

MASTER'S THESIS

Management Control Systems in Corporate Startups

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Abstract

Until now, research on the design of management control systems (MCSs) in startups, and in particular corporate startups, has been limited. Drawing upon the notion of Malmi & Brown (2008) that MCSs operate together as a package of interrelated mechanisms, the purpose of this research was to determine which combination of control mechanisms is appropriate for corporate startups and to provide empirical evidence regarding the design of MCSs in corporate startup companies. Embracing a broad conceptualization of management control, this research builds on six control constructs as proposed by Bedford & Malmi (2015) in developing a theoretical framework that represents an appropriate design of MCSs for corporate startups. This framework is empirically tested by conducting a qualitative multiple-case study in several corporate startups of Dutch network company Alliander. Findings show which combinations of control mechanisms are actually applied in practice, and in fact, all case companies apply another combination of control mechanisms. Differences and similarities between the cases are analyzed and related to the theoretical framework by conducting a cross-case analysis, from which the conclusion can be drawn that regarding six of the twenty-two control mechanisms, practice in all case companies corresponds with the theoretical framework.

Acknowledgements

This thesis is the fruitful result of studying the design of management control systems in corporate startups, and concludes my Master in Economics at the Radboud University. Completing my bachelor's degree at the university of applied sciences last year has convinced me that management control research should be valuable for practitioners in business organizations in order to be relevant. With this in mind, I decided to look for a company where I could write my thesis, after which Dutch network company Alliander provided me the opportunity to conduct research during a five-month internship. Writing my master's thesis outside university has been challenging, although I feel that I have received all the support and help that I needed.

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List of abbreviations and acronyms

BP	–	Business Partner
EBA	–	Emerging Business Area
EBD	–	Emerging Business Development (department within parent company Alliander
EBIT	–	Earnings Before Interest and Taxes
HR	–	Human Resources
IT	–	Information Technology
KPI	–	Key Performance Indicator
MBR	–	Monthly Business Review
MCS	–	Management Control System
P&L	–	Profit and Loss Statement
PRO	–	Persoonlijk Resultaat & Ontwikkeling (Personal Result & Development)
R&D	–	Research & Development
SMART	–	Specific, Measurable, Achievable, Relevant, and Time-bound

1. Introduction

In this initial chapter, the background of this study is described, as well as the problem statement. This chapter concludes with a statement of the purpose of the research, and the research question that must be answered to fulfill the purpose.

1.1 Background

Recently, the electricity industry is on the verge of reforms as a result of a constellation of present-day challenges, including finite energy resources, global warming and an aging infrastructure. At the same time, the demand for energy increases unceasingly. Therefore, the European Union has set binding targets for the year 2020 to reduce energy consumption by 20% with respect to the 2020 forecast, to reduce greenhouse gas emissions by 20% with respect to 1990 levels, and to have 20% of total energy consumption in 2020 produced with renewable energy sources (Meeus & Saguan, 2011). Even more ambitious objectives are being developed towards the decarbonization of the electricity system by 2050, which is in accordance with the Paris climate agreement, signed by 195 nations in June 2017. These new energy goals are driving network companies (or utilities) to further optimization of their efficiency, the conservation of finite energy resources and the accelerated deployment of renewable energy resources. Innovative adaptations of the grid infrastructure are needed to integrate sustainable initiatives in the current electricity system (Union of the Electricity Industry in Europe [Eurelectric], 2011).

In order to achieve these innovations, network companies are increasingly investing in startup companies (Groarke, 2016). These startups can be characterized by their drive to innovate and their focus on rapid growth in the early stages of their lifecycle, and as organizations where uncertainty, experimentation, flexibility, intrinsic motivation, and freedom are paramount (Davila, 2005). The phenomenon of corporates investing in these new ventures is indicated with the term “corporate venturing” in academic literature (Shrader & Simon, 1997). Investing in promising startups offers network companies the promise of facilitating entry into new business areas with innovative, usually technology-based and often disruptive services. Therefore, corporate venturing in the energy market takes place under the assumption that startups will positively impact the acceleration of the smart energy transition. Where network companies have the interest to invest in innovative startups to help society with matching energy supply and demand and adapting the grid infrastructure in time, also startups have much interest to become part of the corporate structure of a network company; network companies are able to let startups flourish by offering them the right preconditions, data, market mechanisms, platforms and incentives.

Nevertheless, Haustein et al. (2014) argue that the management of startups is often confronted with a loss of control as the organization evolves. This is in line with findings of Everett and Watson (1998), who found that the most common reason for failure of startups is the lack of management to control the organization to secure future growth. Therefore, a focus on management control activities is important to ensure that the developed plans are implemented and that the individual's goals are congruent with the organization's goals (Hutzschenreuter, 2009). Corresponding systems of control are referred to as management control systems (MCSs). In the presence of these systems, organizational resources are expected to be distributed effectively, which improves the overall company performance. Through MCSs, startups may be able to keep track of their performance and employee behavior, while at the same time securing future growth.

Implementation of MCSs becomes increasingly imperative as startups grow rapidly, since more business units arise and management has to make sure that all parts work towards the same goals. The same holds for formalization of control systems, which refers to a

systematic way of utilizing rules and procedures in decision-making (Talja, 2016). At the same time, employees in startups should be free of inflexible limits to creativity and flexibility, such that the innovativeness of the company is maintained (Haustein et al., 2014). This is important since the competitive advantage of startups is based on their ability to innovate and adapt to change. Implementation and formalization of MCSs may hinder startups' innovativeness and therefore their competitive advantage. Consequently, the fundamental challenge of innovative startups is to balance the increasing need for control with the startups' flexibility which makes them able to generate innovations (Haustein et al., 2014). Moreover, it is essential to uncover a system that motivates corporate startups' managers and at the same time reaches financial and strategic goals of the parent company.

1.2 Problem Statement

Traditionally, management control literature is concerned with the planning and control function of management control (Otley et al., 1995). In this perspective, management control is related to the process of linking strategic planning and operational control at different hierarchical levels in organizations. Over the past decades, management control literature has been developed along this traditional view, focusing on the importance of accounting and studying management control practices in the context of large, hierarchically structured organizations.

Changes in the business and social environment have led to the emergence of startups worldwide, which relatively rapidly took place during the 1990s along with the vast development of IT (Lukka & Granlund, 2003). As a result, the last decade management control literature has been expanded with studies examining the importance of MCS in startup companies. Studies have argued that MCSs matter to startup companies because they enhance managerial decision-making, coordinate resources and information flows, and facilitate contracting and signaling as a company achieves a higher growth stage or scale (Davila et al., 2015). Moreover, some studies have particularly emphasized the importance of corporates to exercise management control over startups (Shrader & Simon, 1997; Lin et al., 2017).

Although multiple researches have been conducted in recent years discussing the importance of MCSs in (corporate) startups, little attention has been given to the design of MCSs in corporate startups and whether traditional MCSs, designed for large enterprises, are applicable to corporate startups as well. Haustein et al. (2014) suggest in their conclusion that neglecting how MCSs operate in startups has not been justified and therefore particular attention should be devoted to the design of MCSs in startups. The type of financing has been identified as a factor potentially influencing the implementation and design of MCSs, implying that the presence of venture capital in startups, as a result of corporate venturing, leads to more comprehensive MCSs. Research on how MCSs are designed in startups, and in particular in corporate startups, is limited and therefore there is a need for empirical evidence on this subject.

However, existing MCS frameworks may not provide an appropriate design for corporate startups, since these frameworks are particularly designed for large hierarchal organizations. Malmi & Brown (2008) confirm this by recognizing that MCSs do not operate in isolation; instead, organizations rely on combinations of control mechanisms, and optimal combinations are different for every organizational setting. In line with this, Bedford & Malmi (2015) suggest that arrangements of control mechanisms, so called control configurations, are composed differently in startups compared to large hierarchical organizations. The paper of the latter authors contributes to the understanding of the control configurations used in different organizational settings, but does not provide insights about whether these control

combinations found in startup companies are actually appropriate for these startups, or in particular for corporate startups. In short, the problem recognized in current literature concerning MCSs in startups is twofold: (1) to date, it is unknown which combination of control mechanisms is appropriate for corporate startups, and (2) there is a lack of empirical evidence regarding the design of MCSs in corporate startup companies.

1.3 Research Objectives

In order to overcome the aforementioned problems, the purpose of this research is to determine which combination of control mechanisms is appropriate for corporate startups and to provide empirical evidence regarding the design of MCSs in corporate startup companies. Therefore, this research intends to develop a theoretical framework consisting of propositions and to describe and analyze the design of MCSs in different corporate startups. The aim is to conduct a case study at corporate startups of Dutch network company Alliander, since this company has given the researcher the opportunity to investigate MCSs in corporate startups in which they invest. This objective implies that this research aims to achieve a practical contribution. Besides that, this research aims to contribute to the growing literature on MCSs in startups by enhancing knowledge about the design of MCSs in corporate startups.

1.4 Research Question

With the adoption of a research question, this study aims to achieve the aforementioned purpose. The research question is:

“Which combination of control mechanisms is appropriate for corporate startups and which combinations are actually applied in practice?”

Based on the work of Doorewaard et al. (2015), the research question is broken down into three specific questions: a theoretical, empirical and analytical question.

- | | |
|------------------------------|--|
| Theoretical question: | Which combination of control mechanisms is appropriate for corporate startups? |
| Empirical question: | Which combinations of control mechanisms are actually applied in practice? Corporate startups from network company Alliander are examined. |
| Analytical question: | What are the similarities and differences between the proposed combination of control mechanisms and control combinations found within corporate startups? |

1.5 Outline

This thesis is divided into six main chapters. In this first chapter, the research is introduced by presenting background information, problem statement, purpose, and research question. In chapter two, a thorough literature review is presented by describing relevant previous research in the areas of management control and corporate venturing. This chapter ends with a theoretical framework that is used for analyzing the case companies later in the report. After that, the third chapter contains information of how the research is performed. Subsequently, where chapter four shows the results of this research, these results are analyzed in chapter five. Lastly, the conclusion is presented by combining the outcomes of the analysis. Moreover, in this last chapter the contribution of this research is discussed, practical recommendations are presented, and suggestions for future research are given.

2. Literature review

This chapter presents a thorough literature review by describing relevant previous research in the areas of management control and corporate venturing. The review starts with conceptualization of management control as the theoretical starting point for the analysis. Thereafter, corporate venturing literature has been consulted to uncover challenges that corporate startups face. In the last section is discussed how MCSs can be designed such that the challenges corporate startups face can be overcome.

2.1 Adopted conceptualization of management control

In recent years, an important part of the research agenda has been to understand how controls can be combined to suit the particular circumstances of the organization. The growing interest in how management controls operate together as a package of interrelated mechanisms arose from the notion of "MCS as a package" by Malmi & Brown (2008), who recognized that MCSs do not operate in isolation. According to Malmi & Brown (2008, p. 291), "the concept of a package points to the fact that different systems are often introduced by different interest groups at different times, so the controls in their entirety should not be defined holistically as a single system, but instead as a package of systems". Since traditional contingency studies have neglected the nature of controls and how multiple controls combine, Cardinal et al. (2010) proposed a configurational approach to control, building on configurational theory. While the contingency theory adheres to the reductionist tenet by seeking linear correlations and an optimal organizational configuration, the configuration theory considers control systems not as independent contingencies but rather as tightly interdependent elements of one internally consistent configuration (Brand, 2013). The latter approach assumes that there are only a small number of high-performing control configurations.

A significant recent contribution to the configurational approach comes from Bedford & Malmi (2015), who empirically examined how control mechanisms combine and which associations these combinations have with a firm's context. As indicated in the introduction, this research builds on the concept of management control as stated by Bedford & Malmi (2015). In their paper, management control is defined as "a set of processes and mechanisms used by managers to influence the behavior of individuals and groups towards more or less predetermined objectives" (Bedford & Malmi, 2015, p. 6). Six control constructs are distinguished, which together comprise a broad conceptualization of management control: strategic planning, measurement, compensation, structure, policies and procedures, and socio-ideological. These control constructs consist of control mechanisms derived from various previous contributions, such as Merchant (1985) and Simons (1995), that provide insights in how substance can be given to the control constructs.

Bedford & Malmi (2015) conclude that mechanisms combine in five different configurations, labelled as simple, results, action, devolved, and hybrid. In addition, evidence is found that different control configurations can be aligned to the same contextual dimension, implying that there isn't a one-to-one relationship between context and MCS. In other words, different control mechanisms available in the control package may well combine in different ways in a particular context. This research does not explicitly emphasize the way controls combine in configurations. Nevertheless, it aims to build on the control constructs as proposed by Bedford & Malmi (2015). The different control constructs are discussed in detail in the subsections below by clarifying the conceptualizations of the underlying control mechanisms (see *Appendix I*).

Strategic Planning

Strategic planning is a disciplined effort to produce decisions and actions that guide and

shape what the organization is, what it does, and why it does it (Bryson, 1988). In this sense, strategic planning is an *ex ante* form of control (Flamholtz et al., 1985). Firms use strategic planning to direct their long-term growth and development (Silvola, 2008). The importance of this construct was already mentioned in the publication *Planning and Control Systems* of Anthony (1965), who developed a conceptual framework that distinguished management control from strategic planning and tasks control. In this early contribution to management control literature, strategic planning is considered as the activity of setting goals and objectives for the whole organization over the long term. Anthony (1965) argues that strategic planning is not part of management control; instead, management control connects the processes of strategic planning and operational control. According to Ferreira & Otley (2009), this approach of Anthony (1965) resulted in a disconnect between management control and strategic planning. Moreover, Malmi & Brown (2008) argue that strategic planning should be treated as a separate system in the MCS typology because of its ability to direct employee behavior. In line with the latter paper, Bedford & Malmi (2015) consider strategic planning as an essential construct of management control.

Unlike the traditional perspective of Anthony (1965), Bedford & Malmi (2015) recognize that long-term ends and means of a firm does not necessarily have to be articulated in a formal plan and implemented top-down in organizations, but can also be intertwined or specified simultaneously. This distinction relates to the different modes of strategic planning, which is originally proposed by Mintzberg (1994) and Brews & Hunt (1999). They argue that the concept of strategic planning has been developed along a spectrum consisting of planning as a formalized process at one end, against planning as a disjointed process at the other end of the spectrum. Strategic planning as a formalized process incorporates a deliberate, rational, linear adoption of strategy, where goals are specified first, followed by means to achieve these goals. Strategic planning as a disjointed process is concerned with an adaptive, incremental learning process, where ends and means are either specified simultaneously, or are intertwined (Brews & Hunt, 1999).

Moreover, differences in strategic planning between organizations can be distinguished on the basis of the extent to which subordinates participate in strategic planning processes (Bedford & Malmi, 2015). Ketokivi & Castañer (2004) argue that strategic planning is most effective in reducing the extent in which employees' pursuit their own goals over organizational goals when it is used as an integrative mechanism. For strategic planning becoming an integrative mechanism, employees must participate in the strategic planning and top managers must communicate the resulting goals and priorities. In this case, strategy is not just implemented top-down in the organization, but employees are able to autonomously develop strategic initiatives. De Baerdemaeker & Bruggeman (2015) add to this that increased participation in strategic planning leads to increased organizational commitment, reducing budgetary slack within the organization.

Measurement

Measurement refers to the "process of assigning numbers to represent aspects of organizational behavior and performance" (Flamholtz, 1983, p. 156). Traditionally, measurement systems consist of financial measures, including budgets and standard costs to determine productivity and efficiency. After numerous scholars and practitioners have criticized traditional performance measures that rely on financial metrics, Malmi & Brown (2008) consider non-financial measures as an essential element of cybernetic control, arguing that these measures are of increasing importance within contemporary organizations. Financial and non-financial measures can be combined in a hybrid performance measurement system, for example a Balanced Scorecard. The extent to which

financial measures are supplemented with non-financial measures, is referred to as “measure diversity” by Bedford & Malmi (2015).

According to Flamholtz (1983), measurement performs a dual function as part of a control system. On the one hand, measurement systems may be used as a monitoring system to track how the organization implements the strategy. Monitoring activity through deviations from preset standards of performance is referred to as diagnostic control systems (Simons, 1995). Diagnostic control systems help to achieve the organization’s intended strategies and represent the use of accounting as a part of the cybernetic control cycle, implying that the application of these systems comprises the identification of critical performance variables, setting targets for these variables, monitoring progress towards critical performance targets, providing information to correct deviations from preset performance targets, and eventually reviewing key areas of performance. On the other hand, measurement systems influence subordinate behavior when they know that they are being measured. This means that measurement is itself a stimulus (Flamholtz, 1983). In this sense, measurement systems may also be used interactively. Interactive control systems are measurement systems that are used to focus attention on the constantly changing information that are considered to be of strategic importance (Bisbe & Otley, 2004).

Besides measure diversity, diagnostic control and interactive control, Bedford & Malmi (2015) emphasize the difference between tight and loose control, based on the conception of Merchant (1985). In Bedford & Malmi (2015, p. 7), tightness is defined as “individual accountability for meeting pre-established performance targets”. Merchant & Van der Stede (2012) argue that tight controls should be implemented if managers have good knowledge about how one or more objects of control (actions, results personnel/culture) relate to the organization’s goals and if they can implement the chosen form(s) of controls effectively. At last, cost control mechanisms are considered as an important aspect of measurement, which is about the extent to which operations are controlled by comparing actual, standard and expected costs (Kober et al., 2007). In other words, cost control relates to the extent to which cost analysis techniques and controls are used (Simons, 1987).

Compensation

Compensation systems focus on motivating and increasing the performance of individuals and groups within organizations by achieving congruence between their goals and activities and those of the organization (Malmi & Brown, 2008). This conception originates from the agency theory and implies that compensation plans are designed to overcome agency problems (Baiman, 1990). Subordinates prefer greater levels of consumption and less intensive work, as these factors do not decrease their compensation. This implies that compensation leads to increased effort compared to an absence of explicit compensation. In line with this, compensation is typically the result of performance evaluations (Ferreira & Otley, 2009). If this is the case, an assessment is made to what extent certain outcomes have been achieved and subordinates can be remunerated on the basis of outcome-based contracts (Bosse & Philips, 2016). However, sometimes it is difficult to evaluate performances and then it is more desirable to remunerate subordinates on the basis of behavior-based contracts. Eisenhardt (1989a) has introduced a subset of five agency variables to determine which compensation contract is optimal given a situation: (1) outcome measurability, (2) outcome uncertainty, (3) task programmability, (4) goal conflicts, and (5) length of the agency relationship.

Another important contribution to the compensation control construct comes from the behavioral agency theory (Wiseman & Gomez-Mejia, 1998; Pepper & Gore, 2012). First, this theory postulates the trade-off between intrinsic and extrinsic motivation, challenging the idea that intrinsic and extrinsic motivation are either independent or additive. Pepper & Gore

(2012) prove that above a certain level of compensation, intrinsic motivation will decrease as compensation increases. Moreover, in the behavioral agency theory it is assumed that agents discount time according to a hyperbolic discount function, rather than exponentially. This has consequences for compensation; future rewards are heavily discounted, allowing for the possibility of preference reversals. Furthermore, regarding compensation, unmistakable is employees' perceptions of equitable compensation (Pepper & Gore, 2012). Employees will be more satisfied and motivated to continue and contribute at the same or at a higher level if they experience that their effort is fairly and adequately rewarded. If compensation is experienced as inappropriate, employees will become dissatisfied and demotivated, known as the inequity aversion phenomenon.

Bedford & Malmi (2015) incorporate three aspects of compensation in their model: performance pay, subjective versus objective performance evaluation and short term versus long term compensation. First, in accordance with Fisher (1995), the extent to which compensation depends on performance, can differ per organization. Increasingly, organizations are using variable pay plans to reward employees for the results that they achieve. In this case, compensation strongly varies with employees' performance. With the inequity aversion phenomenon in mind, this can only be successful if employees perceive a strong relationship between their performance and the rewards they receive. Moreover, Bedford & Malmi (2015) distinguish compensation systems based on their objectiveness. Objective performance evaluation defies interpretation and is concerned with the question: to what extent is remuneration based on objective formulas related to targets? (Simons, 1987). The ability to apply objective performance evaluation is strongly dependent on the variables as proposed by Eisenhardt (1989a), such as outcome measurability and task programmability.

Lastly, the time horizon of compensation is an important aspect of how organizations remunerate employees. Organizations can have short or long term orientations in determining compensation, where short term is defined as one year or less and long term as three years or more. From the agency theory can be argued that subordinates often serve only for a limited period of time in organizations, giving them a bias for investing in projects with high returns in the short term, instead of choosing for long term benefits (Douma & Schreuder, 2013). Therefore, special focus on remuneration in the long run is needed.

Structure

Structure concerns the specification of roles and the patterns of authority, and communication within an organization (Bedford & Malmi, 2015). Abernethy et al. (2004) recognize that MCS studies often ignore to examine the structure of an organization, despite the fact that different aspects of structural design influence the variability of subordinate behaviors. Similarly, Flamholtz (1983) states that organizational structure is an important aspect of management control because of its feature to reduce the variability of behavior and increasing its predictability. In line with Malmi & Brown (2008), structure is considered to be part of management controls in Bedford & Malmi (2015), instead of considering it as a contingency variable (Otley, 1980; Chenhall, 2003).

The first aspect recognized by Bedford & Malmi (2015) is related to decentralization, which is concerned with the extent to which top management has influence in different key decision areas. Another important aspect of structure mentioned is hierarchy, which relates to the degree to which an organization's hierarchy is vertical (Scott & Tiessen, 1999). This aspect is closely related to another aspect that is part of the structure construct: communication. According to Burns & Stalker (1961), the type of communication within organizations can be reflected on a continuum with end-points of mechanistic to organic processes. When mechanistic processes of communication are applied in an organization, information is

communicated via high structured, formal channels of communication, relating to vertical direction of communication through the organization. Organic processes of communication are mainly concerned with a lateral communication, resembling consultation rather than command. In this case, content of communication consists of information and advice rather than instructions and decisions.

Integrative Liaison Devices is the last aspect of the structure control construct according to Bedford & Malmi (2015). This aspect relates to horizontal structural arrangements overlaying traditional functional structures, such as teams, task forces, meetings, and spontaneous contacts within organizations. Integrative liaison devices allow regular, personal, and intensive contact among experts and decision makers within organizations (Abernethy & Lillis, 1995). In this way, collaboration among functional units is facilitated and functional barriers imposed by mechanistic organizational structures are broken down.

Policies and procedures

Policies and procedures relate to “the bureaucratic approach to specifying the processes and behavior within an organization” (Malmi & Brown, 2008, p. 294). A high degree of reliance on formal policies and procedures implies a strong institutionalization of impersonal regulations governing economic activities and their assessment (Whitley, 1999). An essential precondition for relying on formal rules and procedures is that the behavior required to achieve desired outcomes is known. In contrast, a low reliance on formal policies and procedures implies greater personal discretion and a tendency to take more features of the specific situation into account in monitoring and evaluating performance. In this case, idiosyncrasies of the people involved and the particular situation are seen as being at least as important as written procedures (Whitley, 1999). The policies and procedures construct of Bedford & Malmi (2015) is closely related to the notions of behavior controls (Ouchi, 1979) and action controls (Merchant & Van der Stede, 2012) and includes four different aspects.

The first aspect is related to autonomy, which is defined as “work activities conducted in the absence of direct observation or involvement by management” (Bedford & Malmi, 2015, p. 7). This definition is in line with the general concept of agent autonomy, which captures the notion of freedom from human intervention, oversight, or control (Barber & Martin, 2000). In this sense, autonomy is about the extent to which subordinates conduct non-routine activities independent of top management involvement and whether they have the freedom to create their own methods to fulfill their activities. The second aspect is derived from Simons’ (1995) notion of boundary systems. According to Simons (1995), boundary systems define appropriate conduct and are used to limit search and experimentation. Boundary systems set limits on certain activities and are especially critical in those businesses in which a reputation built on trust is a key competitive asset. These systems embody the limitations and constraints within which creativity of subordinates is allowed.

The third aspect is standardization, relating to the specification of how an activity has to be performed. Standardization is associated with creating uniform business processes, intending to reduce the risk of failure, improve performance and give management more control over operational performance. Moreover, through standardization, business processes become more reliable because variations in quality shrink. The administration of these processes become less costly and process standardization is an important prerequisite for the standardization of IT systems (Dull et al., 2012). Standardization is closely related to task complexity; when a task is simple, standard operating procedures can simply be used by employees and a discussion of work methods is not necessary (Scott & Tiessen, 1999). Complex tasks, however, are more difficult to grasp in standardized processes.

The last aspect of *Policies and Procedures* relate to pre-action reviews. Pre-action reviews involve the scrutiny of the action plans of the employees being controlled (Merchant & Van der Stede, 2012). Pre-action reviews are preventive in nature, such as expenditure approvals or budget reviews. Reviewers can approve or disapprove the proposed actions, ask for modifications, or ask for a more carefully considered plan before granting final approval. The effectiveness of pre-action reviews varies directly with the reliability of the physical devices or administrative procedures the organization has in place to ensure that the desired actions are taken (Merchant & Van der Stede, 2012). Pre-action reviews are considered to be tight if the reviews are frequent and detailed.

