan to start their second business which is manufacturing big cargo bikes as there is a high demand and no supplier for now. Thus, their potential competitors will need to buy their bikes from SU1.</td>
</tr>
<tr>
<td><strong>Knowledge Share Technique</strong></td>
<td>Teams are independent from each other. Therefore there is no strong communication between them. Only founders have a connection.</td>
</tr>
<tr>
<td><strong>Incubation Status</strong></td>
<td>SU3 hasn’t been incubated from the beginning.</td>
</tr>
</tbody>
</table>
### Appendix 6: Start-up properties of SU4.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interviewee</strong></td>
<td>CEO &amp; Co-Founder; 6 years’ experience in management consultancy</td>
</tr>
<tr>
<td><strong>Age of the Start-up</strong></td>
<td>5 years old (2013-present)</td>
</tr>
<tr>
<td><strong>Size</strong></td>
<td>5 employees</td>
</tr>
<tr>
<td><strong>Sector</strong></td>
<td>Management Software</td>
</tr>
<tr>
<td><strong>Type of the service/product</strong></td>
<td>Program for project managers</td>
</tr>
<tr>
<td><strong>Business Idea</strong></td>
<td>Creating a platform where team members can collaborate better and share changes simultaneously.</td>
</tr>
<tr>
<td><strong>Entrepreneurial Idea</strong></td>
<td>“The idea was born out of the feeling that collaboration among team members could be better; there could be a better solution rather than spending too many hours in meetings to get everyone on the same page. We started thinking, can collaboration become more like playing an online multi-player game’’.</td>
</tr>
<tr>
<td><strong>Organizational Structure</strong></td>
<td>Self-organization, weekly meetings are planned where a discussion on how to improve the collaboration between team members is made.</td>
</tr>
<tr>
<td><strong>Innovation Strategy</strong></td>
<td>Become the most preferred software program for project management and team communication.</td>
</tr>
<tr>
<td><strong>Knowledge Share Technique</strong></td>
<td>Every member is encouraged to share their ideas, slack and a design method is used where each member can share their knowledge.</td>
</tr>
<tr>
<td><strong>Incubation Status</strong></td>
<td>SU4 was incubated in the beginning.</td>
</tr>
</tbody>
</table>
### Appendix 7: Start-up properties of SU5.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviewee</td>
<td>Marketing Specialist; 3 years’ experience in this field.</td>
</tr>
<tr>
<td>Age of the Start-up</td>
<td>7 years old (2011-present)</td>
</tr>
<tr>
<td>Size</td>
<td>More than 75 employees.</td>
</tr>
<tr>
<td>Sector</td>
<td>Service</td>
</tr>
<tr>
<td>Type of the service/product</td>
<td>Providing daily household services such as cleaning, repairing, delivery, and etc.</td>
</tr>
<tr>
<td>Business Idea</td>
<td>Online platform which helps people to find a daily household service with a good quality in their area.</td>
</tr>
<tr>
<td>Entrepreneurial Idea</td>
<td>The idea was constructed when the founder moved in a new house and faced many problems regarding finding a household service with a good quality and normal cost due to lack of a platform which shows options in the area. Then, the question of “How can I easily find a household service with a good quality?” was arisen.</td>
</tr>
<tr>
<td>Organizational Structure</td>
<td>Open and semi-formal structure. However, several departments have been constructed and regular meetings take place each month.</td>
</tr>
<tr>
<td>Innovation Strategy</td>
<td>Including new services in their platform according to the desire of users.</td>
</tr>
<tr>
<td>Knowledge Share Technique</td>
<td>Communication is reinforced through the regular events within the organization such as SU2 talks (name of the event). Also, open offices are preferred in order to improve the communication between employees.</td>
</tr>
<tr>
<td>Incubation Status</td>
<td>SU5 was incubated in the beginning.</td>
</tr>
</tbody>
</table>
## Appendix 8: Start-up properties of SU6.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interviewee</strong></td>
<td>Head of Corporate Communication; 4 years working experience in corporate communication</td>
</tr>
<tr>
<td><strong>Age of the Start-up</strong></td>
<td>3 years old (2015-present)</td>
</tr>
<tr>
<td><strong>Size</strong></td>
<td>Around 1000 employees</td>
</tr>
<tr>
<td><strong>Sector</strong></td>
<td>Delivery</td>
</tr>
<tr>
<td><strong>Type of the service/product</strong></td>
<td>Delivery service for grocery needs</td>
</tr>
<tr>
<td><strong>Business Idea</strong></td>
<td>Providing 7/24 and fast delivery service for grocery needs</td>
</tr>
<tr>
<td><strong>Entrepreneurial Idea</strong></td>
<td>The idea is derived from the founder’s former enterprise which is a taxi service. “First we thought about storing basic grocery needs in our taxis, thus passengers would buy something that they need during their ride, but then the idea was improved and we decided to create a separate delivery service which uses our own grocery storages.”</td>
</tr>
<tr>
<td><strong>Organizational Structure</strong></td>
<td>Institutionalized, horizontal and formal</td>
</tr>
<tr>
<td><strong>Innovation Strategy</strong></td>
<td>Delivering grocery needs faster than any other options.</td>
</tr>
<tr>
<td><strong>Knowledge Share Technique</strong></td>
<td>Regular meetings in each month.</td>
</tr>
<tr>
<td><strong>Incubation Status</strong></td>
<td>SU6 was incubated in the beginning.</td>
</tr>
</tbody>
</table>
# Appendix 9: Start-up properties of SU7.