Socio-ideological

The notion of the socio-ideological construct in Bedford & Malmi (2015) is derived from Alvesson & Kärreman (2004), who use this label for attempts to control employee mind-sets. According to Alvesson & Kärreman (2004, p. 425), “managers do not only exercise control through prescribing behavior or desired outputs, but also often seek to enact a particular form of organizational experience for others”. In management accounting literature, socio-ideological forms of control are labelled in very different ways, such as social controls (Hopwood, 1976), clan controls (Ouchi, 1979), informal controls (Merchant, 1985), enabling controls (Adler & Borys, 1996), patriarchal control systems (Whitley, 1999), and cultural controls (Malmi & Brown, 2008; Merchant & Van Der Stede, 2012). Socio-ideological control is preferred to the label of cultural control, despite the latter is more common in contemporary literature (Bedford & Malmi, 2015). The preference for the concept of socio-ideological exists because cultural control is not always clearly differentiated from the related but distinct terms of informal and clan controls.

The socio-ideological construct of Bedford & Malmi (2015) consists of four different mechanisms: selection, socialization, belief systems, and social control. First, as recognized in human resource management literature, selection plays an important role in aligning individuals with the interests of their firms (Snell, 1992). Bedford & Malmi (2015, p. 7) conceptualize selection as the “search, evaluation and recruitment of employees according to a set of criteria”. In particular, the interest with regard to management control is the extensiveness of organization’s recruitment and selection process and how much importance is placed on selecting managers who have attitudes and values aligned to the organization, not just on technical competence. In line with Snell (1992), Bedford & Malmi (2015) distinguish formal bureaucratic human resource management systems, such as selection, from less observable influences that better define socialization. This is related to processes whereby individuals’ values, attitudes and behaviors are influenced during membership of an organization (Chatman, 1991). Employees who experience most vigorous socialization fit the firm’s values better than those who do not.

Subsequently, core values of the firm can be communicated to subordinates through belief systems (Simons, 1995). In particular, these systems are used to articulate the values and direction that senior managers want their employees to embrace. Belief systems aim to codify core values, after which they should be actively communicated throughout the firm. In this sense, belief systems are used to create commitment to firm objectives and intend to inspire and guide the search for new opportunities. The last socio-ideological aspect relates to social control. Bedford & Malmi (2015, p. 8) feel the need to include this aspect because it captures “the effects of informal processes that result in employees accumulating values and basic assumptions infused within the symbols, rituals, language, and social structures of the organization”. This concept of social control slightly differs from the first notion of social controls by Hopwood (1976), who stated that such controls are designed to influence individuals’ norms or values. Bedford & Malmi (2015) argue that social control is concerned

with the extent to which values are shared within the organization and whether employees are committed to the values and objectives outlined by top management.

2.2 Challenges in corporate startups

Two recent business studies have analyzed failure postmortems of startups: FRACTL (in Osterwalder, 2016) and CBInsights (2018). An overview of this analysis is shown in *figure 1*. According to research by data-marketing firm FRACTL, out of 200 startups, 51 stated that they failed because of a non-viable business model. Another factor often cited by founders is that they “ran out of cash” because of lack of funds and there was not enough traction, which refers to the progress of a startup company and the momentum it gains as the business grows. Where FRACTL found a non-viable business model as the main cause for startup demise, CBInsights (2018, p. 11) has come to the conclusion that “tackling problems that are interesting to solve rather than those that serve a market need was cited as the number one reason for failure in a notable 42% of the cases”. In line with FRACTL, the second most often cited failure is related to liquidity problems as a result of the inability to raise funds. “Not the right team” appears to be the third most mentioned reason for failure by CBInsights (2018), referring to the lack of a diverse team with team members that possess different skillsets.

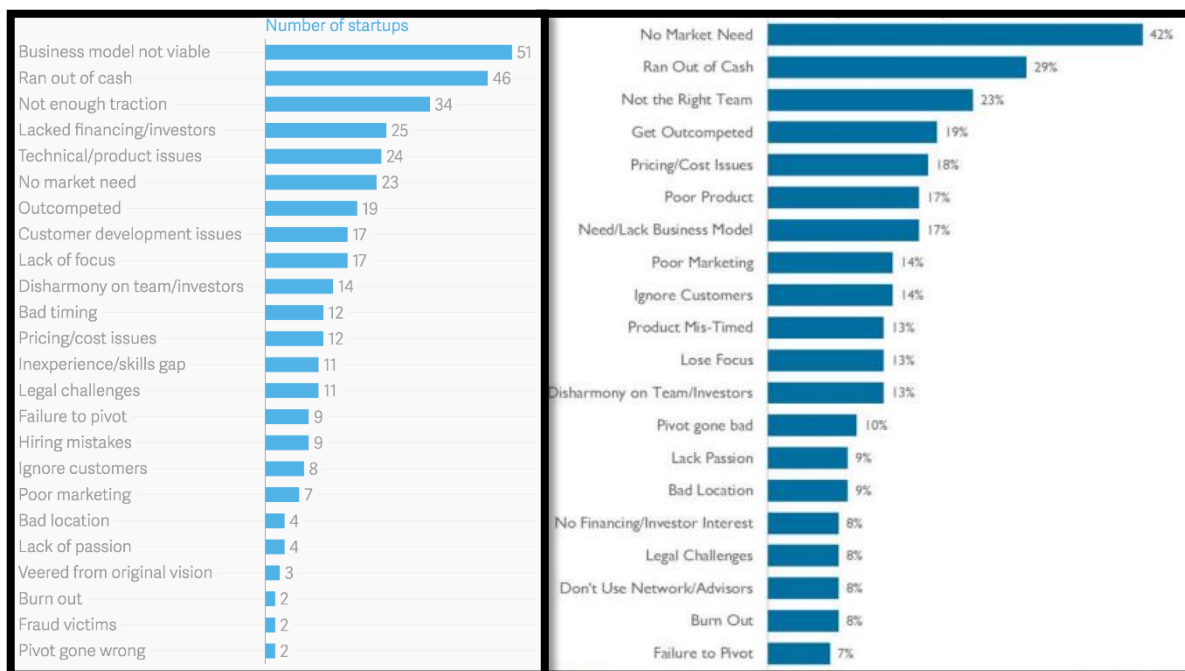


Figure 1: Causes of failure in startups

Although *figure 1* gives a broad overview of failure causes of startups in general, there is no distinction between the different types of startups. In academic literature, a distinction is made between independent and corporate startups (Shrader & Simon, 1997). Where independent startups are newly started entrepreneurial companies, and corporate startups are startup companies sponsored by parent companies. This distinction is essential because independent startups have to cope with different challenges than corporate startups. Since this study is aimed at corporate startups, failure causes and success factors of this startup type are examined in academic literature as a deepening of the findings from business research. Based on the taxonomy of Sykes (1986), factors affecting the success of corporate startups can be distinguished in intrinsic and extrinsic factors. Intrinsic factors are those inherent to the corporate startup itself, while extrinsic factors relate to the characteristics of the parent company or the relationship between the corporate startup and the parent company.

2.2.1 Intrinsic factors

The first important intrinsic factor mentioned in literature is related to entrepreneurship. Corporate startups benefit from managers who are familiar with a fast-paced business style and are comfortable in making quick decisions based on incomplete information (Bielesch et al., 2012). Moreover, these managers need team building skills in order to be effective. What is not clear from literature is the effect of startup managers' prior experience or "track record" on corporate startup success. Von Hippel (1977) and Sykes (1986) found strong evidence that startup managers' prior experience in the startups' market area and their general managerial experience are the factors most important to success. On the contrary, Song et al. (2008) only found founders' industry experience significantly related to startup performance, while founders' experience with startups could not be proven.

A related intrinsic factor mentioned in literature is staffing. Corporate startups can be staffed with employees from the parent company or from outside. The parent company often suffers from bureaucratic inertia, and when employees of this company are transferred to the corporate startup, they might lower the pace of innovation because of their inflexible mind-sets that has been developed within the large company. Dodd (2004) recognizes this challenge and argues that employees from the parent company should only be reserved for the most crucial roles in the corporate startup. This implies that human resource needs of the corporate startup should be balanced with the ongoing needs of the parent company. Moreover, the pace of innovations can be increased by defining jobs broadly rather than narrowly. In line with this, Dodd (2004) argues that employees perform at a higher level when they are given the freedom to define their own job. Another important driver of success in corporate startups regarding staffing is hiring people who are well educated, have technical orientation towards development and have a high need for achievement.

Successful startups have small teams of people representing a variety of business skills (Dodd, 2004). This makes that startups are in general knowledge intensive, relying on individual human intelligence and creativity. This is closely related to the information challenge of startups as recognized by Viinikainen (2013). Startup companies are characterized by having limited resources and struggling to access the information needed to determine what actions should be performed. However, critical information is needed to deal with changes in the fast-changing environment in which (corporate) startups operate. Since startup companies are created and developed by recognizing and utilizing opportunities, a lack of adequate information can result in a delayed detection of opportunities and risks and lower the pace of startups' development.

Furthermore, the development of new products or services is considered as an important intrinsic factor of success. Song et al. (2008) found that the degree in which corporate startups develop and introduce new products or services is positively related to the performance of corporate startups. The development of new products or services however carries a high risk of failure. The investor's tolerance for failure, financial risk and long term development costs should be assessed when setting up the startup strategy (Dodd, 2004). Although the parent company has to accept a certain level of risk, a common mistake of corporate venturing activities is to undertake a portfolio composed entirely of long term, high risk startups. Von Hippel (1977) adds that new products or services especially contribute to the startups' success when new technology is involved.

The last intrinsic factor relates to education for every person involved in venturing. By means of education, employees can be transformed into people who really understand the business. Moreover, education can help to overcome the lack of a well thought out business plan. Entrepreneurial classes can be created in which extensively the most important features of a business plan are discussed. According to Dodd (2004), this does not only lead corporate

startup's success, but also contribute by helping employees learn long-life skills. Success can be enhanced when these skills are transferred back to the parent company.

2.2.2 Extrinsic factors

The main extrinsic factor mentioned in literature relates to resources. According to Lewandowska (2013), the hindering factor of the creation of innovative products and processes is the lack of necessary resources. Corporate startups frequently have access to more resources and may be better able to obtain outside resources more cost-effectively than independent startups, since corporate startups are funded by their parent companies (Shrader & Simon, 1997). Besides that, corporate startups are able to leverage assets of the parent company, although there is no consensus in the literature about whether this leads to success. Where Bielesch et al. (2012) state that successful corporate startups are adept at leveraging assets of the parent company, Dodd (2004) found that successful corporate startups rely less on resources from their parent company as the startup matures. What is clear however, is that there is no significant relationship between the amount of money invested and the success of the corporate startup (Von Hippel, 1977). More important is a parent company providing "seed money", which is capital that can be used by corporate startups for exploring new projects, without having to justify the long term viability of these projects. According to Dodd (2004), this is not capital that has to show short term return.

Another important extrinsic factor has to do with the familiarity with potentially attractive new business areas. When a corporate startup and its parent company are operating in the same market and use the same technologies, startups may be better able to tackle problems based on previous experiences of the parent company. Sykes (1986) agrees to this by arguing that the risk of startup failure is high when there is a large difference between the parent company and the corporate startup with regard to their product technology and customer base. This is underlined by Teppo & Wüstenhagen (2009), mentioning that the probability of success is substantially higher for corporate startups operating in industries related to the parent company business.

A third extrinsic factor relates to cultural and organization differences between the parent company and the corporate startup. Especially in the energy sector, cultural mismatches between corporate startups and their parent firm are common (Teppo & Wüstenhagen, 2009). On average, the organizational culture of network companies is built around notions of industry stability and risk aversion, based on strict policies and procedures. However, corporate startups are likely to fail when policies and procedures inhibit or do not encourage their innovativeness (Dodd, 2004). This means that flexibility and the entrepreneurial culture do not work properly when the corporate startup and the parent company are too tightly linked. The parent company has to create a shared culture of innovation in corporate startups, implying that R&D activity should be legitimized. For example by means of the "15% rule", which allows technical employees to work 15% of their time on any program or idea of their choosing. This implies that corporate startups benefit from maintaining a perpetual learning culture, consisting of keeping employees abreast of the most recent developments. Moreover, Dodd (2004) mentions that a "culture of pride" should be fostered by the parent company via a proliferation of awards and recognition mechanisms. This culture has to provide an experimental, failure-tolerant mindset (Lerner, 2013).

Another extrinsic driver of corporate startup success relates to the autonomy in decision-making. According to Teppo & Wüstenhagen (2009), corporate startups benefit from enjoying greater autonomy in decision-making. In line with this, Shrader & Simon (1997) state that greater autonomy may lead to a greater ability of exploiting resources and, consequently, to superior performance. Sykes (1986) adds that autonomy in decision making must particularly be promoted in the creative, early stages of a corporate startup, while too much autonomy

can lead to a loss in control in a startup's growth stages. However, highly political processes of large parent companies can cause a decrease in startup autonomy, also in early stages of a corporate startup when autonomy is essential to develop innovations.

Personnel compensation is another critical extrinsic aspect when it comes to the success of a corporate startup. Corporate startups are generally rewarded based on a fixed salary, sometimes with annual bonuses (Dushnitsky & Lenox, 2006). This is one of the main reasons leading to the loss of key personnel and seems to be one of the key problems in corporate startups. According to Lerner (2013), compensation levels in corporate startups should match those offered in independent startups. At the same time, compensation should be linked to the goals of the parent company, as well to the start-ups' long-term performance. Many companies have compensation systems that actively discourage entrepreneurial thinking and are based upon seniority or to punish failure, instead of rewarding effort (Dodd, 2004). The reward for successful risk taking must be much larger than the penalty for failure. This requires a certain level of risk tolerance of the parent company.

Furthermore, parent companies have to ensure that knowledge is transferred to them from the corporate startups (Bielesch et al., 2012). As Lerner (2013) recognizes, "knowledge doesn't automatically flow from start-ups to the large organizations that have invested in them—at least not in a timely manner". Accountability for knowledge transfer must be accurately determined by the parent company, such that innovations developed by the corporate startups find their way to the parent company without delay. An important condition is that the parent company is set up to embrace innovation to extract the full value of new technologies and knowledge.

At last, it is essential to align the objectives and strategies of the corporate startup and the parent company (Bielesch et al, 2012). Traditionally, large companies create corporate startups in order to achieve financial objectives. However, Dushnitsky & Lenox (2006) show that investments with strategic goals will create more value to the corporation than the ones with financial goals. Besides that, the success of the investment is dependent on the alignment of the objectives of both the parent company and the startups, and on the clearness of these objectives (Lerner, 2013). This can especially be difficult when the parent company and the corporate startups are not operating in the same industries or using the same technologies.

2.3 Management control in corporate startups – theoretical framework

After reviewing which factors cause corporate startup success and failure, in this section is discussed how MCSs can be designed in corporate startups to achieve success and avoid failure. The use of MCSs in startups is a young and growing area of research. Until now, studies considering management control in startup companies mainly discussed the importance of MCS. According to Lukka & Granlund (2003), startups need MCSs that supports innovativeness and flexibility, but at the same time attempts to ensure profitability in the long run. MCSs are needed in order to keep startups alive under market pressures, but "they should be relatively light and simple in order to leave enough room for creativity and flexibility" (Lukka & Granlund, 2003, p. 13). Although management control and creativity are often regarded as conflicting, Speklé et al. (2017) empirically established that creativity and MCSs can coexist. Moreover, the adoption of MCSs is essential in scaling-up the organization (Davila & Foster, 2007). Davila et al. (2015) add to this that higher MCS intensity, which is assessed by the number of control systems adopted at the end of the year, has a positive impact on a startup's value.

In order to add to the aforementioned studies, for each control construct of Bedford & Malmi (2015) is discussed how it should be designed such that the challenges corporate startups

face can be overcome. In line with the configurational approach to management control, the descriptions below represent an appropriate design of the control constructs, explicitly not the universally most appropriate design. Propositions are formulated for each of the control constructs and are split into multiple sub propositions in accordance with the control mechanisms that underlie the control constructs.

Strategic planning

According to Silvola (2008), a planning horizon for the next five years is important for all startups and strategic planning can help to foster new ideas for future business development. From 2.2 *Challenges in corporate startups* is apparent that illiquidity is a common cause for startup failure, which implies that startups carefully have to plan their cash flows to avoid illiquidity. This indicates the importance of short-term and long-term planning for startups. An important side note here is that it, to a lesser extent, applies to corporate startups, because they generally have broader access to resources from the parent company, which significantly reduces the risk of illiquidity. However, this depends on the investment appetite of the parent company in its startups; if the parent company has a high dependency on the innovations that the startups generates, it will be less reluctant to invest in the particular startups.

When it comes to strategic planning in particular, it is clear that uncertain and turbulent environments propel corporate startups' demands for strategic flexibility in order to quickly modify their market approach and innovation strategies in response to current or future changes in the environment (Lin et al., 2017). When the strategic planning process of corporate startups is tightly controlled by the parent company, the startups may be constrained from making the changes necessary to adapt to their ambiguous, highly uncertain markets. The need for strategic flexibility in corporate startups implies that the articulation of strategy in a formal plan is unsuited, since this formalization implicitly assume conditions of stability or predictability (Brews & Hunt, 1999). However, Mintzberg & Waters (1985) emphasize that young organizations, such as corporate startups, may benefit from articulating formal plans because they represent strategic intentions. In this case, it is not about striving to implement a formal strategic plan as precisely as possible, but instead considering the strategic intentions as a direction or vision which can be deviated from when new opportunities or threats in the environment emerge. Thus, the emergent characteristic of strategic planning mitigates corporate startups' challenge of delayed detection of opportunities.

Although a formal strategic plan can constrain startups' flexibility to adapt its operations to a fast changing environment, strategic intentions may be revealed by means of this plan, implying that formal specific planning may be inevitable for the occurrence of incremental changes (Mintzberg, 1994). Moreover, Schwenk and Shrader (1993) find that a thorough strategic plan is essential for attracting capital. A formal strategic plan has the ability to signal the strategic intentions of the startup to the parent company, and through this, to convince management of the parent company to continue investing. Theory in 2.2 *Challenges in corporate startups* indicates that this is the case when the formal plan of a startup is aligned with the objectives of the parent company. All in all, it is expected that corporate startups benefit from the co-existence of formal and flexible planning:

Proposition 1a: Co-existence of strategic planning as a formalized process and as a disjointed process is appropriate for corporate startups

Concerning participation of subordinates with regard to strategic planning in corporate startups, it is desirable that employees are moderately involved in strategic planning. Subordinates may signal opportunities and threats in the market. Therefore, when they are

involved in strategic planning, the likelihood increases that certain opportunities or threats are incorporated in corporate startups' strategies. In this way, it can be mitigated that the strategy does not match the actual market needs (which is recognized as one of the causes of startup failure). At the same time, a high degree of subordinates' participation may cause that the strategy of the corporate startup is no longer aligned with the strategy of the parent company. Therefore, it is expected that corporate startups neither benefit from a very high extent or very low extent of strategic planning participation:

Proposition 1b: Moderate involvement of subordinates in strategic planning processes is appropriate for corporate startups

Measurement

In corporate venturing literature, a distinction is made between financial and strategic objectives. The achievement of corporate startups' objectives may take several years before resulting in financial returns for the parent company and is therefore very difficult to measure (Bassen et al., 2006). Particularly knowledge-intensive companies, such as technology-based startups, often experience slow revenue growth even at high levels of turnover, indicating that high levels of turnover in the early stages of a firm can be detrimental to firm success (Baron & Hannan, 2002). This means that financial performance measures can be inadequate when used within (corporate) startups, which calls for the realization of strategic measures besides the financial measures.

Strategic measures are more difficult to quantify than financial measures and the challenge is therefore to express strategic performance in clear and quantified measures. This is especially true for innovation-oriented strategic objectives such as organizational learning and the search for future opportunities for technologies and markets. Approaches to measure strategic returns come back to a systematic monitoring of strategically relevant milestones (Lanhenke, 2008). Besides strategic returns, the parent company eventually desires financial returns. Financial returns in general are necessary to maintain the investment of capital in corporate startups. Often there is a lack of adequate financial performance measures in corporate startups because these startups are generally privately held organizations and therefore not obliged to disclose financial information. Therefore, it is often difficult to obtain reliable and accurate information within corporate startups. Lanhenke (2008) finds that monitoring financial performance measures is especially relevant with regard to sales growth, liquidity and forecasts of expected return.

Above is shown that monitoring strategic and financial performance may be important for corporate startups, but also involves many challenges. In fact, the diagnostic control mechanism has to track financial but also strategic performance of corporate startups (Lanhenke, 2008). Although the notion of diagnostic control assumes stability or predictability and therefore could be understood as a restriction for innovation, Frezatti et al. (2017) empirically show that innovation strategies have a positive association with the diagnostic use of performance measures. This finding implies that there is a need to execute innovation projects in accordance with what was planned and approved in order to achieve the desired performance that was committed to. Moreover, it would be desirable for corporate startups to diagnostically use performance measures since this leads to more adequate utilization of interactive controls (Mundy, 2010). This is also recognized by Kober et al. (2007), who concludes that the increased usage of results monitoring promotes discussion and debate, and fosters increased awareness of the financial environment. These findings lead to the following proposition:

Proposition 2a: Prominent presence of diagnostic control is appropriate for corporate startups

With regard to interactive control in corporate startups, corporate venturing literature shows that corporate startups often discover opportunities too late due to a lack of adequate information, which may suggest the importance of interactive control. This conjecture corresponds with findings from management control literature. Davila et al. (2009) recognize that interactive systems can have an explicit role in sparking innovation around strategic uncertainties. Moreover, Speklé et al. (2017, p. 78) argue that “interactive control allows for the exchange of information in an environment where people are encouraged to challenge the status quo, to engage in debate and dialogue, and to unearth creative and innovative solutions”. In line with this, Frezatti et al. (2017) provide evidence that innovation strategies have a positive association with the interactive use of MCSs and that the interactive use of MCSs positively affects the intensity of innovation.

The positive influence of interactive control is only partly recognized by Bisbe & Otley (2004); although they do not support the postulate that the use of interactive control favors innovation directly, they claim that the more interactive control is present, the greater the positive effect of innovation is on organizational performance. Interactive use of performance measures may reduce innovation because initiatives that result from the sharing and exposure of ideas are often filtered (Bisbe & Otley, 2004). On the other hand, Davila (2005) states that interactive control contributes to innovation because of its ability to make the strategy more robust to strategic uncertainties. With interactive control, it is possible to highlight opportunities for incremental improvements, and for radical changes in strategy that respond to risks that threaten the current strategy. Mundy (2010) adds that innovation is more likely to lead to desired outcomes if interactive control is mobilized before diagnostic control becomes “hard-wired” into the organization. All in all, the general conception in the literature implies that interactive control is positively related to performance or corporate startups:

Proposition 2b: Prominent presence of interactive control is appropriate for corporate startups

An important addition to the fact that both diagnostic control and interactive control are appropriate for corporate startups, is the conclusion of Frezatti et al. (2017) that diagnostic control and interactive control are complementary, which means that a focus on one of the controls does not imply exclusion of the other. The existence of complementary relations among diagnostic and interactive control is also recognized by Henri (2006) and Widener (2007). While the diagnostic use of performance measures aims to gather feedback information, the interactive use of performance measures is intended to provide forward-looking information. Besides the fact that diagnostic control and interactive control are proved to be complementary, Widener (2007, p. 762) also find that they are interrelated, in line with Mundy (2010) and Kober et al. (2007): “the more top managers rely on the interactive control system, the more they will rely on the diagnostic control system to provide the structure necessary to enable the interactive system to be effective”.

When it comes to tightness of control, Davila et al. (2009) argue that innovation management appears to benefit from having a balance between tight and loose controls to provide both the support and direction for innovation. In line with this, Chenhall & Morris (1995) recognize that a dynamic balance between tight and loose control provides avoidance of potential dysfunctional effects of extremism; corporate startups benefit from loose control to encourage the search and initiation of innovation and from tight control to encourage implementation and functional reciprocity. Bart (1993) adds to this that managers of young firms often use formal controls in a rather loose way, while the tighter usage of informal controls is applied to balance the rather relaxed formal dimensions. Moreover, he shows that

too loose control is equally as bad when developing new products as is too tight control. Lukka & Granlund (2003, p. 7) have the same view about tight and loose control. To clarify this, they make an analogy with a bird in one's hand: "if you hold it in your hand too loosely, it will fly away. On the other hand, if you hold it too tightly, it will die". Similarly, in corporate startups, management should be able to allow certain freedom, but still be able to engage in control. Based on these statements about tight and loose control from literature, the following proposition can be formulated:

Proposition 2c: Dynamic balance between tight and loose control is appropriate for corporate startups

Management of the parent company may use budgets to exert cost control in order to avoid unnecessary spending of money and resources by corporate startups. Yet, cost control may have negative implications for corporate startups. Corporate startups are often established because the parent company has a need for innovative solutions. At the same time, corporate startups need money and resources from the parent company, implying a mutual dependency between both parties. Exerting cost control by the parent company may result in a reduction of innovative activities, which would be detrimental to the parent company. Shrader & Simon (1997) empirically prove that cost control is negatively related to financial performance of corporate startups. Moreover, they argue that concern for low costs may be at the expense of missed opportunities. In line with these findings, Simons (1987) recognizes that a negative relationship exists between cost control and firm performance for companies that compete through new products and market development, such as (corporate) startups. Therefore, corporate startups may benefit from de-emphasizing accounting controls and instead placing greater emphasis on fostering individual creativity and innovation. This statement leads to the next proposition:

Proposition 2d: Cost control used to a low extent is appropriate for corporate startups

With regard to measure diversity, Ittner et al. (2003) conclude that greater measurement diversity is associated with higher firm performance in general. In particular is found that firms that make more extensive use of a broad set of financial and particularly non-financial measures than those with similar strategies or value drivers earn higher returns. In addition, Speklé et al. (2017) describe that managers experience more freedom, autonomy, and opportunity to do their job if they use a diverse set of performance measures to capture the key performance areas of the business unit. Since these are important factors for the success of a corporate startup, the proposition with regard to measure diversity is as follows:

Proposition 2e: Wielding a broad scope of performance measures is appropriate for corporate startups

Compensation

Evidence suggests that compensation is different in startups compared to larger more established firms (Graham et al., 2002). In the context of corporate startups and their drive to innovate, it is desirable that incentive schemes include incentives for innovative solutions. Holmstrom (1989) argues that incentive schemes that motivate innovation must exhibit tolerance for failures. This is in accordance with the statement about compensation in 2.2 *Challenges in corporate startups*, where is mentioned that the reward for successful risk taking must be much larger than the penalty for failure. Therefore, incentive schemes of corporate startups should rely less on compensation that is sensitive to performances (Manso, 2011). The presumption that it is desirable to let remuneration depend on performance only to a low extent, can be checked by giving substance to the agency

variables as proposed by Eisenhardt (1989a). Complementing Eisenhardt (1989a), Kivistö (2007) has graphically represented the agency variables and their effect on the choice of compensation contracts (*figure 2*):

Agency variable	Behavior-based contract is efficient when:	Outcome-based contract is efficient when:
A. Outcome measurability	Low	High
B. Outcome uncertainty	High	Low
C. Task programmability	High	Low
D. Goal conflicts	Low	High
E. Length of agency relationship	Long	Short

Figure 2: Agency variables and their effect on contract choice (Kivistö, 2007)

At first, in this research is already mentioned that measurability of outcomes concerning innovation is challenging, which implies low outcome measurability. Moreover, outcomes of innovation are often unpredictable, which is also not in favor of outcome-based contracts. With regard to task programmability, innovation usually involves tasks which cannot be grasped in standardized procedures. Therefore, corporate startups will be particularly characterized by their low task programmability. Furthermore, because corporate startups originate from the parent company, it is not obvious that corporate startups generally have large goal conflicts with the parent company. Lastly, corporate startups are characterized by the fact that they are small and in an early phase of their life cycle, which implies the impossibility of a long agency relationship between the parent company and corporate startups. As shown in *figure 3*, an assessment of the five agency variables shows that behavior-based compensation contracts are slightly preferred over outcome-based compensation contracts in corporate startups:

Agency variables	Behavior-based contract is efficient when:	Outcome-based contract is efficient when:
Outcome measurability	Low	
Outcome uncertainty	High	
Task programmability		Low
Goal conflicts	Low	
Length of agency relationship		Short

Figure 3: Choice for optimal contract in corporate startups based on agency variables

Since this analysis does not provide a definitive answer about performance-based compensation in corporate startups, additional literature has been consulted. Graham et al. (2002, p. 120) argue that small and emerging firms are expected to use performance-based incentives because of their “less programmable and more fluid jobs, fewer resources with which to monitor worker performance, and employees with relatively short organizational tenures”. Furthermore, Grabner (2014) investigates incentive schemes in creativity-dependent firms and shows that performance-based compensation is appropriate in creative settings. Although performance-based compensation might lead to a narrow focus on individual task achievement which is at the expense of creative output, Grabner (2014) argues that a lack of goal-directed incentives could lead intrinsically motivated employees to focus on being creative instead of focusing on the development of profitable products. Based on the convictions of Graham et al. (2002) and Grabner (2014), the proposition concerning performance-based compensation is as follows:

Proposition 3a: Compensation sensitive to performance is appropriate for corporate startups

Moreover, Grabner (2014) provides insights about the most appropriate method for determining individual compensation (objective versus subjective). Creativity-dependent firms can set boundaries to the undesirable effects of performance-based compensation on creativity by relying on subjective evaluations that are not directly linked to individual task achievement, thereby mitigating a narrow focus on task achievement. Therefore, such subjective evaluations can increase the benefits of performance-based compensation, which implies that the joint use of performance-based compensation and subjective performance evaluations best fits the control requirements of creativity-independent firms. The preference for subjective-based compensation in corporate startups is captured in the following proposition:

Proposition 3b: In the presence of performance-based compensation, subjective-based compensation is appropriate for corporate startups

Strategic benefits for the parent company are often not achieved within the first years after the establishment of corporate startups, but take several years to become visible. Emphasis on achieving the compensation awards attached to short-term goals can conflict with effort needed to achieve longer-term corporate goals (Sykes, 1992). The compensation system of corporate startups should therefore support the possible early failures to find innovative solutions. In general, this is achieved by setting long-term goals and incentives instead of short-term ones, and by not punishing corporate startups when early failures or losses take place. In line with this, Manso (2011) argues that commitment to a long-term compensation plan motivates creativity and innovation, and thus eventually creating strategic benefits. If the corporate startup is too much compensated in the short run, performance can be disappointing in the long run and eventually could cause failure.

However, short-term compensation is appropriate when innovative products of corporate startups are strategically linked with existing product lines in the parent company, and when corporate startups receive considerable support from the parent. Moreover, uncertain and turbulent environments of corporate startups can cause long term compensation becoming inadequate. Although performance-based compensation tends to place more emphasis on short-term incentives, there is a need to balance the time horizon of incentives (Flannery et al., 1996). In addition, Sykes (1992) mentions that the best performing companies use a combination of short- and long-term compensation plans. All in all, the proposition associated with the time horizon of compensation, reads:

Proposition 3c: Balancing short-term and long-term based compensation is appropriate for corporate startups

Structure

Decentralization occurs when corporate management assigns decision rights to lower level managers (Abernethy et al., 2004). In a corporate venturing construction, decentralization relates to the extent to which the parent company has influence in different decision areas of corporate startups. Corporate startups can be characterized by their non-routine tasks, using sophisticated technology, and their rapid adaptation to changing environments. Mintzberg (1979) argues that in this type of organizations, which he refers to with the term “adhocracy”, decision-making has to be decentralized. In line with this, Haustein et al. (2014) argue that decentralization is required in innovation enterprises in order to provide flexible communication and decision-making. In addition, Vosselman (2002) approaches the centralization/decentralization issue from transaction cost economics. In the paper of

Vosselman (2002) is argued that transaction costs of centralization will be high in the case of high levels of uncertainty. Since these are general properties of corporate startups, it is expected that a decentralized structure is appropriate for corporate startups:

Proposition 4a: Decentralized decision-making authority is appropriate for corporate startups

In response to more dynamic environments, corporate startups should move toward flatter, knowledge-based, organizations that employ work teams and a less vertical hierarchy (Scott & Tiessen, 1999). Vertical hierarchies turn out to be remarkably inefficient when organizations are trying to leverage creative ideas and increase their innovation. These hierarchies may work in case of standardized processes but are not useful in dynamic environments. Furthermore, the presence of vertical hierarchies often leads to a delayed response to new opportunities. In hierarchy-free forms of organizations, employees feel more fulfilled with their jobs, their performances improve and the companies become more creative and closer to client needs. Therefore, the proposition about hierarchy is as follows:

Proposition 4b: Hierarchical flatness is appropriate for corporate startups

Innovative decision-making requires a high degree of flexibility in the structural and communication processes within organizations (Chenhall & Morris, 1995). Organic approaches to decision-making and communication are appropriate for corporate startups by providing the context where subordinates can participate in formulating strategies, share ideas and information across the entity, and take advantage of opportunities or react to threats. Moreover, the organic form is appropriate for corporate startups since this form “gives rise constantly to fresh problems and unforeseen requirements for action which cannot be broken down or distributed automatically arising from the functional roles defined within a hierarchic structure” (Burns & Stalker, 1961, p. 105). More mechanistic approaches to structural arrangements and communication processes are considered to be less responsive and potentially inhibit innovative action (Chenhall & Morris, 1995). In short, innovation and creativity in corporate startups will be encouraged by maximizing the opportunities for individuals to become involved in the process of innovation and this is best achieved by implementing organic rather than mechanistic organizational structures and processes:

Proposition 4c: Organic organizational structures and processes are appropriate for corporate startups

In order to be extraordinary at innovation, organizations benefit from extensively using integrative liaison devices (Mintzberg, 1979). Organizations that cannot standardize its behavior but must instead rely on mutual adjustment to coordinate its activities and benefit from using integrative liaison devices. Moreover, these devices have the greatest value in organizations that have organic approaches to decision-making and communication. Besides that, emphasis is placed on the use of integrative liaison devices by organizations decentralized in the vertical dimension that coordinates its decision-making by mutual adjustment (Mintzberg, 1979). The findings of Abernethy & Lillis (1995) with regard to integrative liaison devices seamlessly connect with Mintzberg (1979), since the authors find that integrative liaison devices are a critical form of control in the pursuit of flexibility. Since corporate startups aim to be innovative and flexible, they would benefit from using integrative liaison devices. Furthermore, these devices would be appropriate for corporate startups because the previous propositions show benefit from organic approaches to decision-making and communications and decentralized decision-making. The proposition about integrative liaison devices is therefore as follows:

Proposition 4d: Using integrative liaison devices is appropriate for corporate startups

Policies and procedures

Autonomy is considered as a basic psychological need innate to all humans; people want to experience choice in their behavior and be the initiators of their own actions (De Baerdemaeker & Bruggeman, 2015). Although this does not suggest that a high degree of autonomy is beneficial within organizations, from corporate startup literature is apparent that greater autonomy may be appropriate for corporate startups for the purpose of a greater ability of exploiting resources and promoting creativity. The importance of autonomy with regard to creativity is underlined in Speklé et al. (2017), who state that autonomy is directly related to creative behavior and creativity results from individuals' belief that they have the freedom to generate novel ideas and the confidence that such ideas will be valued. Moreover, according to Lin et al. (2017), corporate startups need a high degree of autonomy to be able to respond quickly to changing markets since they often face uncertain business environments. Therefore, it is essential that a high degree of autonomy is ensured in corporate startups:

Proposition 5a: A high degree of autonomy is appropriate for corporate startups

"Telling people what to do by establishing standard operating procedures and rule books discourages the initiative and creativity unleashed by empowered, entrepreneurial employees. Telling them what not to do allows innovation, but within clearly defined limits" (Simons, 1995). This citation emphasizes the need for boundary control in innovative settings. Boundary control may be able to block innovation in certain directions to reduce risk exposure, thus imposing a certain structure upon exploration and experimentation (Davila, 2005). In addition, Bedford & Malmi (2015) state that boundary systems may be a means for managers to focus subordinate behavior without removing the capacity for autonomous action.

However, Lukka & Granlund (2003) notice that boundary control should be applied carefully in startup companies, which means that applying too tight limits should be avoided; this might hamper creativity and innovation. Speklé et al. (2017) even provide empirical evidence suggesting that boundary control is in any case uncorrelated with creativity. However, at the same time, they emphasize the interplay between boundary control and the other levers of control (diagnostic, interactive and beliefs) as stated by Simons (1995). Although boundary systems in itself does not seem to be of interest for corporate startups, in the presence of other levers of control, this control mechanism may be able to curb innovation excesses (Mundy, 2010). Based on the literature above, the proposition with regard to boundary control is as follows:

Proposition 5b: In the presence of diagnostic control, interactive control and belief systems, boundary systems are appropriate for corporate startups

Concerning standardization, Haustein et al. (2014) suggest that increased standardization might be problematic for innovation companies. Imposing work standardization squashes innovation, reduces accountability, and harms performance. Therefore innovation companies such as corporate startups should avoid over-standardization. Similar, Gilson et al. (2005) argue that standardization may constrain the creativity needed to realize high levels of operational performance in corporate startups. The latter authors recognize a paradox between creativity and standardization; work standardization is necessary to limit variance in cost and time and to achieve consistent (product) quality, while at the same time organizations are looking to improve upon how work is conducted. However, in creative

environments, highest levels of operational performance are attained when teams have low levels of standardization and high levels of creativity (Gilson et al., 2005). These results suggest that standardization may constrain the creativity needed to realize high levels of operational performance.

Although standardization does not seem to improve operational performance in creative environments such as corporate startups, Gilson et al. (2005) also show that organizations that adhere to established practices and follow documented procedures have higher levels of customer satisfaction. This indicates that creativity and work standardization are not contradictory, but rather are complementary to each other (Kondo, 1996). In this sense, standardization actually can be applied to promote innovation and creativity. Nevertheless, the general conception in academic literature is still that standardization has a more limited application in creative and innovative settings, apart from improving customer satisfaction:

Proposition 5c: Limited application of work standardization is appropriate for corporate startups

The application of pre-action reviews requires that managers possess knowledge about means-end relationships (Ouchi, 1979). However, in uncertain situations, actions cannot be prescribed and pre-action reviews may hamper organizational processes in unexpected situations (Haustein et al., 2014). Focusing on pre-action reviews may lead to an overemphasis on the realization of prescribed actions instead of experimentation and a flexible response to customer satisfaction. Therefore, applying pre-action reviews seems to be associated with the inability of employees to deal with uncertainty. Moreover, employees of corporate startups may have emotional responses when management attempts to coerce employees' actions by means of pre-action reviews, in particular if they experience to be unable to deal with uncertainty. These statements about pre-action reviews lead to the following proposition:

Proposition 5d: Limited application of pre-action reviews is appropriate for corporate startups

Socio-ideological

In the area of Human Resource Management (HRM), there is a multitude of evidence that human resource practices can create value for (corporate) startups. Nascimento (2017) reveals that HRM can have several roles in startups, from strategic to non-strategic. New and small companies may have more difficulty recruiting employees and often lack formal human resource (HR) policies or systems. In startups, selection of employees is often the responsibility of general managers rather than HR professionals, although these managers often do not possess the skills needed to perform HR activities well. Therefore, the fundamental recruiting challenge for startups is to effectively attract and select candidates in the absence of trained HR personnel or significant managerial expertise in this area. This may be different for corporate startups as these startups may benefit from the HRM department of the parent company.

Nevertheless, the importance of selection in (corporate) startups should not be underestimated; from 2.2 *Challenges in corporate startups* is apparent that there is a need for educated employees, who have technical orientation towards development and have a high need for achievement. According to Cardon & Stevens (2004) selection can be considered as the key component of overall effective management of a firm's human resources. In line with this, Hatch & Dyer (2004) argue that human capital selection, together with the development through training and learning by doing, improves performance of companies in uncertain environments.

Moreover, Haustein et al. (2014) recognize that cultural control, which is closely related to the notion of socio-ideological control, is important in the highly uncertain environment in which knowledge-intensive and high-tech companies operate, despite the high costs associated with creating a strong organization culture. In particular a special emphasis on selection is needed since neither behavior control nor output control is likely to be a viable option for corporate startups, due to the need for freedom in carrying out activities (low task programmability) for startups and the outcome uncertainty that is associated with innovation. Consequently, corporate startups will benefit from “more extensive searches for job applicants, more careful evaluation of candidates, and greater inducements for desirable applicants...” (Harrison & Carroll, 1991, p. 554):

Proposition 6a: An extensive recruitment and selection process is appropriate for corporate startups

According to Zingheim et al. (2009), it is not only important to attract good employees, also employee retention is a matter of priority. In small organizations, socialization practices directly influence employee retention (Hussien, 2017). Therefore, besides determining the appropriate selectiveness of recruitment procedures, it is important to take into consideration the appropriate intensity of socialization practices. Socialization processes influence learning and career development regardless of organizational size (Cardon & Stevens, 2004). Nevertheless, Rollag and Cardon (in Cardon & Stevens, 2004, p. 310) suggest that “the process of socialization occurs more quickly in smaller organizations, as newcomers are more readily incorporated into meetings and social events such as lunch, are given more meaningful projects to work on, and are not isolated from organizational incumbents or senior managers”. However, retention of highly socialized employees is challenging at corporate startups due to the often uncertain organizational climate wherein employees manifest and develop themselves (Hussien, 2017). Moreover, Harrison & Carroll (1991) state that rapid growth of organizations can only be achieved when employees are, to a high degree, susceptible to socialization practices. The importance of socialization is also suggested in corporate venturing literature, which shows that regular education strongly contributes to the success of corporate startups. These facts together imply that corporate startups may benefit from a focus on socialization practices, despite the relatively rapid emergence of these practices in small organizations:

Proposition 6b: High intensity of socialization practices is appropriate for corporate startups

The third aspect of the socio-ideological construct are belief systems, which may be essential for corporate startups since these systems are especially useful in knowledge-based organizations where employees are operating in uncertain conditions (Mundy, 2010). Belief systems typically operate as primary MCS in startup companies (Lukka & Granlund, 2003). These systems provide employees with direction, preventing uncontrolled proliferation of creative endeavors (Speklé et al., 2017). Moreover, belief systems are essential in reducing the restraining influence of diagnostic and boundary systems on innovation and creativity (Mundy, 2010). This influence of belief systems is enhanced when it is used together with interactive control; in this case, not only innovation is facilitated, but also organizational stability is promoted and employee commitment to the organization’s vision is increased. Furthermore, belief systems can help corporate startups to inspire the employees to overcome bureaucratic inertia, which may be present in corporate startups as a result of the adopted policies and procedures from the parent company. This enumeration shows that belief systems are desirable in innovative and creative companies such as corporate startups:

Proposition 6c: Prominent presence of belief systems is appropriate for corporate startups

At last, sharing values, norms and beliefs among employees seems to be increasingly important when work requirements become more complex, uncertain, and changing (Davila, 2005). This is underlined by Collier (2005), who empirically proves the dominance of social control techniques over traditional accounting controls during the expansion of a startup. In addition, Haustein et al. (2014) argue that it may be difficult for employees with differing cultural backgrounds to share the values of the rest of the organization, especially if the organization grows. Since corporate startups generally aim for rapid growth, these facts would imply that social control is of great importance for corporate startups. Moreover, social control seems to be important for corporate startups because of the recognized challenge that often cultural differences exist between the parent company and the corporate startup. In this sense, social control may ensure that the parent company embrace corporate startups' values of innovation and creativity, such that these values not lose their strength. At last, Haustein et al. (2014) mention that shared values among employees are especially important in decentralized organizations because it provides freedom for interpretation, improvisation, and unique action. Assuming that corporate startups benefit from decentralization implies that it is appropriate for them to apply social control. Altogether, the proposition is as follows:

Proposition 6d: Extensive application of social control is appropriate for corporate startups

2.4 Summary Chapter Two

This chapter provided the literature review of this research. From the first paragraph is apparent that this research draws upon the notion "MCS as a package" of Malmi & Brown (2008) that management controls operate together as a package of interrelated mechanisms. Embracing a broad conceptualization of management control, this research builds on six control constructs as proposed by Bedford & Malmi (2015): *Strategic Planning*, *Measurement*, *Compensation*, *Structure*, *Policies and Procedures*, and *Socio-ideological*. After explaining the control constructs and the underlying control mechanisms, corporate venturing literature is explored to theoretically uncover challenges that corporate startups face. In total, twelve different factors have been distinguished that affect the success of corporate startups. In the last paragraph, corporate venturing literature and management control literature are united by developing a theoretical framework that represents an appropriate combination of control mechanisms for corporate startups. The theoretical framework consists of twenty-two propositions in accordance with the number of control mechanisms that underlie the control constructs.

3. Methodology

This chapter provides insights into the research choices made while conducting this research. First, the research paradigm is explained by means of discussing the ontology, epistemology and methodology of this study. Thereafter, the research design, data collection methods and analysis are discussed. The chapter concludes with the substantiation of the quality aspects of this research.

3.1 Research Paradigm

This research is approached from the positivistic paradigm. A research paradigm can be viewed as a set of beliefs about the nature of social reality, that is, the nature of the “world” and the individual’s place in it (Guba & Lincoln, 1994). Another way to look at a research paradigm is to consider it as the adopted scientific stance which is selected from the multiple possible scientific stances within management control research. Research paradigms can be characterized by its ontology, epistemology and methodology. Where ontology and epistemology create a holistic view about the assumed nature of reality and knowledge, methodology comprises strategies to uncover them. These characteristics are elaborated below to invigorate the adopted paradigm in this research.

3.1.1 Ontology

Ontology is concerned with the nature of reality (Guba & Lincoln, 1994). It describes the vision and assumptions about the nature of reality underlying a research. In essence, reality could be perceived objectively or subjectively, which leads to the ontological distinction in literature between objectivism and subjectivism (Saunders et al., 2009). Objectivism from an ontological perspective presupposes the social world as independent of people and their actions and activities. Subjectivism, on the other hand, presupposes that reality is subjective, which means that reality is based on perceptions and experiences that can differ and change per person over time and context.

The research question shows that this research is concerned with the determination of an appropriate design of MCSs for corporate startups and subsequently, to empirically test this design. The assumption that an appropriate design of MCSs can be selected for corporate startups implies a controllable social order, which in turn indicates an objective reality (Chua, 1986). On the other hand, it is undeniable that management control is a product of human artifice, not a product of nature. This would imply that management control is not free of subjectivism. Nevertheless, Van der Meer-Kooistra & Vosselman (2012) describe that the focus on the design of phenomena requires a research approach in which both human intentions and “natural laws” are embodied. This is possible through an instrumentalist approach of management control. As such, an attempt is made to approach reality by means of an instrument, where MCS is considered as an instrument to get organizations in control during periods of fast growth. Since the instrumentalist approach indicates that reality is independent of human interaction, this research assumes that “empirical reality is objective and external to the subject” (Chua, 1986, p. 611).

3.1.2 Epistemology

Epistemology is concerned with the nature of knowledge, that is, what form knowledge takes and how it can be acquired and interpreted (Wanderley & Cullen, 2012). The possible ways to gather knowledge are limited by the accepted ontological assumption (Guba & Lincoln, 1994). In line with this research’s ontological assumption, the researcher and the object being researched are assumed to be independent entities. This means that the researcher is capable of studying the object without influencing it or being influenced by the research object. With respect to knowledge gathering, concepts derived from theory should be

operationalized in order to measure facts. These concepts should be reduced to the simplest possible elements in order to understand them.

An apparent epistemological contradiction seems to emerge when the research question of this research is taken into consideration. Although an objective world view as described under ontology would mean that gathered knowledge solely consists of objective observations, the research question implies that the workplace of corporate startups is an important source of knowledge gathering. Knowledge obtained from a workplace setting, however, never fully consists of objective observations. Therefore, it is undeniable that perception plays a significant role regarding the gathering of knowledge in this research. In order to nullify this apparent contradiction, the epistemological position of critical realist is adopted in this research.

The essence of critical realism contains the assumption that there is a reality but that it is usually difficult to apprehend (Easton, 2009). Critical realism makes a clear distinction between the real world, the actual events that are created by the real world and the empirical events which we can actually capture and record. This implies that experiences are sensations, which are images of the things in the real world. Although there is awareness that reality cannot be understood independently of the social actors involved in the knowledge derivation process, it is assumed that what the senses show us as reality is the truth (Saunders et al., 2009). Critical realism is a branch of epistemology that connects to the positivist ontological position since it builds on the assumptions from positivism that there is a real world out there and objects have an existence independent of the human mind.

3.1.3 Methodology

Following on the ontological and epistemological assumption, methodology refers to the general approach of studying research topics (Ahrens & Chapman, 2006). There are four alternative reasoning approaches embodied in research methodology with which knowledge can be collected: deduction, induction, abduction and retroduction (Blaikie, 2010). The deductive approach refers to a research process where the research mainly focuses on empirically testing of propositions derived from extant theories, whereas the inductive approach is used principally for theory development (Lukka & Modell, 2009). By contrast, abduction is about developing theoretically informed explanations to new, and often surprising, empirical observations. Finally, retroduction consists of the reasoning back process from data to a possible explanation (Blaikie, 2010).

For this research holds that a deductive approach is the most powerful method in making statements about the design of MCSs in corporate startups, since this approach includes deducing results from propositions. This leads to conclusions that inevitable follow from the propositions, which means that conclusions must necessarily be accepted if the propositions of deductive reasoning are accepted. Moreover, a deductive approach supports the use of extant theories, which provides a structured argumentation. This argumentation begins with a theory and leads to new assumptions. Subsequently, these assumptions are tested via comparison with empirical observations and finally are accepted or rejected (Zalaghi & Khazaei, 2016).

3.2 Research Design

This study aims to provide an explanation about the design of MCSs in corporate startups. In this context, a qualitative research method is considered most appropriate since this method provides explanations of phenomena in context-specific settings that could not be captured by a quantitative analysis. On a more detailed level, the method used is known as a field study, where knowledge is gathered in a workplace setting; a number of corporate startups is visited and information is received at the location from those involved. In order to get a grip

on the specific context of corporate startups that is central to the research, a specific form of field research is applied: a case study.

3.2.1 Case design

According to Yin (2003), “a case study is an empirical inquiry that investigates a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident”. With this research method the focus is on the specific context of the organization and contemporary events. This focus provided the opportunity to understand the case and to explain the design of MCSs deployed in a real-life context. Information provided by parties involved with regard to a particular phenomenon and in an existing setting are of importance when conducting a case study (Ryan et al., 2002). The appropriateness of this research method can be substantiated on the basis of three different arguments. First, a case-based approach is said to be particularly appropriate in areas where existing theories are inadequate or incomplete, which is the case for corporate startups. Moreover, applying a case study allows for theory testing within the positivist paradigm (Eisenhardt, 1989b). Lastly, the accepted epistemological stance of a critical realist is particularly well suited as a companion to case research, since critical realism justifies the study of any situation regardless of the numbers of research units involved (Easton, 2009).