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Interviewee</strong></td>
<td>Shopping Mall Manager; responsible of controlling all the shops and report back to the owner, 3 years working experience</td>
</tr>
<tr>
<td><strong>Age of the Start-up</strong></td>
<td>3 years old (2015-present)</td>
</tr>
<tr>
<td><strong>Size</strong></td>
<td>50-60 employees</td>
</tr>
<tr>
<td><strong>Sector</strong></td>
<td>Retail</td>
</tr>
<tr>
<td><strong>Type of the service/product</strong></td>
<td>Shopping Mall</td>
</tr>
<tr>
<td><strong>Business Idea</strong></td>
<td>Providing a place where anyone can bring their waste or unused material to be cleaned, recycled and retailed, creating a more sustainable living.</td>
</tr>
<tr>
<td><strong>Entrepreneurial Idea</strong></td>
<td>‘Our aim is to inspire people businesses, invite them to be more aware and get them involved with sustainability. We want to reduce waste, make people live a more sustainable life, and create job opportunities. We are trying to do more than just being a shopping mall, we want to save the world, slowly, but steadily’.</td>
</tr>
<tr>
<td><strong>Organizational Structure</strong></td>
<td>Flexible, shop owners are independent from each other, semi-institutionalized.</td>
</tr>
<tr>
<td><strong>Innovation Strategy</strong></td>
<td>Creating a commercial second hand shop, making money on being sustainable.</td>
</tr>
<tr>
<td><strong>Knowledge Share Technique</strong></td>
<td>Shops are independent from each other. Mall manager is responsible of collecting the information and analysing it before reporting back to the owner.</td>
</tr>
<tr>
<td><strong>Incubation Status</strong></td>
<td>SU7 was incubated in the beginning.</td>
</tr>
</tbody>
</table>
## Appendix 10: Start-up properties of SU8

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviewee</td>
<td>Co-founder; 6 years of experience in the business</td>
</tr>
<tr>
<td>Age of the Start-up</td>
<td>5 years old (2013-present)</td>
</tr>
<tr>
<td>Size</td>
<td>6 employees</td>
</tr>
<tr>
<td>Sector</td>
<td>Sponsorship</td>
</tr>
<tr>
<td>Type of the service/product</td>
<td>Partnership and communication between companies and projects.</td>
</tr>
<tr>
<td>Business Idea</td>
<td>Connecting people that are looking for sponsor with the companies that want to become sponsors.</td>
</tr>
<tr>
<td>Entrepreneurial Idea</td>
<td>‘‘I was involved in the entrepreneurship club at my university and realized how difficult it was to get companies to sponsor us. That’s when I started thinking about a platform that connects brands with sponsors and decided to move forward with my idea’’.</td>
</tr>
<tr>
<td>Organizational Structure</td>
<td>Loose structure; Facebook workplace is used for communication between team members.</td>
</tr>
<tr>
<td>Innovation Strategy</td>
<td>Keeping the top position in the market and improving the knowledge on what a sponsor is by creating more content through the business.</td>
</tr>
<tr>
<td>Knowledge Share Technique</td>
<td>A CRM system and various project management tools are used to collect the data and share it among team members.</td>
</tr>
<tr>
<td>Incubation Status</td>
<td>SU8 hasn’t been incubated.</td>
</tr>
</tbody>
</table>
Appendix 11: Detailed analysis of Grounded Theory

First level concepts
- Realizing a gap in the market
- Building the opportunity
- Start-up as a project
- Time pressure
- Transitory nature
- Selecting from a portfolio of ideas
- Alignment with the business idea
- Customer feedback
- Strategic decision-making
- Long-term vision
- Market research
- Increasing effectiveness
- Choosing the right service to release
- Sharing the experiences among team members
- Communication tools
- Different platforms to store previous data
- Creating opportunities
- Natural evolution of ideas
- Creative and innovative process

Second order themes
- Building the idea
- Start-up as a temporary organization
- Initial decision-making
- Further decision-making
- Knowledge acquisition
- Knowledge transformation
- Knowledge storage
- Knowledge creation

Core categories
Creating a Start-up
Developing a Start-up
Implementing Knowledge Management practice