In designing a case study, a primary distinction can be made between single- and multiple-case designs (Yin, 2003). The single-case study is the most appropriate case study design when the research is about generating insights in unusual or rare cases, critical cases, typical cases, revelatory cases, and longitudinal cases. Since none of these rationales correspond with the research question of this thesis, it is decided to undertake a multiple-case study. Multiple-case studies build on the logic of replication; two or more cases that are believed to be replications when they either predict similar results (a literal replication) or produces contrasting results but for predictable reasons (a theoretical replication) (Yin, 2003). Widely embraced is the fact that evidence generated from a multiple-case study is considered as strong and reliable (Baxter & Jack, 2008).

Moreover, it is important to reflect on the role of the researcher (Scapens, 2004). There is a range of possibilities with the researcher more or less involved in the case; the researcher’s role can vary from an outsider, who has no direct involvement in the case, to an actor, who is a key player in the subject matter of the research. In this study the role of “visitor” is adopted, which means that the researcher visits the case site and interviews the subjects of the research. This role provides the opportunity to understand the specific context of the organization, without becoming the subject of research itself. Although the researcher is not directly involved in the issues being researched, the researcher cannot be considered completely independent of the case. The act of asking questions about some issues can have an impact upon those who are the subject of the research.

Now, the question remains by means of which phases the research question can be answered and the objectives of this study can be achieved. The entire research model is shown in *Appendix II* and consists of four different phases. The first phase, mentioned as the “desired situation”, begins with the execution of a preliminary research, a literature study about management control systems in general, and an examination of corporate venturing literature to determine factors affecting corporate startups’ failure and success. Based on this literature exploration, a theoretical framework has been established consisting of propositions for each control mechanism underlying the control constructs. These propositions together represent an appropriate management control design for corporate startups. Subsequently, in the second phase, appropriate cases are selected and the appropriate design, developed in phase one, is empirically tested by means of a qualitative

multiple-case study. Comparing the proposed design with empirical findings elucidates the extent to which the proposed design of MCSs, which represents the desired situation, is similar or different to empirical findings, which represents the actual situation; this comparison takes place in the third phase. Based on this comparison, conclusions are drawn and practical recommendations for the corporate startups are presented in the fourth phase.

3.2.2 Selection of case companies

Dutch network company “Alliander” has given the researcher the opportunity to investigate management control systems in corporate startups in which they invest. Several criteria are used while choosing the case companies for this research. The case companies in this research have been chosen according to the following criteria: (1) small and in an early phase of the company life cycle, (2) focusing on technological innovation, (3) that were currently, or recently had been, in a period of rapid growth in terms of revenues or number of employees, (4) and are aiming for further growth. Eventually, based on the four criteria, four corporate startups of Alliander have been selected as case companies that can be examined in this research. These case companies are anonymized in Startup W, Startup X, Startup Y, and Startup Z. Since Yin (2003) stresses the importance of clearly defining case companies that are examined in a research, a brief description of the case companies is shown in *Appendix III*, as well as a comprehensive outline of parent company Alliander.

3.3 Data Collection

In this paragraph is discussed how data is collected from the field. A hallmark of case study research is the use of multiple data sources, also known as data triangulation (Ryan et al., 2002). Data triangulation is a research strategy which enhances data credibility and is essential in case studies in order to guarantee the internal validity (contextual validity in qualitative research, explained in *3.5.1 Validity*). Therefore, this study draws upon three independent sources of evidence: interviews, documents and observations. Each method is further described in the sub sections below.

3.3.1 Interviews

Interviews are able to provide large amounts of qualitative data and the opportunity to follow up on answers to attain more in-depth information. In this sense, interviews are a highly efficient way to gather rich, empirical data. When conducting interviews, the most important issue to consider is whether they should be structured or unstructured (Ryan et al., 2002). On the one hand, this research aims to empirically test a framework, which requires a structured approach to data collection; otherwise it is not possible to relate concepts from the literature to the real context. On the other hand, it is desirable to have the freedom to explore the way in which substance is given to particular concepts. In order to unite these needs, the semi-structured interview technique is used in this study.

A semi-structured interview is a combination of the structured and unstructured interview, where the researcher makes use of an interview guide (Bryman & Bell, 2011). The interview guide used in this research can be found in *Appendix IV*. This guide is not followed strictly and questions were sometimes different from what is outlined in the guide. This type of interviewing provided the interviewee a great deal of freedom in how to reply. Besides that, using semi-structured interviews gave the researcher the opportunity to rephrase and add questions during the interview. This has ensured that all interviewees understood the meaning of the questions and were able give comparable answers, which was especially necessary in this research since not all interviewees had the same deep understanding about the concepts of MCS. This issue was also eliminated by interviewing respondents who are directly involved and have substantial knowledge about the subject.

Interviews in this research are conducted with respondents who are involved in designing MCSs in corporate startups. In total, ten interviews are conducted with nine different respondents: four general managers, three business controllers, an EBD consultant and a HR Business Partner. One respondent is interviewed twice; this is the business controller of both Startup Y and Startup Z. Interviews lasted between 35 and 75 minutes, with an average interview duration of 57 minutes. An information overview about the interviews is shown in *table 1*. After the interviews took place and findings were interpreted, these preliminary results were fed back to all respondents in order to limit possible misinterpretations due to researcher's preconceptions; these feedbacks all took place in June 2018.

Respondent	Organization / department	Position	Date	Duration (in min.)
I	Alliander / Emerging Business Development	Consultant	30 April 2018	61
II	Startup W	Business Controller	3 May 2018	73
III	Startup Z	General Manager	4 May 2018	75
IV	Startup X	Business Controller	7 May 2018	43
V	Startup W	General Manager	9 May 2018	65
VI	Startup X	General Manager	14 May 2018	53
VII	Alliander / HR	Business Partner	15 May 2018	53
VIII	Startup Z	Business Controller	15 May 2018	50
IX	Startup Y	General Manager	16 May 2018	61
X	Startup Y	Business Controller	18 May 2018	35

Table 1: Interviews overview

3.3.2 Document Reviews

In addition to in-depth interviews, information is obtained from formal documents and communications that relate to the control constructs. First, reviewing existing documents helped to gather background information before the interviews were conducted. Moreover, after conducting interviews, documents provided the opportunity to confirm or invalidate statements of respondents during the interviews. Only relevant documents are gathered, which means that the review of documents is limited to those documents that were able to provide additional information about one of the control mechanisms examined in this research. Some of these formal documents relate to the corporate parent company, such as the corporate's recruitment policy and code of conduct document, where other documents relate to the case companies, such as business plans and presentations. An overview of the reviewed documents for the purpose of this research is included in *Appendix V*. In this overview is shown what documents have been reviewed, who has provided the documents and to which control construct the document relates.

3.3.3 Observations

Being internal to the company during the execution of this research enabled the researcher to observe and experience day-to-day challenges. Observations provide a valuable source of information and at the same time might threaten the validity of the research because of the susceptibility to interpretation. Therefore, observations are not used as the only source of information but are used to support or attenuate the findings obtained from the interviews and document reviews.

3.4 Data Analysis

In order to retain the information from the interviews, all interviews are recorded with a voice recorder, after obtaining permission from the respondents about capturing the conversation. Afterwards, these interviews are elaborated into verbatim transcriptions; these transcriptions are available on request at the author. Observations and informal contacts are not recorded

and transcribed, but instead noted in favor of the progress of this research. Transcriptions from the interviews are analyzed by encoding the collected data with labels based on theoretical propositions. This means that the data analysis is in accordance with the data collection, because the topics used for obtaining information from the interviews, are also used in order to structure and analyze the obtained data. Three types of coding are used in this research: open, axial and selective coding (Böhm, 2004; Boeije, 2005). Open coding took place by analyzing short textual passages that relate to the topics from the topics list (and interview guide). Then, axial coding is performed to check whether the fragments are properly coded or that fragments should be connected to a different code. Moreover, the interview fragments with the same codes are compared to determine if there is sufficiently detailed description of each topic. Finally, selective coding contributes to the discovery of patterns in the obtained data. Software program “Atlas TI” is used to perform the coding process. An example of an encoded text fragment is included in *Appendix VI*.

The coding process enabled to perform both a within-case analysis and a cross-case analysis. Before conducting these analyses, data gathered from all three collection methods have been converged rather than handled individually, to promote a greater understanding of the cases. This approach is in line with Baxter & Jack (2008, p. 554), who state that “each data source is one piece of the puzzle, with each piece contributing to the researcher’s understanding of the whole phenomenon”. After converging the different data sources, a within-case analysis is executed; a part of the within-case analysis is shown in *Appendix VII*. Then, in accordance with the idea of pattern-matching as mentioned by Yin (2003), several pieces of information from the same case are related to some theoretical propositions. After analyzing all the case companies individually, the findings of all case companies are compared in a cross-case analysis in order to find differences and similarities in their design of MCSs, which means that in the cross-case analysis is sought for general patterns between the case companies. An example of the cross-case analysis is shown in *Appendix VIII*.

3.5 Quality Aspects

A good qualitative study contributes to understanding a situation that would otherwise be enigmatic or confusing (Golafshani, 2003). This implies that the quality concept in a qualitative study has the purpose of generating understanding. In quantitative research, quality assurance is carried out on the basis of the concepts of validity and reliability. However, more often the concepts defined in quantitative terms are considered as inadequate in qualitative research. Where quality in quantitative research is based on the extent to which variables can be explained, in qualitative research it depends on the degree to which insights have been obtained (Golafshani, 2003). Therefore, in order to make judgements about quality in qualitative research, it is inevitable to widen the spectrum of the concepts validity and reliability.

3.5.1 Validity

With respect to the validity concept, it is first of all important to notice that this concept is defined differently within quantitative and qualitative research (Golafshani, 2003). The origin of validity criteria can be found in quantitative research; within this type of research, validity is the result of universal laws and objectivity. According to Joppe (in Golafshani, 2003, p. 599) validity in quantitative research “determines whether the research truly measures that which it was intended to measure or how truthful the research results are”. With regard to qualitative research, validity cannot be regarded as the result of objective evidence. In this case it is better to consider validity not as a single, fixed or universal concept, but rather as the absence of systematic biases in the research design (Van Zwieten & Willems, 2004). Traditionally, the concept of validity can be divided into internal and external validity.

Internal validity can be understood as the degree to which the research methods and techniques are able to ensure that the results actually relate to the intended phenomenon. In other words, has one indeed investigated what one claims to have investigated? In qualitative research, especially in a case study, it is desirable to replace the concept of internal validity with the notion of contextual validity, which indicates the credibility of the case study evidence and the conclusions that are drawn therefrom (Ryan et al., 2002). This credibility is ensured by the use of data triangulation, which is considered as the application of multiple data sources with the aim of verifying the interpretation of qualitative information. Data triangulation strengthens a study by combining methods and controlling for systematic research biases. Therefore, this study makes use of various research methods and information sources, such as internal business systems and interviews. Furthermore, to enhance contextual validity, in paragraph 3.6 *Variable measures* is determined how the control mechanisms, representing the variables in this research, are defined or measured.

Moreover, to ensure the absence of systematic biases, an assessment is made of potential sources of bias. According to Van Zwieten & Willems (2004), this assessment can be made by means of critical questions with regard to the research design, the role of the researcher and a member check. Some essential critical questions in the pursuit of internal validity are:

- Has a detailed research design been followed?
- Is there a reflection on the role of the researcher?
- Have observed or interviewed persons had the opportunity to comment on preliminary results?

These questions can be answered in the affirmative on the basis of what is described in paragraphs 3.2 *Research Design* and 3.3 *Data Collection*. In addition to ensuring internal validity, it is also important that external validity is guaranteed. The term external validity refers to the degree of generalizability (Van Zwieten & Willems, 2004). However, in qualitative research, especially in case studies, generalizations are clearly problematic because of the small sample size. Therefore, Ryan et al. (2002) argue that a more accurate criterion of external validity may be the transferability of the findings from one context to another and the fittingness as to the degree of comparability of different contexts. In line with Vaivio (2008), external validity of the study's findings is enhanced by looking for cross-case patterns, as described in 3.4 *Data Analysis*. Despite the use of this tool to enhance external validity, the context specificity of this research complicates the generalizability. The design of MCSs as proposed in this research may be less suitable for totally private or public corporate startups, or corporate startups in another sector than the energy sector.

3.5.2 Reliability

Generally, reliability is characterized as the extent to which results are consistent over time and accurately reflect the total population (Golafshani, 2003). Consistency over time refers here to the repeatability of the research; i.e.: does a study show consistent results if repeated researches take place? This definition of reliability is not problematic when making statements about quantitative findings, because objectivity forms the basis for these measures. However, according to Stenbacka (in Golafshani, 2003), the use of the term reliability in qualitative research is irrelevant and misleading. Instead, the terms consistency or dependability, applicability or transferability, and neutrality or confirmability are essential criteria for quality in qualitative research.

Consistency (or dependability) relates to the trustworthiness by which the methods have been undertaken and is dependent on the researcher maintaining a decision-trail. This means that research procedures must be extensively documented such that a later investigator is able to arrive at the same findings and conclusions when the same procedures

are followed accurately. Without such documentation, other investigators are not able to repeat the research, which makes a research less reliable (Yin, 2003). Subsequently, applicability (or transferability) is about the transferability of the findings from one context to another and the fittingness as to the degree of comparability of different context (Ryan et al., 2002). Essential is a rich detail of the context, which facilitates the evaluation of study conclusions and transferability to other corporate startups. At last, neutrality (or conformability) is achieved when both consistency and applicability have been addressed.

The trustworthiness of this research is ensured by accurately substantiating the choices with regard to the research paradigm, design, data collection and data analysis. In addition, transferability is ensured by giving a rich description of the context and the cases that are subject to analysis (see *Appendix III*). This provides other researchers the opportunity to make an assessment of whether the research results that emerge from this research may also be transferable to the context in which they are interested. Lastly, extra attention is paid to neutrality in this study because of the adopted role of the researcher. The role of “visitor” is associated with the complexity of prolonged engagement with participants, which could threaten the neutrality of this research. Neutrality is ensured by keeping various parties involved informed about the research, such as the thesis supervisor and the internship supervisor, such that non-neutral statements are discovered prematurely.

3.6 Variable measures

In order to assess the presence or absence of control mechanisms in the case companies, this research relies on previously used and validated questions in other researches. Most variable measurements correspond with those used in the survey of Bedford & Malmi (2015). For various reasons, some variable measurements are not derived from the research of Bedford & Malmi (2015), but instead from other related researches. Most variables in this research are not measured as extensively as in the surveys of which the items have been used, but instead the most relevant questions are adopted to avoid that interviews would take too long (much longer than one hour). In the remainder of this section is explained how the twenty-two control mechanisms are measured in this research. An overview of the questions on the basis of which the variables are assessed in this study, are presented (in Dutch) in the interview guide in *Appendix IV*. This appendix also shows from which studies the questions are derived.

Mode

This control mechanism, belonging to the strategic planning control construct, is assessed by adapting three questions from Bedford & Malmi (2015): (1) “how would you characterize the strategic plan of your corporate startup”, (2) “how closely is the strategic plan followed in your corporate startup”, and (3) “how would you describe the process by which strategy develops in your corporate startup?”. Strategic planning as a formalized process is demonstrated if respondents respond to these questions by indicating that the strategic plan of their corporate startup is highly detailed, implemented as outlined, and develops through formalized and deliberate processes¹. Strategic planning as a disjointed process is demonstrated if respondents mention that their corporate startup’s strategic plan is a rough outline of strategic actions, loosely followed, and develops through often unintended and emergent processes.

Participation

In line with Bedford & Malmi (2015), this research uses a single item scale to measure the participation control mechanism: “to what extent are subordinates involved in the strategic

¹ The level of a strategic plan’s detail according to respondents is checked by means of a document review.

planning processes of the corporate startup?”. Moderate involvement of subordinates in strategic planning is evidenced if subordinates are neither involved to a very high extent nor to a very low extent. This is the case if respondents indicate that besides the management team of a corporate startup, some employees who are experts in certain areas are also involved in the strategic planning. An appropriate situation for corporate startups concerning participation is also reached if employees are involved to a higher extent in strategic planning, while at the same time is ensured that the strategy of the case company aligns with that of the parent company.

Diagnostic Control

This control mechanism of the measurement control construct is measured based on three items of Widener (2007): “to what extent are performance measures used by the management to (1) track progress towards goals, (2) monitor results, and (3) compare outcomes to expectations?”. Items from Widener (2007) are considered more suitable than items from Bedford & Malmi (2015) when assessing diagnostic control, since the first mentioned items are more in line with contemporary conceptualizations of diagnostic control presented by Ferreira & Otley (2009) and Tessier & Otley (2012). These authors argue that diagnostic control represents a use of performance measures or performance measurement systems, while Bedford & Malmi (2015) only incorporate the notion of budgetary control in their items. Prominent presence of diagnostic control is evidenced in this research if case companies use performance measures in line with the three items of Widener (2007).

Interactive Control

Using the wording of Widener (2007), interactive control is measured on the basis of three items from Bedford & Malmi (2015): “to what extent are performance measures used by the management to (1) provide a recurring and frequent agenda for subordinate activities, (2) focus attention on strategic uncertainties, and (3) enable continual debate of underlying assumptions?”. Prominent presence of interactive control is evidenced in this research if case companies use performance measures in line with the three items of Bedford & Malmi (2015).

Tightness

This control mechanism is measured by adapting the first two questions of Bedford & Malmi (2015): (1) “how flexible are subordinate performance targets once they have been set, and (2) how frequently are subordinates consulted about performance target achievement?”. Tight control is evidenced if performance targets are inflexible once they have been set and subordinates are consulted infrequently (quarterly or longer) about performance target achievement. Loose control is evidenced if performance targets are flexible once they have been set and subordinates are consulted frequently about performance target achievement.

Cost Control

Instead of using the three items from Bedford & Malmi (2015), preference is given to adapt the question from Simons’ (1987) questionnaire: “to what extent is cost control used in your corporate startup?”. Answers of respondents can vary between “not used at all” and “used to a great extent”. Limited application of cost control is demonstrated if respondents argue cost control is used to a low extent.

Measure Diversity

This control mechanism is measured by means of one question that is derived from Henri (2006): “which financial and non-financial performance indicators are used in your corporate startup?” Where Bedford & Malmi (2015) focus on six different dimensions of performance measures, Henri’s (2006) distinction of financial and non-financial measures is more concise, and therefore adapted in this research. Measure diversity is evidenced if respondents are

able to show that they use a broad scope of financial and non-financial performance measures.

Performance Pay

This control mechanism, belonging to the *Compensation* control construct, is assessed by adapting the first question of Bedford & Malmi (2015): “to what extent do financial rewards of subordinates increase as actual performance increasingly exceeds targets?”. Compensation is sensitive to performances if respondents of case companies indicate that financial rewards of subordinates to a high extent increase as actual performance increasingly exceeds targets.

Subjective/Objective

Subjective/objective based compensation is measured through a single indicator (Bedford & Malmi): “what is the usual basis for determining performance-based or bonus compensation for subordinates?”. Indicator end-points represent an entirely subjective or entirely objective determination of compensation respectively.

Short/Long Term

Just as the previous control mechanism, this mechanism is measured by means of one single item, adapted from Bedford & Malmi (2015): “to what extent is subordinate compensation determined on the basis short-term performance (one year or less) relative to long-term performance (three years or more)?”. Answers of respondents can vary between “emphasis on short-term performance” to “emphasis on long-term performance”.

Decentralization

Decentralization, the first control mechanism of the structure control construct, is measured through four items representing key decision areas, which are adapted from Bedford & Malmi (2015): (1) development of new products or services, (2) The hiring and firing of personnel, (3) resource allocations, and (4) pricing decisions. In specific, respondents is asked: to what extent has management of the corporate startup influence in the aforementioned key decision areas? Decentralized decision-making authority is evidenced if at least three out of four decisions take place at the lowest management level in the organization.

Hierarchy

Hierarchy is measured by the number of hierarchical levels divided by the natural logarithm of the number of employees, in line with Bedford & Malmi (2015). The number of hierarchical levels is determined by counting the number of management layers, staff layers and the lowest layer consisting of employees. Hierarchical flatness is demonstrated if the hierarchy score of a corporate startup is equal or below the lowest hierarchy score found by Bedford & Malmi (2015).

Communication

Communication is measured by adapting two items from Bedford & Malmi (2015), with end-points reflecting a continuum of mechanistic to organic processes: (1) “how is information communicated in your corporate startup” and (2) “to what extent is operational information available for all employees?”. Mechanistic communication is demonstrated if results show that information is communicated through highly structured, formal channels of communication, and employees have highly restrictive access to important operational information. Organic communication is demonstrated if results show that information is communicated through very open, informal channels of communication, and there is a free flow of important operational information throughout the corporate startup.

Integrative Liaison Devices

With two items the application of integrative liaison devices is assessed in the case

companies. Where the first item is adapted from Abernethy & Lillis (1995), the second item is adapted from Bedford & Malmi (2015): (1) "Would you describe your organization as having a functional structure, one where responsibilities are divided primarily by function, or as having a product-oriented structure, where all functional departments working on one product are grouped together?" and (2) "to what extent do subordinates work in temporary task forces or cross-functional teams?". Integrative liaison devices are applied if the organization has a product-oriented structure and subordinates work to a high extent in task forces and cross-functional teams.

Autonomy

Autonomy, the first control mechanism of the *Policies and Procedures* control construct, is captured reflectively using one single item based on those employed by Bedford & Malmi (2015): "to what extent do subordinates have the freedom to create their own methods of getting work done if no standard procedures exist?". A high degree of autonomy is evidenced if subordinates have to a high extent freedom to create their own methods of getting work done.

Boundary Systems

This control mechanism is measured by two items adapted from Bedford & Malmi (2015): (1) "to what extent are codes of conduct or similar statements relied upon to define appropriate behavior", and (2) "to what extent are there policies or guidelines that stipulate specific areas for, or limits on, opportunity search and experimentation?". Boundary systems are present if both questions are answered with "to a high extent".

Standardization

Standardization is measured by one item that relates to the use of policies and procedures to guide the day to day work activities of subordinates: "to what extent are the work activities of subordinates determined by standardized procedures or processes?". Standardization is limited if this questions is answered with "to a low extent".

Pre-action Reviews

Pre-action reviews is measured using two items in accordance with Bedford & Malmi (2015): (1) to what extent are formal action plans used to assess projects undertaken by subordinates, and (2) "how detailed are the reports or plans required from subordinates before initiating specific projects?". There is limited application of pre-action reviews if actions plans are applied to a low extent to assess projects undertaken by subordinates and reports or plans required from subordinates before initiating specific projects contain little detail.

Selection

This control mechanism, which is the first mechanism of the *Socio-ideological* control construct, is measured by two items that are adapted from Bedford & Malmi (2015): (1) how extensive is the recruitment and selection process for managers and subordinates and (2) "how much importance is placed on selecting employees and managers who have attitudes and values aligned to the corporate startup, not just on technical competence?". Results are in line with the theoretical framework if respondents show that an extensive is the recruitment and selection process is applied and much importance is placed on selecting individuals who have attitudes and values aligned to the corporate startup.

Socialization

Socialization is measured through two items from Bedford & Malmi: (1) "to what extent are training and development processes used to reinforce corporate startup objectives, expectations and norms?" and (2) "to what extent are social events and functions used to

develop and maintain commitment to the corporate startup?”. If both questions are answered with “to a high extent”, high intensity of socialization practices is proved.

Belief Systems

The first two items from Bedford & Malmi (2015) are adapted and used to measure belief systems: (1) “to what extent are the values, purpose and direction of the corporate startup codified in formal documents?” and (2) “to what extent does corporate startup management actively communicate core values to subordinates?”. The presence of belief systems are evidenced if both questions are answered with “to a high extent”.

Social Control

Social control is measured through a two item scale adapted from Bedford & Malmi (2015), relating to the extent of shared norms and expectations, and the extent of commitment to firm objectives and values: (1) “to what extent is there a sense of shared values, beliefs and expectations among employees?” and (2) “to what extent is there a consensus among employees on corporate startup objectives and direction?”. Extensive application of social control is demonstrated if both questions are answered with “to a high extent”.

3.7 Summary Chapter Three

This chapter provided insights into the research choices made while conducting this research. In the first paragraph is described that this research is approached from a positivistic paradigm, adopting the ontological stance of objectivist and the epistemological position of critical realist. Moreover, methodologically, a deductive approach to reasoning is adopted, which is the most powerful method in making statements about the design of MCSs in corporate startups. When it comes to the research design, this research is characterized as a qualitative multiple-case study in which the role of visitor is adopted, since the researcher has been given the opportunity to visit four different corporate startups of Dutch network company Alliander. These case companies are selected based on four different criteria. From these case companies, data is collected by using three different methods: ten interviews, twenty-six document reviews and several observations at the workplace. Collected data is analyzed by using three types of coding: open, axial and selective coding. The coding process enabled to perform both a within-case analysis and a cross-case analysis. Thereafter, it is examined how validity and reliability are ensured in this research, and the spectrum of these concepts is widened in favor of this qualitative research. In the last paragraph, it is explained how the control mechanisms are measured in this research.

4. Results

This chapter discusses the findings by presenting how the case companies have designed MCSs. In accordance with the structure of the theoretical framework, the findings are organized as per the six control constructs mentioned by Bedford & Malmi (2015). Case companies are anonymized and quotes of respondents are used to clarify the results.

4.1 Design of MCSs in practice

Strategic Planning

Concerning the control mechanism *mode*, it is found is that the perspective of parent company Alliander towards the development of case companies' strategic plans is carried out by a consultant of the department "Emerging Business Development (EBD)":

"It is necessary to have a regular cycle in which the strategic plan is being reassessed, but it is also essential to be flexible when the situation changes, for example, in case of changing market needs or regulations, you may want to immediately review the strategy"

When respondents are asked to characterize the strategic plan of the corporate startup they are working for, it appears that the strategic plans of all case companies have been continuously expanding. Descriptions from general managers and business controllers, together with document reviews, show that strategic plans include several components that have been broadly identified, such as a financial plan, a marketing plan, a risk assessment and the coherence of the case companies' strategy with that of parent company Alliander. Although the strategic plans of the case companies mostly contain similar components, some startups have extended their strategic plan by including, for example, core company values or a situational analysis (SWOT). Respondents across different case companies are generally satisfied with the level of detail of their strategic plan.

Taken into consideration the degree of accuracy with which the strategic plan is followed, respondents of Startup W argue that the strategic plan is followed pretty tightly. The general manager of Startup W gives as a reason for this that the strategic plan is represented by an eighteen-month plan, which is easier to follow than, for example, a five-year plan. In Startup X, the strategic plan is only characterized as a starting point; it is possible to deviate from the plan if new opportunities arise in the market. Respondents of Startup Y have a different perspective, stating that the strategic plan can be tightly adhered to because the needs of customers are better incorporated in the strategic plan. The strategic plan of Startup Z is followed loosely, because their value proposition is not validated yet; it is unknown whether the market needs their current value proposition.

Furthermore, when respondents are asked about the process by which strategy is developed by their corporate startup, they mention pre-arranged moments in the year when management of the case companies is expected to provide updates on the strategic plan to parent company Alliander. At the same time is mentioned that there is an active response to new initiatives from the market. In case of changing market needs, case companies do not immediately adjust their strategic plan, but instead shift their priorities in daily business operations. In this way, changing market needs are first validated before they are included in the strategic planning.

On the basis of three aspects it can be determined whether the strategic planning can be characterized as a formalized process or as a disjointed process: (1) level of detail of strategic plan, (2) degree of accuracy with which the strategic plan is followed, and (3) the process by which strategy develops. Co-existence of strategic planning as a formalized and

disjointed process is evidenced since features of formalized and disjointed processes are recognized in all case companies.

When it comes to employee *participation* in strategic planning, respondents of Startup X indicate that all employees are involved in shaping the strategic plan, which seems possible due to the small size of the startup. The business controller of this case company recognizes that the general manager puts in extra effort to ensure that the strategic plan aligns with the objectives of parent company Alliander, indicating moderate involvement of employees in strategic planning. This also holds for Startup W, where some employees are actively involved in the strategic planning. Last year, eight people (out of approximately 30 in total) have been involved in shaping the strategic plan. In addition to members of the management team, non-managers, such as sales and finance personnel, were actively involved. Startup Y and Z indicate that employees are involved to a low extent, since it is argued that the strategic plan is solely created by the management team of the case company, although the general manager of Startup Z mentions that employees were asked to provide input for the strategic plan, but the management team did not receive any information. Because of the lack of employee involvement, general managers of Startup Y and Startup Z do not experience difficulties with aligning their strategy with that of parent company Alliander.

Measurement

With regard to measurement, the use of *diagnostic control* within case companies is assessed. From the document reviews it appears that two case companies, Startup W and Startup X, have applied KPI dashboards to periodically monitor their performance on key performance indicators (factors that indicate achievement of current strategic objectives). These case companies have identified key performance indicators, set targets for these indicators, and monitor progress towards critical performance targets. In these case companies, KPIs provide information to correct deviations from preset performance targets. In the interviews, the prominent use of diagnostic control in Startup W and Startup X is confirmed and invigorated with an example about abandoning one of their services as a result of diagnostic control. The general manager of Startup W mentions that the monthly monitoring of financial KPIs of one of their services, an online marketplace for sustainable energy, provided insights that the financial performance of this service structurally lagged expectations, which led to the decision to discontinue this service.

In the other two case companies, Startup Y and Startup Z, diagnostic control is partially present. In these case companies, KPIs are under development and there is no KPI dashboard yet. Although strategic objectives of these case companies are not translated into underlying KPIs, progress on case companies' quarterly objectives is discussed monthly between Director of Startups Holding at Alliander and the general managers of Startup Y and Startup Z. Quarterly objectives are discussed in advance and progress on these objectives is monitored on the basis of general managers' explanations.

When it comes to *interactive control*, both Startup W and Startup X indicate that their KPI dashboard triggers a monthly meeting about the performance of the corporate startups in the past month, and about whether the current KPIs are (still) representative of the success of the organization. Moreover, respondents of these case companies indicate that during the meetings, also emerging strategic uncertainties and underlying assumptions of their value proposition are discussed, together indicating the presence of interactive control. A clear example about the use of interactive control was mentioned by the general manager of Startup W. At the time Startup W experienced that the financial performance of a particular service structurally lagged expectations, an organization-wide conversation was stimulated about making this service ("Service Alpha") successful:

“Monitoring KPIs gave rise to the discussion about what exactly was not going well and what we were going to do about it. Business managers and employees of other services were asked to actively engage in the sales of Service Alpha for six weeks”

The general manager of Startup X indicates that since the beginning of 2018, once a month a meeting takes place in which KPIs are discussed with employees. For Startup Y and Startup Z, there is lack of an active dialogue with employees about what constitutes organizational success and how this success can be measured due to the absence of specified KPIs, which points to the absence of interactive control in these case companies. However, both general managers of Startup Y and Startup Z are in favor of using KPIs to stimulate a frequent dialogue in the future.

Tightness is the next control mechanism considered. What stands out from the interviews is that all case companies adopt the method from parent company Alliander to evaluate subordinate performance. In the organization, this method is known as "PRO" (which is a Dutch acronym for “Persoonlijk Resultaat & Ontwikkeling”) and involves several performance appraisal interviews between the manager and the subordinate throughout the year, as is apparent from the interview with the HR Business Partner (HR BP). In the first appraisal interview at the beginning of each calendar year, performance targets are mutually agreed between the manager and the subordinate. Informal contacts with employees of Startup W clarify that subordinate performance targets are inflexible once they have been set:

“For most people here within Startup W, performance targets that have been set at the beginning of the year are simply adhered to”

Although predetermined performance targets usually are not adjusted during the year, subordinates are frequently consulted about performance target achievements. From May to September, a mid-year review takes place in which the progress towards performance targets is discussed. Furthermore is determined what behavior is needed in the remaining months to achieve the performance targets. In addition to the formal appraisal interviews, subordinate performance is discussed in bilateral consultations. In these conversations, the personal life of employees can also be discussed in addition to work-related topics. According to the PRO method described in Alliander's internal documents, the bilateral consultations have to take place monthly, but the interviews show that general managers of the case companies usually skip a number of conversations on an annual basis.

For three corporate startups, Startup W, Startup X and Startup Y, tight and loose control seem to be balanced. Although subordinates are directly held accountable for meeting pre-established performance targets (tight control), they frequently have the opportunity to substantiate and explain variances from target performance levels (loose control). However, often the balance between tight and loose control is disrupted in practice. Respondents recognize that multiple performance targets that were arranged at the start of the year, are not relevant anymore at the end of that year due to changing customer needs and, as a result, changing work tasks. When prearranged performance targets are considered as not relevant anymore, managers can choose to strictly adhere to these irrelevant performance targets or to relax or remove them from the appraisal form. Either of these events cause an imbalance between tight and loose control, indicating that the balance is quickly disturbed when multiple performance targets become irrelevant. In order to avoid confusion among employees, the HR BP proposes the use of short-cyclical appraisals, where employee performance is evaluated several times a year, as one of the possible solutions for this problem.

In Startup Z, many changes took place in the composition of the management team last year. As a result, performance targets are not arranged at the start of the year for most employees, which means that most employees cannot be held accountable for pre-established performance targets, indicating that tight control is absent and there is a continuous imbalance between tight and loose control in this corporate startup.

With regard to *cost control*, general managers and business controllers from several case companies indicate that until recently there was hardly any cost awareness among employees. In order to promote cost awareness, parent company Alliander has tightened the purse-strings; nowadays, operations are controlled by analyzing and reporting variances between actual costs and revenues and expected costs and revenues to Alliander. Moreover, the business controller of Startup Y and Startup Z mentions that the cash flow position of case companies is monitored because Alliander recognizes that corporate startups need liquidity in order to survive. Statements from respondents about controlling costs, revenues and cash flows are confirmed by analyzing the monthly business review (MBR) of each case company, in which a profit and loss statement (P&L) and cash flow development is incorporated.

When respondents are asked in what extent cost control is used in their corporate startup, most respondents indicate that cost control is not so dominant that it may negatively impact the innovativeness of case companies. Such a statement can be questioned based on the fact that general managers are directly appraised by the EBIT level of their corporate startup. As a result, if revenue levels are running behind expectations, general managers will cut costs to a level at which the desired EBIT is achieved. In this case, an extremely disappointing revenue will lead to exorbitant cost savings, inevitably impacting the success of the corporate startup, which indicates that cost control in all case companies is not limited. Although performance on financial measures are directly appraised in all case companies, general managers have the opportunity to substantiate and explain variances from target EBIT and cash flow levels. When the explanation of negative variances is considered to be justified, it might lead to a relaxed appraisal, which in turn makes general managers less prone to implement innovation restricting comprehensive cost savings.

Measure diversity is the last control mechanism of the *Measurement* control construct. Startup W and Startup X have applied a mix of financial and non-financial KPIs. Document reviews show that the KPI dashboard of Startup W contains 25 KPIs, including 8 financial and 17 non-financial KPIs. The general manager of Startup X has included 34 KPIs in the KPI dashboard of Startup X, consisting of 6 financial and 28 non-financial KPIs. This indicates that Startup W and Startup X wield a broad scope of financial and non-financial performance measures. Data collection with regard to measure diversity in Startup Y and Startup Z does not lead to any results due to the absence of KPIs; KPIs are under development and there is no KPI dashboard yet, which means that

Compensation

Employees of case companies receive a salary every month, in line with people working for parent company Alliander. Each year, using the PRO method is appraised whether an individual is eligible for a salary increase. In the interviews, three criteria are mentioned based on which employees are evaluated: results (what someone has achieved), attitude & behavior (how someone has achieved results) and development (the personal growth someone has experienced). After a score is assigned to each evaluation aspect, the scores are added up and divided by three to determine the final PRO score (*figure 4*):

$$\frac{\text{score results} + \text{score attitude \& behavior} + \text{score development}}{3} = \text{final appraisal}$$

Figure 4: Formula to determine final appraisal (PRO score)

The salary adjustment is initially dependent on the final appraisal above. Besides that, the salary adjustment is dependent on the “relative salary position” (RSP), which relates to an individual’s current salary relative to the maximum salary that can be earned in a particular job. In the following quote, the interviewed HR BP gives an example about the RSP:

“Imagine you have a job with a particular scale that ranges from €4,000 to €6,000 per month. If you earn a salary of €4,100, which means you are low in the scale, your salary adjustment in terms of percentages is higher than if you earn €5,900, at the same PRO-score.”

Respondents of three case companies, Startup W, Startup X, and Startup Y, mention that employees in their corporate startups are appraised on the basis of the formula above, implying that their financial reward directly increase as their performance increases. Startup Z also aims to appraise employees on the basis of a PRO score, but that has not yet been implemented due to the lack of definition of the pre-established performance targets for the employees. This means that in Startup Z, compensation is not sensitive to performance at the moment.

When it comes to *subjective versus objective based compensation*, in three case companies, Startup W, Startup X, and Startup Y, compensation is predominantly subjective. As the general manager of Startup Y mentions in the interview, the “results” aspect can be objectively appraised. In contrast, the appraisal of the aspects “attitude & behavior” and “development” are to a large extent dependent on the perception of an employee’s manager. Concerning the latter two aspects, managers compare the attitude, behavior and development of their subordinates with the attitude, behavior and development of other managers’ subordinates. In Startup Z, the appraisal and compensation are entirely dependent on the manager’s perception of an employee’s performance in the absence of using an appraisal method (such as PRO). However, these subjective evaluations do not take place in the presence of performance-based compensation.

With the current use of the PRO method, performance targets are set at the start of each year, and are to be appraised and compensated at the end of that year. The interviews reveal that no case company currently compensates employees on the basis of long-term performance targets (more than a year). Yet, for some employees, annual performance targets are derived from the organization’s long-term objectives, which means that the objectives are translated to relevant annual performance targets. However, this compensation system does not incentivize employees in the long run.

Structure

The organizational structure of Alliander and the corporate startup companies is shown in figure 5. Alliander has invested in multiple corporate startups, all of which are part of “Startups Holding B.V”. The Director of Startups Holding is the superior of the general managers of the different corporate startups. For three case companies, Startup X, Startup Y, and Startup Z, the general manager represents the lowest management level in the organization. This is different for Startup W, in which the lowest management level consists of two business managers and one project manager who are subordinate to the general manager. Where Startup X, Startup Y, and Startup Z focus on one value proposition, Startup W is engaged in two value propositions or services, where each is managed by another business manager.

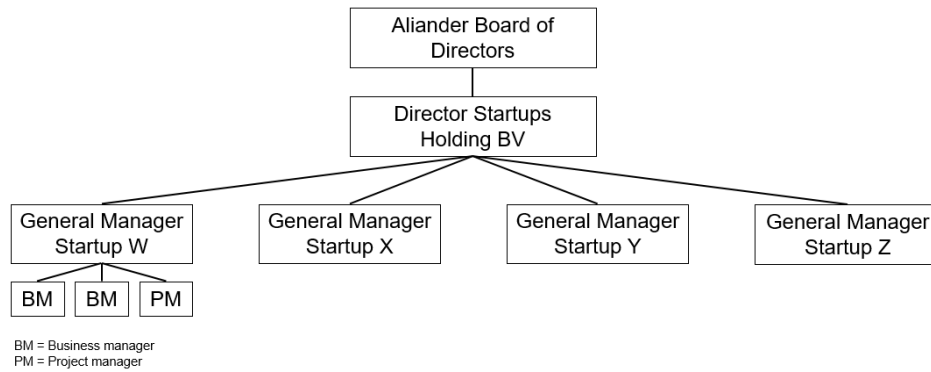


Figure 5: Organizational structure of Aliander and its corporate startups

From the interviews is apparent how each management layer influences the four different key decision areas: (1) development of new products or services, (2) the hiring and firing of managerial personnel, (3) resource allocations, and (4) pricing decisions. From the interviews is apparent that in all case companies, general managers have decision rights in three of the four decision areas; only when it comes to the development of new products or services, the Director of Startups Holding ultimately decides whether a corporate startup can engage in new products or services. This means that in Startup X, Startup Y, and Startup Z, three out of four decisions take place at the lowest management level in the organization, indicating decentralized decision-making authority. In Startup W, decision rights are only decentralized to the level of the general manager, not to lower business managers and project manager. Decision-making takes place fairly low in the structure for Startup W, but not at the lowest management level as in the other case companies, indicating limited decentralization.

Considering the *hierarchy* of the case companies, the structure of all case companies can be characterized by their flatness. The hierarchy scores per case company are shown in *table 2*:

Corporate Startup	Hierarchical levels	Employees	Hierarchy score
Startup W	4	≈ 30	2.708
Startup X	3	11	2.881
Startup Y	3	12	2.780
Startup Z	3	≈ 41	1.860

Table 2: Hierarchy scores per case company

If the number of employees fluctuated during this research, an estimate has been made of the average number of employees (indicated by an approximate sign). The hierarchy scores shown can be compared with the results of Bedford & Malmi (2015), who found a minimum score on hierarchy of 2.86. The fact that the hierarchy scores in *table 2* are similar to or lower than the lowest value found by Bedford & Malmi (2015) proves the hierarchical flatness of the case companies.

The next control mechanism part of the control construct structure is *communication*. The results with regard to communication correspond with the following quote of the interviewed consultant of EBD:

“How hierarchical communication is depends on the maturity of the organization: the younger the organization, the more volatile the communication”

Focusing on Startup W, from observations is clear that employees are free to determine at which location they work (this concept is known as “Het Nieuwe Werken” in Dutch, or the new work method). Only once a week, employees are expected to be at the same location.

The rest of the week they can choose between two office locations or to work from home. As a result, employees and managers often work at different locations, which seems to impede the informal communication between managers and employees. Although teams of employees are connected by using team collaboration software “Confluence”, managers are not connected to such a tool and often use formal communication channels, such as e-mail, in communicating with employees who are not at the same location. An important remark is that managers and employees easily approach each other to share information when they work at the same location. Furthermore, information is easily accessible via software as Slack and SharePoint. These facts indicate that communication is only partially organic in Startup W; although information is easily shared in the organization, the freedom to work at multiple locations puts pressure on the informal communication

Also in Startup Z, communication is not fully organic. The general manager of this case company indicates that he would rather reorganize the current structure to an organic structure in which less formal communication is needed. One example mentioned by the business controller relates to a newsletter about the developments of the organization that is sent to employees once a month. With regard to information accessibility of information, the general manager of Startup Z expresses the desire that information becomes better accessible; now, employees regularly come to him to request access to certain files. In Startup X and Startup Y, employees are able to easily communicate with each other and with their general manager because they all work together in the same office. The fact that individuals work closely together also means that information is quickly available to all employees. Where Startup X applies an online environment in which operations such as sales leads are tracked, Startup Y uses online tools such as SharePoint. These case companies both have a free flow of important operational information throughout the organization and informal channels of communication, which indicates organic organizational structures.

Lastly, the application of *integrative liaison devices* is discussed. When respondents are asked about collaborations between different functional units, the general managers and business controllers of all case companies refer to the use of the scrum methodology to manage product development. Self-managing and multidisciplinary teams break their work into actions that can be completed within time boxed iterations, so-called sprints. As the general manager of Startup Z explains, the scrum methodology includes three different roles: Product Owner (who collects ideas of employees and evaluates these ideas based on expected customer value), Scrum Master (who coordinates the scrum by determining the contents of sprints and promoting self-organization) and the Development Team (who is responsible for delivering product increments for every sprint). By coordinating the scrum, the Scrum Master acts as a liaison between the Product Owner and the Development Team.

Where temporary collaboration between different functional units is achieved through the use of the scrum methodology, permanent cross-functional collaboration is ensured by case companies applying a product-oriented (in this case service-oriented) approach to their organizational structure, as can be deduced from their organizational charts. In all case companies, each division corresponds with the end services provided by the case company. Each division has its own set of functional units, which is particularly visible in the structure of Startup W because each value proposition (or service) is organized in a separate division. Presence of product-oriented structures and subordinates who work to a high extent in task forces and cross-functional teams indicate the application of integrative liaison devices in all case companies.

Policies and Procedures

Autonomy is the first control mechanism that is part of the control construct *Policies and Procedures*. Unanimously, general managers and business controllers from the case companies indicate that employees have a high level of freedom to create their own methods to get work done. During the interviews, the high degree of autonomy is linked to the use of the scrum methodology. The business controller of Startup Y and Startup Z is one of the respondents who articulates this link:

“The idea of scrum is that employees can determine autonomously how they shape their work. They are judged on the functionality they have built and whether the customer is satisfied with it”

At the start of each sprint, the Product Owner determines which goals have to be achieved at the end of the sprint. As it turns out, employees are able to determine, independently of management's involvement, how to realize the sprint goals. The business controller of Startup Y and Startup Z believes that this autonomous approach fits in organizations with many highly educated people; according to him, employees in technology-based startups are much better able to determine work methods than the general managers.

Concerning *boundary systems*, a consultant of EBD believes that corporate startups can only be successful if these organizations are not subject to the same tight boundaries as divisions of parent company Alliander. In order to prevent a network company as Alliander from misusing their monopolistic rights, this company is subject to strict legislation and regulation. Since case companies are part of Alliander, the extent to which case companies are able to search for opportunities or experiment is initially dependent on compliance with legislation and regulation. Furthermore, the extent to which boundaries are set is dependent on the philosophy of parent company Alliander about restricting creative behavior.

According to the general manager of Startup W, the contours of what case companies are allowed to do are determined by Alliander when the case companies are founded. The parent company believes that the duty of case companies is to scale up pre-arranged services; case companies have to carry out a reserved attitude towards new product and service development. These limits aside, case companies have complete freedom to change or add functionalities to existing services. When it comes to boundary systems as a result of legislation and regulation, the business controller of Startup X recognizes that legislation and regulation define clear boundaries for opportunity search and experimentation. Nevertheless, he mentions that Startup X is experimenting with exerting advisory services, while a new proposal in regulation has been accepted that does not allow network companies to exert such services. This example of Startup X implies that boundaries for opportunity search and experimentation are being enforced less strictly within case companies.

Besides policies or guidelines that limit opportunity search and experimentation, interviews and document reviews make clear that Alliander exerts an organization-wide code of conduct. Employees of case companies learn these codes of conduct in a training that is offered after commencement of employment. The code of conduct includes, among other things, how employees should deal with receiving gifts, company details and use of the laptop and smartphone. Some case companies have expanded Alliander's code of conduct. For example, as a response to the tightened privacy legislation, Startup X and Startup Y have made the code of conduct with regard to data privacy more explicit.

In short, findings concerning *boundary systems* show that case companies are subject to policies that restrict opportunity search and experimentation, although these policies cannot be considered as tight limits because they only relate to the development of new products

and services. Moreover, case companies rely upon codes of conduct that are determined by parent company Alliander, and sometimes on self-expanded codes of conduct. The application of codes of conducts in combination with policies that restrict opportunity search and experimentation, demonstrate the presence of boundary systems in all case companies.

Considering *standardization*, most case companies hardly determine work activities of employees by standardized procedures or processes. In line with the literature study, a consultant of EBD states that the use of standardized procedures in corporate startups should be limited:

“In corporate startups, you may not be successful even if you have followed all procedures. We want employees to be creative enough to get from A to Z”

During the interviews, respondents imply that the application of standardized processes is need-driven; when scalability of certain value propositions is validated, actions become more routine and processes can be more easily captured in standardized procedures. In response to the need of converting leads (parties who might have interest in the corporate startup's service) to loyal customers, Startup Y recently standardized the sales process. In this case company, standardization is limited to processes that contribute to improving customer satisfaction, which is accordance with the literature study in this research. Respondents of Startup W and Startup Z also emphasize during the interviews that work activities of employees are to a limited extent determined by standardized procedures. The only exception is Startup X, where the general manager demonstrated that several processes are standardized, including marketing, communication, sales and IT.

The last control mechanism of the *Policies and Procedures* control construct is referred to as *pre-action reviews*. Respondents emphasize that many actions in case companies are difficult to define in advance, with as a consequence that the focus is on outputs. However, in some instances, authorization prior to activity performance has to be provided to employees by the general manager of the case company or by parent company Alliander. From document reviews is apparent that Alliander applies a guideline to all case companies regarding procurement and authorization. In this guideline, mandating limits are determined for each job grade. This is for instance reflected in sending quotations to customers; in most cases the general manager has to agree on quotations before they are sent to customers. When it comes to projects with more money involved, a mini-business case is required from employees consisting of short and powerful evidence presented on a single page.

In addition, the business controller of Startup W mentions the quarterly budget reviews as recurring pre-action reviews, to which all case companies are subject. Furthermore, according to the interview with the general manager of Startup X, all case companies must get approval from the parent company regarding what they want to communicate with external media. On top of the aforementioned pre-action reviews, Startup Z experiences strict reviews on software security, while this case company's software is not yet delivered to the customer. As a result, this case company believes that the strict reviews hamper software development. These findings indicate that in Startup W, Startup X, and Startup Y, there is a limited use of pre-action reviews; in these case companies, employees do not need a formal approval for most activities and in case of initiating projects, only little-detailed business cases are required. In Startup Z, pre-action reviews are not completely limited; employees are also able to provide little-detailed plans when initiating projects, but at the same time experience tight pre-action reviews when it comes to software security.

Socio-ideological

The process of searching, evaluating and recruiting employees is supported by the Human

Resources department of parent company Alliander (HR Alliander). HR Alliander applies a strict screening policy. According to this policy, the *selection* procedure consists of CV and motivation letter check, two job interviews, reference and identity check, and a Certificate of Good Behavior (in Dutch: Verklaring Omtrent Gedrag, VOG). Case companies extend the selection process in various ways. First, all case companies have added an assessment to the selection process. For example, in Startup W, all candidates have to pass an IQ test and a psychological test. Candidates take such tests after the first job interview, and upon successful completion, the tests are input for the second job interview.

Moreover, all case companies emphasize the importance of selecting candidates who have attitudes and values aligned with those of the case companies. The best practice in this case is Startup X. Informal contacts with the human resource manager of Startup X make clear that an analysis has been made of the existing employee team, focusing on existing and missing skills and personalities in the organization. Subsequently, the general manager conducts job interviews with this analysis in mind. In summary, the recruitment and selection process of all corporate startups can be characterized as very extensive. Moreover, to a great deal importance is placed on selecting employees who have attitudes and values aligned to those of the case companies.

In order to acclimatize new employees to acceptable behavior and to ensure that employees develop commitment to the organization, case companies deploy several *socialization* practices. After employees are selected and recruited, they have to participate in the “Welcome to Alliander” training in which new employees are informed about the objectives and values of the parent company. Besides this training, case companies can independently decide how they onboard new employees. With the aim of becoming familiar with the objectives and core values of the case companies, Startup X, Startup Y and Startup Z apply to-do lists for new employees. Moreover, office managers plan a series of appointments for new employees with managers and other key personnel in the organization. New employees of Startup Z can also participate in training courses offered through online learning platform Udemy. Startup W has developed a digital onboarding tool in which new employees are able to learn the names of new colleagues and in which they are informed of the corporate startup’s annual plan. Also, the general manager ensures that new employees are inducted physically.

Furthermore, socialization practices appear in the form of social events, used to develop and maintain commitment to the corporate startup. The consultant of EBD firstly mentions that a lot of employees of case companies are involved in Alliander Youth Association “Tension”. This association connects young employees of Alliander by regularly organizing social events. Case companies also organize social events for their employees. For example, at least once a month, all case companies organize a social get-together. Moreover, Startup W and Startup Y organize a “heidag” twice a year, which is a brainstorm and teambuilding session for managers and subordinates at an external location. In Startup Z, employees and managers went to the movies last month, and a barbecue was organized. From all general managers, the general manager of Startup Z emphasizes the importance of socialization practices the most:

“During the drinks you have different conversations with each other than at the office. You hear things that you otherwise would not have known.”

Where socialization practices have a high intensity in all case companies, this does not hold for *belief systems*. To date, all case companies have captured value statements in formal documents. For example, in their latest business review, Startup Z has incorporated pages about what it takes to be an employee of Startup Z. Some notable value statements are “put

your ego in check and be humble” and “act quick and fail quick (evaluate and repeat)”. In the case of Startup W, core values are reflected in a playful manner, as observed in the office in Utrecht. Value statements, that were formulated after employees discussed the most important values at the “heidag”, are shown next to a Superman (see *Appendix IX*).

Although all case companies have codified value statements, not all case companies are actively communicating core values to employees. In two case companies, Startup X and Startup Z, core values are actively communicated. Where the general manager of Startup Z recently gave multiple presentations to employees about the ambitions and values of the case company, the general manager of Startup X states that all employees know the core values because these values are communicated through the business plan, and all employees participated in the creation of this plan. In the other two case companies, Startup W and Startup Y, there is no convincing evidence that core values are actively communicated to employees. The general manager of Startup W has the conviction that it makes no sense to communicate core values top-down in the organization, but instead, management must facilitate employees to talk about core values among themselves. The general manager of Startup Y also state that core values are not communicated top-down, although this case company has a large billboard hanging on the office wall reflecting their vision.

Social control is the last control mechanism of the *Socio-ideological* control construct. Respondents of three case companies, Startup W, Startup X, and Startup Y, indicate that there is consensus on the objectives and direction of the case company and there is a sense of shared values and beliefs among employees. The business controller of Startup W recognizes that discussing core values and direction of the organization among employees at the “heidag” made clear that most employees share the same core values and support the direction of the organization. The general manager of Startup X comes to the same conclusion after he discussed objectives and core values incorporated in their business plan with employees. In Startup Z, there is disagreement about the future direction of the organization and some employees are skeptical about recent decisions of the management team. Moreover, it is not clear to what extent core values are shared among employees; the general manager of Startup Z wants to use the summer holiday period to find this out.

4.2 Summary Chapter Four

This chapter discussed the interview findings by presenting how the case companies have designed MCSs. Findings show that the total of twenty-two control mechanisms combine differently in all case companies. Nevertheless, a group of nine different control mechanisms are combined in the same way in all case companies: *mode*, *cost control*, *short/long term*, *hierarchy*, *integrative liaison devices*, *autonomy*, *boundary systems*, *selection*, and *socialization*. This means that in all case companies, the design of MCSs consists of an interplay between (1) co-existence of strategic planning as a formalized and disjointed process, (2) not limited application of cost control, (3) compensation solely determined on the basis of short-term performance, (4) an organizational structure characterized by its hierarchical flatness, (5) application of integrative liaison devices, (6) high degree of autonomy, (7) prominent presence of boundary systems, (8) an extensive recruitment and selection process, (9) and high intensity of socialization practices. An overview of the combinations of control that are actually applied in practice, can be found in *Appendix X*.

5. Analysis

In this chapter the empirical findings are analyzed within the theoretical framework by performing a cross-case analysis. In accordance with the structure of the theoretical framework and the results, the analysis is organized as per six control constructs. Each control construct is summarized in a color scheme consisting of three colors that represent the extent to which practice in the case companies corresponds with the theory.

5.1 Differences and similarities in management control

Strategic Planning

Findings show that the strategic plan of all case companies include several components and can be characterized as a rough outline of strategic actions. Taken into consideration the degree of accuracy with which the strategic plan is followed, there is a remarkable difference between the case companies. In two startups, Startup X and Startup Z, the strategic plan is loosely followed and it is mainly considered as a guideline. In the other two startups, Startup W and Startup Y, the strategic plan is followed more tightly. While case companies differ in the extent to which the strategic plan is followed, the process by which strategic plans develop is similar for all case companies. Parent company Alliander requires several updates on business operations during the year, which is a trigger for case companies to deliberately review their strategic plan. In-depth consideration of emergent processes to develop strategic planning shows that changing market needs are first validated before they are included in the strategic planning. Co-existence of strategic planning as a formalized and disjointed process is evidenced since features of formalized and disjointed processes are recognized in all case companies, which is in accordance with the theoretical framework of this research².

Subsequently, there is a considerable difference between the case companies when it comes to employee *participation* in strategic planning. In two of the four case companies, Startup W and Startup X, a situation is outlined that is in line with the conditions that are apparent from the theoretical framework³. In these case companies, there is some involvement of employees in the development of the strategic plan, but this involvement is either limited to a number of employees or not limited but strongly influenced by the general manager to align the plan with that of the parent company. In the other two case companies, Startup Y and Startup Z, although strategic planning is solely created by the management team, the alignment of their strategy with that of parent company Alliander is ensured; this implies that the practice in these case companies partly corresponds with the theory.

The analysis of the control construct *Strategic Planning* is summarized in *table 3*:

Control mechanism	Startup W	Startup X	Startup Y	Startup Z
Strategic Planning				
Mode				
Participation				

Practice (reasonably) corresponds with theory
 Practice partly corresponds with theory
 Practice does not / hardly correspond with theory

Table 3: Analysis of the Strategic Planning control construct

Measurement

Diagnostic control is present in corporate startups (1) when KPIs are used to monitor

² Proposition 1a: Co-existence of strategic planning as a formalized process and as a disjointed process is appropriate for corporate startups

³ Proposition 1b: Moderate involvement of subordinates in strategic planning processes is appropriate for corporate startups

performance, (2) when actual performance is compared to expected performance and (3) when performance is evaluated. In Startup Y and Startup Z, monitoring is executed by parent company Alliander, in contrast with Startup W and Startup X, where performance is measured within the case companies themselves and the most important KPIs are tuned with parent company Alliander. Based on these results can be stated that Startup W and Startup X prominently use diagnostic control, while this is only partly true for Startup Y and Startup Z; although progress is monitored and expectations are compared with actual performances, this does not happen on the basis of KPIs following from critical success factors. Consequently, the situation of Startup W and Startup X regarding diagnostic control is in line with the theoretical framework of this research, while the situation of Startup Y and Startup Z only partly corresponds with this framework⁴.

When it comes to *interactive control*, interviews reveal that in case companies that have applied a KPI dashboard, this dashboard provides a recurring and frequent meeting where performance and the measurement of performance is discussed with all employees. Performance measures are also used to focus on strategic uncertainties and to discuss underlying assumptions of value propositions. Since Startup W and Startup X applied a KPI dashboard, it can be concluded that interactive control is present in these case companies, which corresponds with the theoretical framework⁵. Startup Y and Startup Z do not apply interactive control, which means that the situation in these case companies does not correspond with the theoretical framework of this research.

When the cases are compared with regard to *tightness*, the findings show that in three case companies, Startup W, Startup X and Startup Y, tight and loose control are balanced, although this balance is quickly disturbed. Since there is evidence of a balance between tight and loose control in these case companies, but this balance is quickly disturbed when multiple performance targets become irrelevant, practice in these case companies only partly corresponds with the theoretical framework of this research⁶. For Startup Z holds that there is a continuous imbalance between tight and loose control, which means the situation in this case company does not correspond with the theoretical framework.

The results concerning *cost control* show that although cost control cannot be considered as limited in all case companies, the opportunity to substantiate and explain variances from target EBIT and cash flow levels might withhold general managers from implementing comprehensive cost savings that hamper innovation in case of disappointing revenues. This last mentioned finding is in line with the literature, which shows that cost control should not lead to a reduction of innovative activities. All in all, for all case companies holds that practice regarding cost control partly corresponds with the theoretical framework of this research⁷.

The last aspect of the *Measurement* control construct relates to *measure diversity*. The results show that in two case companies, Startup W and Startup X, a wide range of financial and non-financial indicators is measured, although it can be questioned whether there should be a more balanced mix of performance measures. Concerning Startup Y and Startup Z, considering measure diversity is not relevant since KPIs are under development and there is no KPI dashboard yet. Since the theoretical framework prescribes that corporate startups should wield a broad scope of performance measures, the situation within Startup W and Startup X corresponds with the theoretical framework; the practice in Startup Y and Startup Z does not correspond with this framework⁸.

⁴ Proposition 2a: Prominent presence of diagnostic control is appropriate for corporate startups

⁵ Proposition 2b: Prominent presence of interactive control is appropriate for corporate startups

⁶ Proposition 2c: Dynamic balance between tight and loose control is appropriate for corporate startups

⁷ Proposition 2d: Cost control used to a low extent is appropriate for corporate startups

⁸ Proposition 2e: Wielding a broad scope of performance measures is appropriate for corporate startups

The analysis of the control construct *Measurement* is summarized in the *table 4*:

Control mechanism	Startup W	Startup X	Startup Y	Startup Z
Measurement				
Diagnostic Control				
Interactive Control				
Tightness				
Cost Control				
Measure Diversity				




 Practice (reasonably) corresponds with theory
 Practice partly corresponds with theory
 Practice does not / hardly correspond with theory

Table 4: Analysis of the Measurement control construct

Compensation

Findings concerning the *performance pay* control mechanism show that in three case companies, Startup W, Startup X, and Startup Y, salary adjustment is directly dependent upon the final appraisal of employees, consisting of different performance aspects. The formula indicates that the performance appraisal applied in case companies incentivizes both task specific behaviors and non-task specific behaviors. In more detail, one-third of the appraisal is related to task specific performance (results aspect), while two-third of the appraisal is related to non-task specific performance (attitude & behavior and development aspects). Since the theoretical framework shows that compensation sensitive to performance is appropriate for corporate startups, practice in the three aforementioned case companies corresponds with the theoretical framework of this research⁹. This is different for Startup Z; for most employees, compensation cannot be linked to performance since most employees of this case company do not have pre-established performance targets. This means that the situation in Startup Z regarding performance pay does not correspond with the theoretical framework.

The three case companies that have applied performance-based compensation, Startup W, Startup X, and Startup Y, also use subjective performance evaluations, which is in line with the theoretical framework of this research¹⁰. This is not true for Startup Z; in the absence of using an appraisal method (such as PRO), the appraisal and compensation of employees is entirely dependent on the manager's perception of an employee's performance. However, these subjective evaluations do not take place in the presence of performance-based compensation; therefore, practice in Startup Z does not correspond with the theoretical framework.

Finally, when it comes to *short and long term compensation*, findings show that employee's compensation in all case companies is solely based on short term performance, although from the theoretical framework it is apparent that corporate startups benefit from balancing the time horizon of incentives. Thus, practice in all case companies does not correspond with the theoretical framework of this research¹¹.

The analysis of the control construct *Compensation* is summarized in the *table 5*:

⁹ Proposition 3a: Compensation sensitive to performance is appropriate for corporate startups

¹⁰ Proposition 3b: In the presence of performance-based compensation, subjective-based compensation is appropriate for corporate startups

¹¹ Proposition 3c: Balancing short-term and long-term based compensation is appropriate for corporate startups

Control mechanism	Startup W	Startup X	Startup Y	Startup Z
Compensation				
Performance Pay				
Subjective/Objective				
Short/Long Term				

■ Practice (reasonably) corresponds with theory
 ■ Practice partly corresponds with theory
 ■ Practice does not / hardly correspond with theory

Table 5: Analysis of the Compensation control construct

Structure

The results show that in three case companies, Startup X, Startup Y, and Startup Z, there is decentralized decision-making authority, which is in accordance with the theoretical framework of this research¹². In Startup W, decentralized decision-making is limited since decision-making takes place fairly low in the structure for Startup W, but not at the lowest management level as in the other case companies. Therefore, the practice in Startup W only partly corresponds with the theoretical framework. Furthermore, when it comes to hierarchy, the calculations as shown in the results section demonstrate that all case companies can be characterized by their flat structure, which corresponds with the theoretical framework of this research¹³.

The findings concerning *communication* show that in two case companies, Startup W and Startup Z, communication is only partially organic. In Startup W, information is easily shared in the organization, but the freedom to work at multiple locations puts pressure on the informal communication. In Startup Z, employees all work at the same location and open communication can easily take place, but there is currently too much formal communication required from management and information is not always optimally accessible. For Startup W and Startup Z holds that practice in these organizations only partly corresponds with the theoretical framework of this research¹⁴. Startup X and Startup Y both have a free flow of important operational information throughout the organization and informal channels of communication, which indicates organic organizational structures. At last, with regard to *integrative liaison devices*, the results show that both permanent cross-functional teams and temporary scrum teams are present in all case companies, which demonstrates the application of integrative liaison devices in all case companies. The situation in all case companies is in line with the theoretical framework of this research¹⁵.

The analysis of the control construct *Structure* is summarized in the table 6:

Control mechanism	Startup W	Startup X	Startup Y	Startup Z
Structure				
Decentralization				
Hierarchy				
Communication				
Integrative Liaison Devices				

■ Practice (reasonably) corresponds with theory
 ■ Practice partly corresponds with theory
 ■ Practice does not / hardly correspond with theory

Table 6: Analysis of the Structure control construct

¹² Proposition 4a: Decentralized decision-making authority is appropriate for corporate startups

¹³ Proposition 4b: Hierarchical flatness is appropriate for corporate startups

¹⁴ Proposition 4c: Organic organizational structures and processes are appropriate for corporate startups

¹⁵ Proposition 4d: Using integrative liaison devices is appropriate for corporate startups


Policies and Procedures


The results concerning the first control mechanism of this control construct, *autonomy*, show that employees of all case companies have to a high extent freedom to create their own methods to get work done. Since from the theoretical framework it is apparent that employees of corporate startups need a high degree of autonomy to be able to respond quickly to changing markets, the situation in all case companies corresponds with the theoretical framework of this research¹⁶. Concerning *boundary systems*, findings demonstrated the presence of boundary systems in all case companies. However, the theoretical framework of this research shows that boundary systems are only beneficial for corporate startups when other levers of control, as mentioned by Simons (1995), are present. Although this is the case for Startup W and Startup X, this is not true for Startup Y and Startup Z, in particular due to the absence of diagnostic and interactive control. This means that practice in the two latter case companies only partly corresponds with the theoretical framework; boundary systems in these case companies are present, but without presence of other levers of control¹⁷.

In addition, it can be concluded that the situation with regard to work *standardization* in three case companies, Startup W, Startup Y, and Startup Z, corresponds with the theoretical framework¹⁸; work activities of employees in these case companies are to a limited extent determined by standardized procedures. This is different for Startup X, of which the situation only partly corresponds with the theoretical framework. This case company has applied several standardized procedures, but many of these procedures contain little detail and are for the benefit of the customer. Finally, with regard to *pre-action reviews*, from the theoretical framework of this research is apparent that limited application of pre-action reviews is appropriate for corporate startups. Findings show that in three case companies, Startup W, Startup X, and Startup Y, pre-action reviews are used to a limited extent. Respondents of these case companies indicate that only necessary reviews are applied, and practice in the three case companies corresponds with the theoretical framework of this research¹⁹. In Startup Z, pre-action reviews are not completely limited because employees experience tight pre-action reviews when it comes to software security. Therefore, practice in Startup Z only partly corresponds with the theoretical framework.

The analysis of the control construct *Policies and Procedures* is summarized in *table 7*:

Control mechanism	Startup W	Startup X	Startup Y	Startup Z
Policies & Procedures				
Autonomy				
Boundary Systems				
Standardization				
Pre-action Reviews				

 Practice (reasonably) corresponds with theory

 Practice partly corresponds with theory


 Practice does not / hardly correspond with theory

Table 7: Analysis of the Policies and Procedures control construct

Socio-ideological

Findings with regard to *selection* show that the recruitment and selection process of all case companies can be characterized as very extensive, since candidates are subject to a strict screening policy. Moreover, in all case companies, to a great deal importance is placed on

¹⁶ Proposition 5a: A high degree of autonomy is appropriate for corporate startups

¹⁷ Proposition 5b: In the presence of diagnostic control, interactive control and belief systems, boundary systems are appropriate for corporate startups

¹⁸ Proposition 5c: Limited application of work standardization is appropriate for corporate startups


¹⁹ Proposition 5d: Limited application of pre-action reviews is appropriate for corporate startups


selecting employees who have attitudes and values aligned to those of the case companies. Consequently, practice in all case companies with regard to selection is in line with the theoretical framework of this research²⁰. Additionally, according to the theoretical framework with regard to *socialization*, there should be a high intensity of socialization practices in corporate startups. Findings show that all case companies have applied several programs that contribute to the acclimatization of new employees. Moreover, social events are applied in abundance. Thus, employees of all case companies come to appreciate prevailing values and beliefs in the firm as a result of a high intensity of socialization practices, which is in accordance with the theoretical framework of this research²¹.

Regarding *belief systems*, practice in Startup X and Startup Z corresponds with the theoretical framework of this research, since these case companies both actively communicate core values to employees and have codified the purpose and direction of the case company in documents²². The situation of Startup W and Startup Y only partly corresponds with literature, since core values only have been codified, but are not actively communicated. Lastly, when it comes to *social control*, the last mechanism of the socio-ideological control construct, findings show that in three case companies, Startup W, Startup X, and Startup Y, social control is applied extensively, which is in line with the theoretical framework of this research²³. Since there is neither a sense of shared values and beliefs or consensus among employees on the objectives and direction of the corporate startup in Startup Z, practice in this case company does not correspond with the theoretical framework of this research.

The analysis of the control construct *Socio-ideological* is summarized in the *table 8*:

Control mechanism	Startup W	Startup X	Startup Y	Startup Z
Socio-ideological				
Selection				
Socialization				
Belief Systems				
Social Control				

 Practice (reasonably) corresponds with theory

 Practice partly corresponds with theory


 Practice does not / hardly correspond with theory

Table 8: Analysis of the Socio-ideological control construct

5.2 Summary Chapter Five

In this chapter the empirical findings are analyzed within the theoretical framework by performing a cross-case analysis. In particular, similarities and differences are examined between the proposed combination of control mechanisms and control combinations found within case companies. The analysis shows that regarding six control mechanisms, practice in all case companies corresponds with the theoretical framework: *mode*, *hierarchy*, *integrative liaison devices*, *autonomy*, *selection*, and *socialization*. In contrast, regarding the other sixteen control mechanisms, only some or none of the case companies' practices correspond with the theoretical framework of this research. This means that six propositions can be accepted, while the other sixteen propositions should be rejected. An overview of the cross-case analysis is presented in *Appendix XI*.

²⁰ Proposition 6a: An extensive recruitment and selection process is appropriate for corporate startups

²¹ Proposition 6b: High intensity of socialization practices is appropriate for corporate startups

²² Proposition 6c: Prominent presence of belief systems is appropriate for corporate startups

²³ Proposition 6d: Extensive application of social control is appropriate for corporate startups

6. Conclusion and discussion

In the final section of this research, the main conclusions are discussed. Furthermore, the theoretical and practical contribution of this study, its limitations, and opportunities for future research are presented.

6.1 Conclusion

This research examined which combination of control mechanisms is appropriate for corporate startups and which combinations are actually applied in practice. Drawing upon the control constructs as proposed by Bedford & Malmi (2015), a theoretical framework is created representing an appropriate design of MCSs for corporate startups. The theoretical framework consists of twenty-two propositions, which is in accordance with the number of control mechanisms underlying the control constructs. When considering the analysis from a helicopter view, it can be concluded that three control constructs are well-designed in the investigated case companies: *structure*, *policies and procedures*, and *socio-ideological*. Practice regarding control mechanisms underlying these control constructs in most cases matches the theoretical framework of this research.

With regard to *structure*, from the theoretical framework it is apparent that corporate startups benefit from decentralized decision-making authority, a flat hierarchical structure, organic processes of communication, and the use of integrative liaison devices. In all case companies, the organizational structure can be characterized by its hierarchical flatness and the use of integrative liaison devices. Moreover, in three out of four case companies, decision-making authority is assigned to the lowest management level in the organization, and in two case companies communication processes can be characterized as organic. Concerning *policies and procedures*, the theoretical framework prescribes a situation of a high degree of employee autonomy, boundary systems in the presence of other levers of control, and limited application of both work standardization and pre-action reviews. Where in all case companies employees have to a high extent freedom to create their own methods of getting work done, three case companies limitedly applied work standardization and pre-action reviews. Boundary systems are to some extent applied in all case companies, although in just two cases this goes together with the presence of the other three levers of control. With regard to the *socio-ideological* construct holds that from a theoretical point of view, corporate startups are expected to have an extensive recruitment and selection process, in combination with a high intensity of socialization practices, prominent presence of belief systems and extensive application of social control. Practice in all case companies regarding selection and socialization corresponds with the theoretical framework. Moreover, in three case companies social control is extensively applied and belief systems are prominently present in two of the four case companies.

For the other three control constructs, *strategic planning*, *measurement*, and *compensation*, practice shows less similarities with the theoretical framework. Concerning *strategic planning*, from the theoretical framework appears that co-existence of strategic planning as a formalized process and as a disjointed process is appropriate for corporate startups, just as moderate involvement of subordinates in strategic planning processes. Although strategic planning develops both through formalized and emergent processes in all case companies, only in two case companies employees moderately participate in shaping the strategic planning. Furthermore, when it comes to *compensation*, the theoretical framework proposes a joint use of performance-based compensation and subjective performance evaluations, as well as a balanced time horizon of incentives. Compensation sensitive to performance is proved in most case companies; only in one case company, most employees do not have pre-established performance targets, and therefore compensation cannot be linked to

performance. Moreover, in all case companies, compensation is predominantly subjective determined. However, while in three case companies subjective performance evaluations take place in the presence of performance-based compensation, in one case company such evaluations take place in the absence of performance pay. At last, the time horizon of incentives is not balanced, but instead all case companies have focused on short-term rewards.

The least similarities between practice and the theoretical framework have been found in control mechanisms that underlie the *measurement* control construct. Where two case companies prominently use diagnostic and interactive control in measuring organizational performance, the presence of these levers of control could not be demonstrated in the two other case companies. Moreover, while the first mentioned case companies have applied a broad scope of financial and non-financial performance measures, there is no measure diversity in the two-latter case companies due to a lack of KPIs. In addition, only partial evidence has been found with regard to the dynamic balance between tight and loose control (*tightness*) and for the fact that *cost control* is used to a low extent; no case company's practice regarding these control mechanisms completely corresponds with the theoretical framework of this research.

All in all, the analysis shows that regarding six control mechanisms, practice in all case companies corresponds with the theoretical framework: *mode, hierarchy, integrative liaison devices, autonomy, selection, and socialization*. In contrast, regarding the other sixteen control mechanisms, only some or none of the case companies' practices correspond with the theoretical framework of this research. This means that six propositions can be accepted, while the other sixteen propositions should be rejected.

6.2 Scientific and practical contribution

This research contributes to the existing management control literature in many ways. While over the last decades, management control practices were mainly examined in the context of large, hierarchically structured organizations, this thesis contributes to management control literature by researching management control in smaller organizations such as corporate startups. Additionally, this research contributes to current literature by applying a relatively new research approach regarding management control in (corporate) startups: a design science research approach. The theoretical framework of this research, consisting of twenty-two propositions as formulated in *2.3 Management control in corporate startups – theoretical framework*, reflects an appropriate design of MCSs in corporate startups, which adds to management control literature of the last decade researching the importance of MCSs in startup companies. Moreover, since this theoretical framework is empirically tested, this research makes a contribution to the literature by expanding the sample of examined management control practices in (corporate) startups. Another theoretical contribution refers to the notion of MCS as a package by Malmi & Brown (2008). This research adds to studies that consider management controls to operate together as a package of interrelated mechanisms, instead of considering controls holistically as a single system. At last, since this research provides insights in the practice of corporate startups, it even adds to corporate venturing literature.

In terms of the research practical contribution, the findings of this research can have implications for Alliander, its corporate startups, and perhaps even other organizations. First, the findings of this research can be used to reinforce management control in the corporate startups of Alliander, such that all control mechanisms influence the behavior of employees towards more or less predetermined objectives. Specific recommendations to managers and business controllers of the case companies are presented in *6.3 Practical recommendations*.

Furthermore, drawing upon the notion of MCS as a package (Malmi & Brown, 2008) may create awareness among managers and business controllers that MCSs do not operate in isolation. This awareness is crucial if managers decide to change the design of some control mechanisms, because a change in the design of one control mechanism can lead to a change in the design of another mechanism. Another practical contribution can be that other companies make an assessment of the design of MCSs in their corporate startups based on the theoretical framework proposed in this research. Since Alliander operates in the energy sector, the application of the theoretical framework will be particularly suitable for other parties in the energy sector who invest in corporate startups.

6.3 Practical recommendations

Based on the findings of this thesis, a total of eight practical recommendations were provided to business controllers of the case companies²⁴. By following these recommendations, an appropriate combination of control mechanisms can be implemented within the case companies. First, as the analysis shows, employees of Startup Y and Startup Z insufficiently participate in strategic planning of their organization. Therefore, the recommendation for these two case companies regarding the control mechanism *participation* is to ensure that, in addition to members of the management team, important employees are actively involved in strategic planning processes:

Recommendation 1: Encourage general managers to actively involve key employees, experts in certain areas, in shaping business plans and five-year plans.

According to Foudraine (2015), general managers can actively involve employees in strategic planning using different methods: consultative participation, representative participation, informal participation, employee involvement teams, and social media jam. The next recommendation relates to the *diagnostic control* mechanism. Where the findings show that Startup W and Startup X prominently use diagnostic control, this is only partly true for Startup Y and Startup Z; although progress is monitored and expectations are compared with actual performances, this does not happen on the basis of KPIs following from critical success factors. These facts lead to the following two-fold recommendation for Startup Y and Startup Z:

Recommendation 2: Encourage general managers to concretize the success factors of their corporate startup and how performance contributing to this success can be measured, while securing internal periodic monitoring.

Periodic internal monitoring can be secured by effecting a monthly appointment between the business controller and the general manager to review key areas of performance. Furthermore, the third recommendation relates to *interactive control*. The analysis shows that interactive control is present in two corporate startups, Startup W and Startup X, while Startup Y and Startup Z do not apply interactive control. In the latter two case companies, there is lack of an active dialogue with employees about what constitutes organizational success and how this success can be measured due to the absence of specified KPIs. In these corporate startups, performance measurement is only discussed with the Director of Startup Holding, not with employees in the organization. The recommendation regarding interactive control is therefore:

²⁴ On 11 July 2018, recommendations were presented to the business controllers of the corporate startups and the Manager Business Control of Startup Holding B.V.

Recommendation 3: Organize a recurring and frequent employee consultation in which the dialogue about KPIs is stimulated.

The next recommendation relates to the *tightness* control mechanism. Although there seems to be a balance between tight and loose control in Startup W, Startup X, and Startup Y, the balance is quickly disturbed when multiple performance targets become irrelevant. For Startup Z holds that tight control is absent, indicating a continuous imbalance between tight and loose control. The dynamic context of corporate startups requires a reconsideration of the traditional performance appraisal method of case companies, which consists of top-down feedback delivered by managers to employees once a year. Instead, in order to mitigate that employees are being appraised on irrelevant performance targets, Boice & Kleiner (1997) suggest to evaluate employee performance bi-monthly or quarterly, which also eliminates selective memory by the supervisor and surprises at an annual review. This leads to the following recommendation:

Recommendation 4: Reconsider the traditional performance appraisal method for more frequent performance appraisals.

An addition to this recommendation is mentioned during the interviews with the general manager of Startup W and the HR BP, who propose to consider a “360-degree feedback” as a performance appraisal method. This method provides each employee the opportunity to receive performance feedback from his or her supervisor, supplemented with appraisals of colleagues or customers and a self-evaluation. The advantage of this method would be that the performance appraisal no longer solely depends on the opinion of one manager. As we continue to the next recommendation, from the analysis appears that for all case companies holds that emphasis on *cost control* is not limited. Therefore, a simple recommendation could be to state that Alliander should exert less cost control over the case companies. However, such a recommendation would receive a negative response because parent company Alliander aims to promote cost awareness among employees of the case companies. The following recommendation is better suited to the situation of the organization:

Recommendation 5: Actively stimulate the conversation between general managers, business controllers and supervisors from Alliander about whether the current emphasis on cost control does hinder innovation

The next recommendation relates to the only control mechanism for which the practice in all cases does not correspond with the theoretical framework: *Short/Long Term*. As a result of applying Alliander’s reward system, compensation is solely based on short term performance in all case companies instead of having a balanced time horizon of incentives. However, it is unclear to what extent and on which components the case companies may deviate from the current remuneration system. If it is possible to fit in long-term incentives, a recommendation may be to relate a part of employee’s compensation to the achievement of a next development stage. In this case, compensation would also consist of a group reward, which is also advocated by the business controller of Startup Y and Startup Z during the interviews. However, the recommendation that is most relevant for now, is:

Recommendation 6: Investigate possibilities for applying long-term (group) reward.

The seventh recommendation is related to the *communication* control mechanism. In two case companies, Startup W and Startup Z, communication is not fully organic. Since these case companies experience other communication issues, this recommendation consists of two sub-recommendations. In Startup W, information is easily shared in the organization, but

the freedom to work at multiple locations puts pressure on the informal communication between employees and managers. One difficulty is that employees and managers can choose to work from three different locations: offices in Utrecht and Arnhem, or from home. Moreover, while employees are able to communicate via an online communication tool with each other, managers are not connected to that tool. The following recommendation would mitigate these difficulties:

Recommendation 7a: Connect managers and employees to the same online communication tool and choose one office location instead of two where managers and employees can have informal communication when they do not work from home.

When it comes to Startup Z, employees all work at the same location and open communication can easily take place, but there is currently too much formal communication required from management and information is not always optimally accessible. The general manager of Startup Z mentions during the interview that he would like to improve communication through an external coaching program. This statement can be captured in the following recommendation:

Recommendation 7b: Strengthen individual's communication skills through an external coaching program, together with reassessing employees' information access.

The last recommendation relates to *belief systems*. For Startup W and Startup Y holds that core values have been codified, after employees have discussed these with each other. However, core values are not created from a particular vision or belief, and are not actively communicated with employees. In these case companies, the prevailing view is that communicating core values by managers or the general manager "makes no sense". The recommendation regarding belief systems is as follows:

Recommendation 8: Motivate general managers to develop and actively communicate ambitions and core values in the organization, and make employees eager to carry out core values in everything they do

Concluding, in *Appendix XII* an overview is shown of the recommendations as presented to the business controllers of the case companies. Two important comments about this overview: (1) since the working language within Alliander is Dutch, the overview is presented in Dutch; and (2) the original sheet has been modified to hide the names of the case companies.

6.4 Limitations

The performed case study has some limitations. First, a common drawback of qualitative research is that the coding process and the analysis are based on personal judgements. These judgements are based on the answers of employees during the interviews, document reviews, and observations. Although judgement errors have been mitigated by elaborating interviews in verbatim transcriptions and discussing preliminary results with the respondents, other interpretations of the respondents' answers cannot completely be ruled out. Moreover, only ten interviews are conducted with nine different respondents: four general managers, three business controllers, an EBD consultant and a HR Business Partner. At the start of the research is determined that these are the key respondents since they are able to directly influence the design of MCSs in corporate startups. However, the fact that key employees have not been interviewed can be considered as a missed opportunity. From observations of employees it has become clear that in some cases, their statements are not completely in

line with the statements of the general manager or business controller. For example, while some general managers have indicated that pre-established performance targets of employees may be adjusted during the year, employees have indicated that this hardly happens in practice. Preference was given to interviewing people who can directly influence the design of MCSs, and because of the size and time limit of this research, it was not possible to also interview key employees.

The following limitation is twofold: (1) the theoretical framework of this research builds on the not-always-accurate concepts of Bedford & Malmi (2015) and (2) empirical observations are not used to develop the theoretical framework. The strength of the broad conceptualization of management control by Bedford & Malmi (2015) is that it provides a holistic view to the design of MCSs. However, during the research is experienced that some control mechanisms in Bedford & Malmi (2015) are not accurately described. For example, regarding the measure diversity control mechanism, Bedford & Malmi (2015) did not incorporate in this mechanism that too many measures may not be beneficial for organizations, although in management control literature is argued that it is likely that employees lose sight of the primary goal and work to achieve the goals of the individual measures when organizations use many different performance measures (e.g. Kathy et al., 2007). As a result, the proposition in the theoretical framework regarding measure diversity only comprises the notion of a broad scope of performance measures, while it is also relevant to investigate whether there are not too many performance measures in practice and whether they are formulated SMART²⁵. Moreover, in order to avoid that two concurrent approaches, the deductivist and inductivist approach, are applied in the same study, the theoretical framework is not adapted afterwards based on the empirical observations. So, despite the fact that the KPI dashboards of Startup W and Startup X consist of many measures that are not always formulated according to SMART criteria, the concepts of Bedford & Malmi (2015) are not extended in this research.

The third limitation relates to both the methodology and theoretical framework. Although the strength of a multiple-case study is the possibility to compare and crosscheck between different organizations, the weakness is that the depth in each within-case analysis is more limited. This is especially true at the level of control mechanisms; twenty-two mechanisms are analyzed within four corporate startups, leading to eighty-eight sub-conclusions. If fewer mechanisms would have been investigated, it is plausible that they could have been discussed in more detail. The fourth limitation is related to the fact that from management control literature it is apparent that management control practices differ across stages of organizational life-cycle (e.g. Moores & Yuen, 2001; Granlund & Taipaleenmäki, 2004), although this has been left out of consideration in this research. Based on research of the EBD department of Alliander it has been made clear that (corporate) startups can be in five different stages of their development, before they can be characterized as an established and mature entity. This internal research also shows that not all of the case companies are considered to be in the same stage. As a consequence, one should be cautious when interpreting the results and analysis. The fact that corporate startups are not in the same stage may explain variances in results between the different corporate startups, although it is not obvious that results are greatly affected since all corporate startups are in the growth phase according to the organizational life cycle model.

6.5 Opportunities for further research

There are a few suggestions for future research that could be carried out in the same area as this thesis. First, it is important that the propositions formulated in this research are verified

²⁵ SMART is an acronym that refers to different criterion for judging objectives. SMART performance measures are specific, measurable, achievable, relevant, and time-bound.

by other researches. Therefore, a future research area could be to repeat this research in the same context (corporate startups in the energy sector) or in another context (corporate startups in other sectors). The strongest validation can be provided by conducting both a deductive research in which propositions are tested, as well as an inductive research where the propositions are adapted as a result of additional empirical evidence. Furthermore, one can perform a quantitative research in which statistically is examined how more corporate startups have designed MCSs. Such a research could be considered as uniting the research of Bedford & Malmi (2015) with this thesis.

Moreover, the limitations show that different development stages can be distinguished that the case companies are in. An opportunity for further research is to consider in what extent the design of MCSs in corporate startups correlates with the development stage of the corporate startup. There are two different possibilities for examining this. Ideally, the development stages of case companies are examined and linked to the results of this research. It is also possible to research the design of MCSs and development stages of other corporate startups. The last suggestion for further research is to conduct a longitudinal study, in which interviews are conducted over a much longer time to examine how the design of MCSs in corporate startups changes over time.

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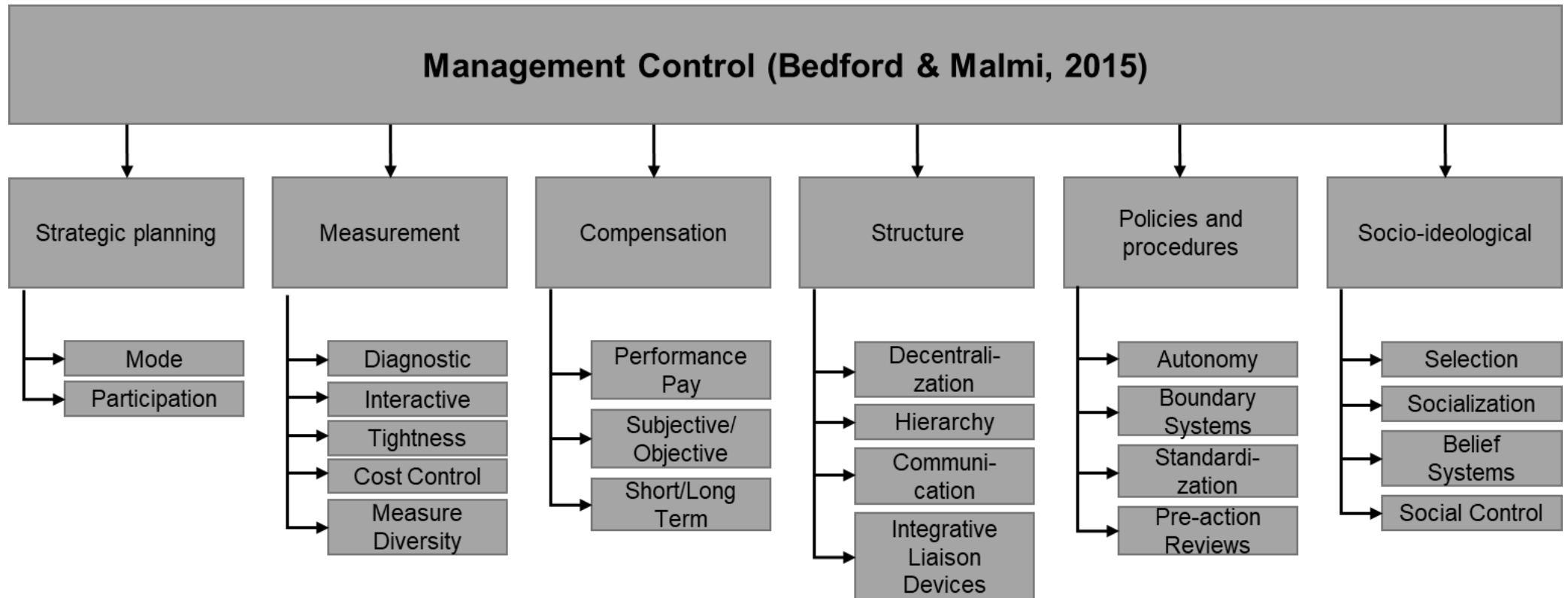
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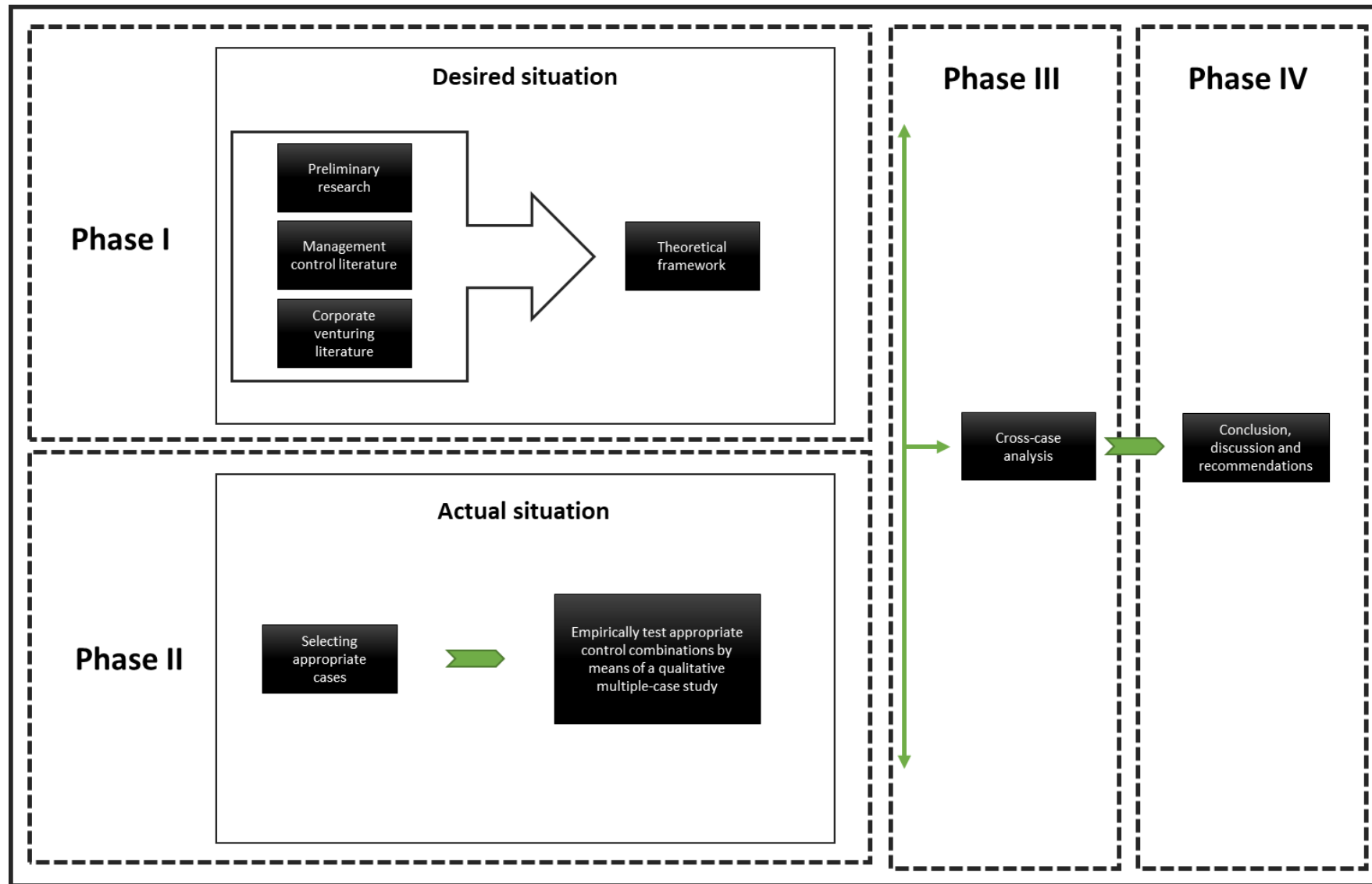
Management Control Systems in Corporate Startups

Appendix

Appendix I: Control constructs and underlying mechanisms (Bedford & Malmi, 2015)



Appendix II: Schematic research model



Appendix III: Case background and context

Dutch network company “Alliander” has given the researcher the opportunity to investigate management control systems in corporate startups in which they invest. This appendix provides an organizational description of Alliander and outlines the corporate startups (cases) that are studied.

Profile of parent company Alliander

As a network company, Alliander is responsible for the distribution of electricity and gas in a large part of the Netherlands. The organization originated from various mergers of a large number of regional energy companies. The biggest step in this was the emergence of Nuon in January 1994 from PGEM, PEB Friesland and various other relatively small energy, water and gas companies, after which the energy supply and the grid management were separated in 2009. Nowadays, more than 7000 people work at the organization and it has 5.7 million customers (Alliander, 2016). All Alliander shares are directly or indirectly owned by Dutch provinces and municipalities.

Mission & Strategy

Alliander considers energy as essential for people’s well-being and prosperity. In line with this, Alliander’s mission statement is as follows (Alliander, n.d.):

We stand for an energy supply that gives everyone equal access to reliable, affordable and sustainable energy. That is what we work on every day.

In order to realize this mission, the organization promises three things to its customers:

- Reliability; customers must have access to energy with the greatest possible safety and continuity. That is why Alliander works safely and tries to prevent planned and unscheduled energy interruptions as much as possible.
- Affordability; customers want to pay as little as possible for their reliable energy supply. That is why Alliander works every day on the effectiveness and efficiency of their activities.
- Accessibility; customers must be able to make their own energy choices. That is why Alliander makes it possible for customers to choose their own supplier and service providers and to deliver energy back.

Alliander seeks to guarantee reliability, affordability and accessibility on the basis of four strategic pillars, with excellent network management as the basis (Alliander, 2016). In addition, customers are supported in making the right energy choices, Alliander invests in the creation of open, new networks, and the organization opts for far-reaching digitization of its networks and associated innovations.

Organizational Structure

On the one hand, the organization is composed of companies, business units and departments. This concerns the functional separation of tasks

within Alliander. Moreover, the organization is formed by chains; processes are housed in chains in which various business units work together for the benefit of optimal customer service. Initially, Alliander can be divided into four different components:



Grid operator Liander keeps the energy grids in good condition, ensures the distribution of gas and electricity and connects customers to the energy grids. This comprises activities that every grid operator in the Netherlands is obliged to perform. Liandon is Alliander's expert center for complex energy issues. This company designs, builds, manages and maintains complex grid infrastructures and large (industrial) installations. Kenter is the measuring company of Alliander; this company measures energy consumption of customers and gives customers insight into how much energy they use when, where and for what (Kenter, n.d.). Finally, Alliander investigates and deploys business activities that are in line with the company's strategy and give substance to their role in the transition to a more sustainable energy system. In order to accomplish this, multiple internal corporate startups have been established, so-called Emerging Business Areas (EBAs). Alliander holds 100% of the shares of these EBAs.

Profile of case companies

In the subsections below, the four case companies are described briefly.

Startup W

The future energy supply is freely accessible to everyone and mainly based on decentralized generation and use, in which consumers and companies have autonomy about their energy. However, complexity, rules and conflicting interests in the energy sector complicate the development of business concepts. Alliander has established Startup W in order to facilitate this process. Startup W wants to be a driving force in the revolution of a more transparent and independent energy sector by developing B2B software to facilitate new value propositions in the energy market. These value propositions anticipate to the fact that in the new sustainable energy system, generators and consumers of energy, both business and private, increasingly want to take control of their energy management. Startup W provides platforms which makes market processes between generators and consumers easier and cheaper, responding to the need to exchange energy directly with each other. Moreover, these platforms enable generators and consumers to lower their energy costs by benefiting from fluctuating energy prices on the

wholesale market. Startup W experienced an explosive growth in the number of employees last year: from approximately 8 FTE in 2016 to 30 FTE in 2017.

Startup X

Startup X is a sustainable data partner that provides real-time insight into the sustainability potential of all homes and buildings in the Netherlands in order to accelerate the energy transition. More detailed, Startup X has a sustainable data platform on which various data are enriched, analyzed and disclosed. This allows them to provide detailed information about the characteristics of each home and every building in the Netherlands. For Alliander, Startup X is of added value by enriching strategic data on behalf of multiple departments in order to offer data driven solutions. Besides that, Startup X's platform provides insight into the sustainability potential of every Dutch municipality. With the help of various tools, the data is made easily accessible. Currently, 12 professionals, who are very involved in the energy transition, are working at Startup X.

Startup Y

Alliander founded Startup Y to serve business customers who want to organize their energy generation and consumption independently and locally. In particular, Startup Y focuses on the realization of microgrids, which are local energy networks in which generation and consumption of energy are directly aligned. The microgrid platform ensures that local energy generation is utilized real-time locally and therefore is not distributed by the electricity grid. In this way, expensive grid investments can be avoided and the existing grid can be used optimally. In addition to offering a microgrid platform, Startup Y provides businesses advice on the technology, finance and organization of local energy supply. Currently, Startup Y has approximately 10 permanent employees and in addition personnel is hired from various business units of Alliander, which provide them flexibility in the deployment of employees.

Startup Z

Startup Z performs simulations to detect weaknesses and dependencies in the grid infrastructure at an early stage and to minimize grid failure through preventive maintenance and risk-based investments. Using state-of-the-art technology, such as virtual reality and augmented reality, it becomes clear how different networks are (inter)dependent on each other and what risks citizens face when these networks are disrupted. In collaboration with TU Delft, University of Twente, TU Eindhoven and the Center for Mathematics and Computer Science, infrastructure models are developed which Startup Z converts into practical simulation applications. The services Startup Z delivers consist of providing simulations to customers that give them real-time insight into how various scenarios can affect cities. These services of Startup Z are in line with two strategic pillars of Alliander regarding excellent network management and digitization. Startup Z employs 34.5 FTE in 2017, in which the deployment of external employees is not included.

Appendix IV: Interview guide

Belangrijke aandachtspunten tijdens de interviews:

- Management Control → een set mechanismes die kunnen worden gebruikt om gedrag van medewerkers te beïnvloeden (individueel of groepen) in de richting van min of meer vooropgestelde doelstellingen
- Introduceren van het onderzoek aan de hand van 6 control constructen
- Benadrukken van veel vragen in beperkte tijd
- Benadrukken dat ik op zoek ben naar beschrijving van huidige situatie van management control
- Opnemen van interview (en dat hier vertrouwelijk mee wordt omgegaan)
- Rust inbouwen + 1 vraag stellen + niet zelf antwoorden gaan aanvullen
- Vragen van aanvullende documenten

Strategic Planning		
Mode		
Vragen	Mogelijke antwoorden	Bron
Hoe zou u het strategische plan van de corporate startup willen kenmerken?	<ul style="list-style-type: none">○ Zeer gedetailleerd, uitgebreide schets van strategische acties○ Weinig detail, ruwe schets van strategische acties	Bedford & Malmi (2015)
Hoe nauwkeurig wordt het strategische plan gevolgd?	<ul style="list-style-type: none">○ Strak gevolgd, plannen geïmplementeerd zoals uiteengezet○ Losjes gevolgd, fungeert alleen als een leidraad	
Hoe wordt de strategie doorontwikkeld?	<ul style="list-style-type: none">○ Ontwikkelt door geformaliseerde en doelbewuste processen○ Ontwikkelt door vaak onbedoelde en opkomende processen	
Participation		
In hoeverre zijn medewerkers betrokken bij de strategische planning?	Continuüm → Zeer hoge mate van betrokkenheid / zeer lage mate van betrokkenheid	Bedford & Malmi (2015)

Measurement		
Diagnostic Control		
Vragen	Mogelijke antwoorden	Bron
In hoeverre wordt er door het management gebruik gemaakt van kritische prestatie-indicatoren (KPI's) om (1) prestaties te monitoren, (2) werkelijke prestaties met verwachtingen te vergelijken, (3) en prestaties te evalueren?	Continuüm → Zeer geringe mate / zeer hoge mate	Widener (2007)
Interactive Control		
In hoeverre wordt er door het management gebruik gemaakt van kritische prestatie-indicatoren (KPI's) om (1) een frequente en terugkerende dialoog met medewerkers te stimuleren, (2) te focussen op strategische onzekerheden, (3) het gesprek aan te gaan over onderliggende aannames	Continuüm → Zeer geringe mate / zeer hoge mate	Bedford & Malmi (2015)
Tightness		
Hoe flexibel zijn prestatiedoelstellingen zodra ze zijn vastgesteld?	Continuüm → Zeer inflexibel / zeer flexibel	Bedford & Malmi (2015)
Hoe vaak wordt met medewerkers gesproken over het behalen van prestatiedoelstellingen?	Continuüm → Zeer vaak (dagelijks) / zeer zelden (driemaandelijks of langer)	
Cost Control		
Hoeveel nadruk wordt er gelegd op het beheersen van kosten?	Continuüm → Zeer weinig nadruk / zeer veel nadruk	Simons (1987)
Measure Diversity		
Welke financiële en niet-financiële prestatie-indicatoren worden gebruikt?	<ul style="list-style-type: none">○ Financieel: bedrijfsresultaat, omzetgroei, Return on Investment (ROI), kasstromen○ Niet-financieel: marktaandeel, klanttevredenheid	Henri (2006)

Compensation		
Performance Pay		
Vragen	Mogelijke antwoorden	Bron
In welke mate zijn financiële beloningen van medewerkers afhankelijk van hun prestaties (of: in hoeverre nemen financiële beloningen van medewerkers toe naarmate prestaties de doelstellingen overtreffen?)	Continuüm → Zeer geringe mate / zeer hoge mate	Bedford & Malmi (2015)
Subjective Objective		
Wat is de basis voor het bepalen van prestatie-gebonden beloning van medewerkers?	Continuüm → Heel objectief vastgesteld / heel subjectief vastgesteld	Bedford & Malmi (2015)
Short/Long Term		
In welke mate wordt de beloning van medewerkers bepaald op basis van korte-termijn prestaties ten opzichte van lange-termijn prestaties?	Continuüm → Gebaseerd op korte termijn prestaties / gebaseerd op lange termijn prestaties	Bedford & Malmi (2015)

Structure		
Decentralization		
Vragen	Mogelijke antwoorden	Bron
In welke mate heeft het management van de corporate startup invloed op de beslissingen van medewerkers op het gebied van: (1) ontwikkeling van nieuwe producten, (2) aannemen en ontslaan van personeel, (3) allocatie van middelen en (4) prijsbeslissingen	Continuüm → Management heeft alle invloed / medewerkers hebben alle invloed	Bedford & Malmi (2015)
Communication		
Hoe wordt informatie gecommuniceerd binnen de corporate startup?	Continuüm → Via zeer gestructureerde, formele communicatiekanalen / via zeer open, informele communicatiekanalen	Bedford & Malmi (2015)
In welke mate is operationele informatie beschikbaar voor alle medewerkers?	Continuüm → Zeer beperkte toegang tot belangrijke operationele informatie / vrije doorstroming van belangrijke operationele informatie door de corporate startup)	
Integrative Liaison Devices		
Kan structuur van de corporate startup waarvoor u werkzaam bent beter gekenmerkt worden als een functionele structuur of een productgerichte structuur?	<ul style="list-style-type: none">○ Functionele structuur○ Productgerichte structuur, waar functionele afdelingen zijn gegroepeerd die aan één product werken	Abernethy & Lillis (1995)
In welke mate werken medewerkers in tijdelijke task forces of cross-functionele teams?	Continuüm → Zeer geringe mate / zeer hoge mate	Bedford & Malmi (2015)
Hierarchy		
In hoeverre kent de corporate startup een verticale hiërarchie?	Continuüm → Heel verticaal / heel horizontaal	Bedford & Malmi (2015)

Policies and Procedures		
Autonomy		
Vragen	Mogelijke antwoorden	Bron
In hoeverre verrichten medewerkers niet-routinematige activiteiten onafhankelijk van betrokkenheid van corporate startup management?	Continuüm → Zeer geringe mate / zeer hoge mate	Bedford & Malmi (2015)
Boundary Systems		
In hoeverre worden gedragscodes of soortgelijke verklaringen gebruikt om passend gedrag te realiseren?	Continuüm → Zeer geringe mate / zeer hoge mate	Bedford & Malmi (2015)
In hoeverre zijn er beleidsregels of richtlijnen die het zoeken naar kansen/mogelijkheden of de experimenteerruimte beperken/bepalen?		
Standardization		
In hoeverre worden de werkzaamheden van medewerkers bepaald door gestandaardiseerde procedures of processen?	Continuüm → Zeer geringe mate / zeer hoge mate	Bedford & Malmi (2015)
Pre-action Reviews		
In hoeverre worden medewerkers vooraf gecontroleerd op hun actieplannen?	Continuüm → Zeer geringe mate / zeer hoge mate	Bedford & Malmi (2015)
Hoe gedetailleerd zijn de rapporten of plannen die van medewerkers worden gevraagd voordat specifieke projecten worden gestart?	Continuüm → Zeer weinig detail / zeer gedetailleerd	

Socio-ideological Selection		
Vragen	Mogelijke antwoorden	Bron
Hoe uitgebreid is het werving- en selectieproces voor managers en medewerkers?	Continuüm → Niet erg uitgebreid / zeer uitgebreid	Bedford & Malmi (2015)
Hoeveel belang wordt er gehecht aan het selecteren van managers/medewerkers die attitudes en waarden hebben die passen bij de corporate startup?	Continuüm → Groot belang / klein belang	
Socialization		
In hoeverre zijn er programma's die bijdragen aan de acclimatisering van nieuwe medewerkers of managers (nadat ze zijn geworven)?	Continuüm → Zeer geringe mate / zeer hoge mate	Bedford & Malmi (2015)
In hoeverre vinden sociale activiteiten plaats die betrokkenheid van medewerkers vergroten?		
Belief Systems		
In hoeverre zijn de waarden, het doel en de richting van de corporate startup vastgelegd in formele documenten?	Continuüm → Zeer geringe mate / zeer hoge mate	Bedford & Malmi (2015)
In welke mate communiceert het management van de corporate startup kernwaarden actief met medewerkers?		
Social Control		
In hoeverre is er een gevoel van gedeelde waarden, overtuigingen en verwachtingen onder werknemers?	Continuüm → Zeer geringe mate / zeer hoge mate	Bedford & Malmi (2015)
In hoeverre is er een overeenstemming onder medewerkers over de doelstellingen en richting van de corporate startup?		

Appendix V: Overview of documents reviewed

Overview of Documents Reviewed			
Organization	Document	Source	Control Construct(s)
Alliander	PRO Brochure	Intranet Alliander	Compensation
	Alliander Code of Conduct		Policies & Procedures
	Alliander Sanctioning Directive		Policies & Procedures
	Alliander Guideline Procurement & Authorization		Policies & Procedures
	Alliander Security Policy		Policies & Procedures
	Alliander Recruitment Policy		Socio-ideological
	Alliander policy on intake and through-flow screening Alliander		Socio-ideological
	Alliander Core Values		Socio-ideological
	Framework for professionalization of corporate startups	Founder of The Innovation Family	N/A
Startup W	Startup W Business Plan 2017-2018	Business Controller Startup W	Strategic Planning
	Startup W Proposition Strategy		Strategic Planning
	Startup W Portfolio Review		Strategic Planning
	Startup W MBR March 2018		Measurement
	Startup W KPI Dashboard	General Manager Startup W	Strategic Planning
	Startup W Presentation "Heidag"	Business Controller Startup W	Measurement
			Measurement
Startup X	Startup X Business Plan 2018	Business Controller Startup X	Structure
	Startup X MBR March 2018		Socio-ideological
Startup Y	Startup X Business Plan 2019-2023	General Manager Startup X	Strategic Planning
	Startup X KPI Dashboard	Business Controller Startup Y	Strategic Planning
	Startup Y Business Plan		Measurement
	Startup Y MBR April 2018		Measurement
	Startup Y Organogram	General Manager Startup Y	Structure
Startup Z	Startup Z Business Plan 2018-2020	Business Controller Startup Z	Strategic Planning
	Startup Z Investment Teaser	General Manager Startup Z	Strategic Planning
	Startup Z Notes "Heidag" management team		Measurement
	Startup Business Review February 2018		Measurement
			Strategic Planning
			Structure
			Socio-ideological

Appendix VI: Example of encoded text fragment

Below, a fragment about compensation is shown from the interview with the general manager from Startup Z:

Interviewer (Alexander): Het volgende kopje is gerelateerd aan het beloningsaspect: in hoeverre heb je het idee dat de beloning op dit moment afhankelijk is van prestaties van medewerkers?

Respondent [REDACTED]: Er is geen afhankelijkheid.

Interviewer (Alexander): Helemaal niet?

Respondent [REDACTED]: Nee volgens mij niet.

Interviewer (Alexander): Want werken jullie net als Alliander met PRO-gesprekken?

Respondent [REDACTED]: Oh op die manier. Ja, maar ik vind dat prestaties tot nu toe niet erg SMART in de PRO komen te staan. De beoordelingen gaan allemaal vrij makkelijk. Je hebt vrij makkelijk allemaal "drieën", en dan kom je al in aanmerking voor een loonsverhoging.

Interviewer (Alexander): Het is dus geen objectieve beoordeling in de zin van dat je bijvoorbeeld zes doelstellingen hebt die worden afgevinkt, en aan de hand van het aantal afgevinkte doelstellingen je wordt beloond?

Respondent [REDACTED]: Nee vind ik niet. Ik vind niet dat ze objectief zijn en ook niet dat ze concreet aan de doelstellingen van de organisatie zijn gekoppeld. Ik weet niet precies hoe het er echt binnen Alliander er aan toe gaat. Maar ik heb gezien dat mensen zichzelf een 4,5 geven (op een vijfpuntschaal); dat is bijna alsof je God bent. En terugkomend op je eerste vraag: uiteindelijk hangt de beloning wel af van de prestatie. Maar zelf ervaar ik ook dat het salaris elke maand gewoon wordt gestort. En niet dat ik het nog een keer zou willen doen, maar de eerste startup waar ik werkte, heb ik drie maanden gewerkt zonder dat er betaald werd. Aan het einde van de derde maand was ik gewoon met mijn creditcard boodschappen aan het doen. Maar we hadden wel het geloof dat het ons ging lukken. Het was uiteindelijk super gaaf en ik denk daar met veel plezier aan terug, terwijl ik persoonlijk ontzettend veel risico gelopen heb.

Interviewer (Alexander): Bedoel je dan dat je dat bij deze startup minder hebt, omdat medewerkers weten dat ze elke maand hun salaris overgemaakt krijgen?

Respondent [REDACTED]: Ja maar ik zeg niet per se dat dat iets slechts is. Alleen hebben we wel heel veel vrijheid; ik kan zo mijn mobiel een week niet opnemen. Dat is ook leuk, en ik werk ook wel goed met die vrijheid. Maar het principe "voort wat hoort wat" moeten we wel wat beter definiëren met elkaar; ik vind dat mensen dat zelf moeten doen. Ik heb intrinsiek een soort extreme loyaliteit naar degene die mijn salaris betaalt. Ik vind dat medewerkers hun rol of taak goed moeten invullen. Dat bespreek je dan met elkaar in de PRO. Als mensen het goed doen, horen ze een beloning te krijgen. Dat hoort ook samen te hangen met de prestaties van het bedrijf. Als het bedrijf geld verdient, en daar blijft vanuit de winst iets van over, mogen medewerkers daar wat van hebben.

Interviewer (Alexander): Maar op dit moment is het dus niet zo dat als de prestaties de doelstellingen overtreffen, dat je dan ook daardoor een hogere beloning krijgt?

Respondent [REDACTED]: Nee dat niet. We hebben wel, net als alle andere Alliander medewerkers, dat als Alliander alle doelstellingen haalt, delen we daarin mee. Dan krijgt iedereen een eenmalige bonus.

3:13 Interviewer (Alexander): Het volgende kopje is gerelateerd aan het beloningsaspect: in hoeverre heb je het idee dat de beloning op dit moment afhankelijk is van prestaties van medewerkers?

Compensation

Subjective/Objective

Performance Pay

3:14 Interviewer (Alexander): Het volgende kopje is gerelateerd aan het beloningsaspect: in hoeverre heb je het idee dat de beloning op dit moment afhankelijk is van prestaties van medewerkers?

Performance Pay

3:15 De beoordelingen gaan allemaal vrij makkelijk. Je hebt vrij makkelijk allemaal "drieën", en dan kom je al in aanmerking voor een loonsverhoging.

Subjective/Objective

3:16 En terugkomend op je eerste vraag: uiteindelijk hangt de beloning wel af van de prestatie. Maar zelf ervaar ik ook dat het salaris elke maand gewoon wordt gestort. En niet dat ik het nog een keer zou willen doen, maar de eerste startup waar ik werkte, heb ik drie maanden gewerkt zonder dat er betaald werd. Aan het einde van de derde maand was ik gewoon met mijn creditcard boodschappen aan het doen. Maar we hadden wel het geloof dat het ons ging lukken. Het was uiteindelijk super gaaf en ik denk daar met veel plezier aan terug, terwijl ik persoonlijk ontzettend veel risico gelopen heb.

Performance Pay

Appendix VII: Example of within-case analysis

Below, a part of the within-case analysis of Startup W is presented:

Policies and Procedures				
Pre-action reviews				
Vragen	General Manager	Business Controller	Documentanalyse / Observaties	Overall
In hoeverre worden medewerkers vooraf gecontroleerd op hun actieplannen?	Afspraken over onder welke condities je offertes kan maken, maar toch vind ik het ontsluiten van een contract iets wat ik afteken. Ze krijgen alle vrijheid om te doen wat ze willen, maar als het contract er eenmaal ligt, gaat die wel naar mij om getekend te worden. Bij developers wordt er gekeken of er een goede oplossing is gecodeerd.	Het gaat meer om uitkomst dan acties, mits de weg ernaartoe niet compleet en inefficiënt is. Heel veel dingen die we doen zijn nieuw. Wel moeten we gewoon een budget indienen dat goedgekeurd moet worden. Dan zeggen we al waar we het budget voor gaan gebruiken.	Medewerkers van Alliander en haar corporate startups dienen zich te houden aan de "Richtlijn Procuratie en Bevoegdheden". Dit document schrijft voor welke medewerkers binnen de Alliander Groep rechtshandelingen kunnen uitvoeren met de bijbehorende (maximum)bedragen	Veel acties zijn moeilijk vooraf te definiëren, waardoor er vooral wordt gekeken naar output. Wel moet de general manager akkoord geven op offertes, zijn er budget reviews vanuit Alliander en dient EXE zich te houden aan de "Richtlijn Procuratie en Bevoegdheden".

Appendix VIII: Example of cross-case analysis

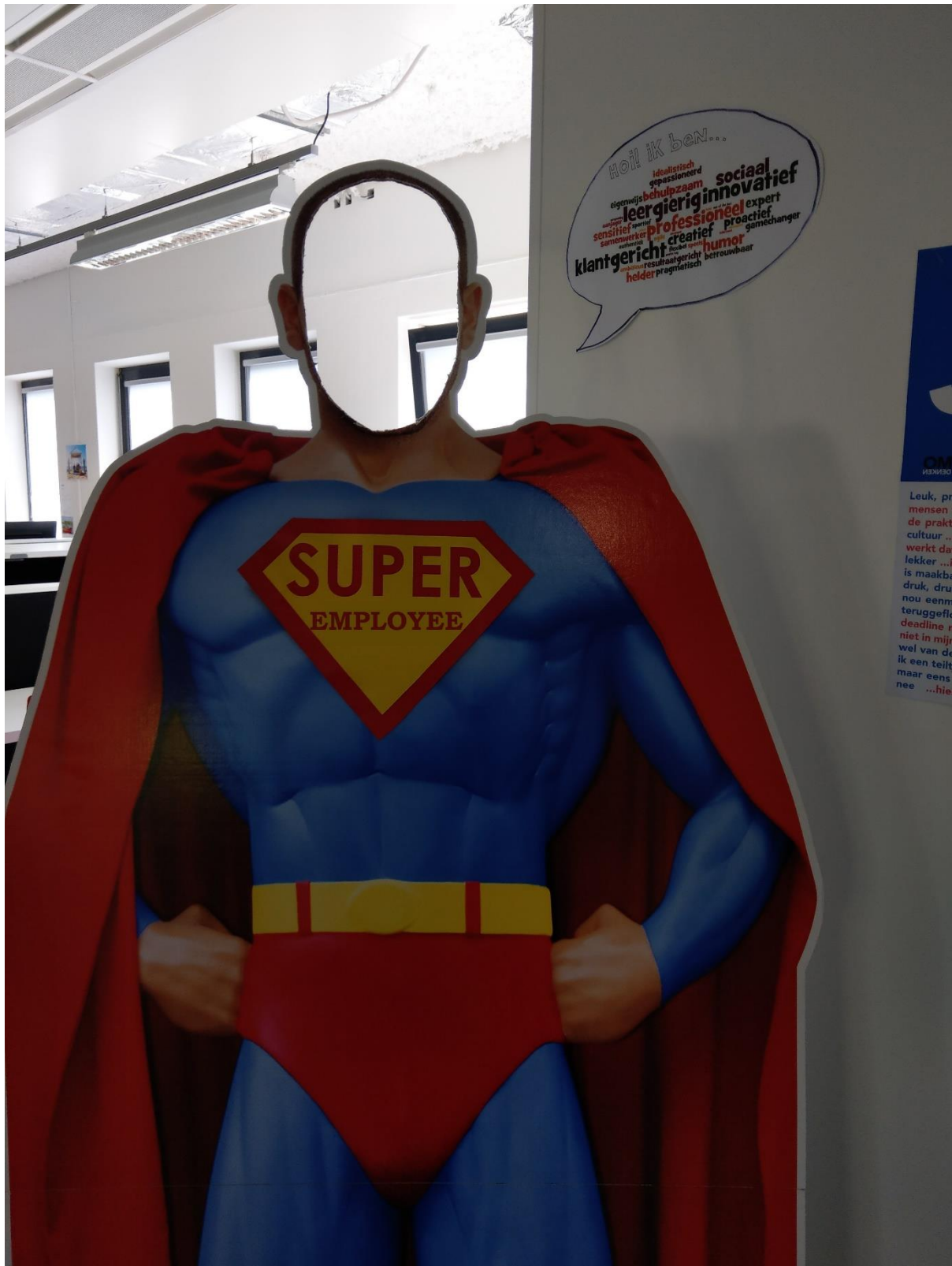
Socio-ideological			
Selection			
Startup W	Startup X	Startup Y	Startup Z
Er is een uitgebreid werving- en selectieproces onder aanvoering van HR Alliander, waarbij de sollicitant twee gesprekken heeft met de directe leidinggevende en ook een assessment moet afleggen bestaande uit een IQ-test en een psychologische test.	Er is een uitgebreid werving- en selectieproces, bestaande uit op maat gemaakt stappenplan (analyse van bestaande team + persoonlijkheden, eerste gesprek, assessment, tweede gesprek, objectieve beoordeling door checklist)	Het gaat om een uitgebreid werving- en selectieproces met twee keer een kennismaking, assessments en een finaal gesprek met de manager. Niet zozeer de skills zelf zijn belangrijk, maar vooral of iemand skills wil opbouwen en hoe potentiële werknemers kunnen omgaan met onzekerheid.	Het gaat om een uitgebreid werving- en selectieproces met meerdere gesprekken en een assessment. Bij de selectie wordt er voornamelijk gelet op competenties van de kandidaten: "Gretigheid is voor mij het belangrijkste om te zien. Ik vind onze missie gewoon gaaf, en daar zoek ik mede-astronauten voor; die moeten dat net zo gaaf vinden"

Then, when cross-case results are compared to the theoretical framework, the analysis is presented in a color scheme:

Control mechanism	Startup W	Startup X	Startup Y	Startup Z
Socio-ideological				
Selection				

■ practice (reasonably) corresponds to theory
 ■ practice partly corresponds to theory
 ■ practice does not / hardly correspond to theory

Appendix IX: Core-values-Superman






Appendix X: Combination of control mechanisms applied in practice

Control mechanism	Startup W	Startup X	Startup Y	Startup Z
Strategic Planning				
<i>Mode</i>	Co-existence of strategic planning as formalized and disjointed process	Co-existence of strategic planning as formalized and disjointed process	Co-existence of strategic planning as formalized and disjointed process	Co-existence of strategic planning as formalized and disjointed process
<i>Participation</i>	Moderate involvement of employees	Moderate involvement of employees	Only startup management is involved	Only startup management is involved
Measurement				
<i>Diagnostic control</i>	Prominently present	Prominently present	Partially present	Partially present
<i>Interactive Control</i>	Prominently present	Prominently present	Absent	Absent
<i>Tightness</i>	Quickly disturbed balance between tight and loose control	Quickly disturbed balance between tight and loose control	Quickly disturbed balance between tight and loose control	Only loose control, continuous imbalance
<i>Cost Control</i>	Not limited	Not limited	Not limited	Not limited
<i>Measure Diversity</i>	Broad scope of measures	Broad scope of measures	No measures	No measures
Compensation				
<i>Performance Pay</i>	Performance-based compensation	Performance-based compensation	Performance-based compensation	Compensation not related to performance
<i>Subjective/Objective</i>	Predominantly subjective	Predominantly subjective	Predominantly subjective	Entirely subjective
<i>Short/Long Term</i>	Compensation solely determined on the basis short-term performance	Compensation solely determined on the basis short-term performance	Compensation solely determined on the basis short-term performance	Compensation solely determined on the basis short-term performance
Structure				
<i>Decentralization</i>	Decentralized decision-making authority	Decentralized decision-making authority	Decentralized decision-making authority	Limited decentralization (decision making to some extent decentralized)
<i>Hierarchy</i>	Flat	Flat	Flat	Flat
<i>Communication</i>	Partially organic	Organic	Organic	Partially organic
<i>Integrative Liaison Devices</i>	Clearly applied	Clearly applied	Clearly applied	Clearly applied
Policies and Procedures				
<i>Autonomy</i>	To a high degree	To a high degree	To a high degree	To a high degree
<i>Boundary Systems</i>	Prominently present	Prominently present	Prominently present	Prominently present
<i>Standardization</i>	Limited	To some extent	Limited	Limited
<i>Pre-action Reviews</i>	Limited	Limited	Limited	Not completely limited
Socio-ideological				
<i>Selection</i>	Extensive application	Extensive application	Extensive application	Extensive application
<i>Socialization</i>	High intensity	High intensity	High intensity	High intensity
<i>Belief Systems</i>	Partially present	Prominently present	Partially present	Prominently present
<i>Social Control</i>	Extensive application	Extensive application	Extensive application	Hardly applied

Appendix XI: Overview of cross-case analysis

Control mechanism	Startup W	Startup X	Startup Y	Startup Z
Strategic Planning				
Mode				
Participation				
Measurement				
Diagnostic Control				
Interactive Control				
Tightness				
Cost Control				
Measure Diversity				
Compensation				
Performance Pay				
Subjective/Objective				
Short/Long Term				
Structure				
Decentralization				
Hierarchy				
Communication				
Integrative Liaison Devices				
Policies & Procedures				
Autonomy				
Boundary Systems				
Standardization				
Pre-action Reviews				
Socio-ideological				
Selection				
Socialization				
Belief Systems				
Social Control				

 Practice (reasonably) corresponds with theory
  Practice partly corresponds with theory
  Practice does not / hardly correspond with theory

Appendix XII: Overview of recommendations (in Dutch)

Overzicht van aanbevelingen



- **Strategic Planning**
 - Participation → General managers aanmoedigen om “key” medewerkers actief te betrekken bij het vormgeven van businessplannen en vijfjarenplannen
- **Measurement**
 - Diagnostic Control → General managers aanzetten om succesfactoren van de organisatie te concretiseren en hoe prestaties kunnen worden gemeten + waarborgen van periodieke monitoring
 - Interactive Control → Periodiek medewerkersoverleg binnen startups waarin KPI's ter discussie worden gesteld
 - Tightness → Heroverwegen van traditionele beoordelingscyclus voor kort-cyclische beoordelingen
 - Cost Control → Actief het gesprek bevorderen tussen general managers, business controllers en Director Startup Holding over het effect van de huidige cost control op innovatie
- **Compensation**
 - Short / Long Term → Onderzoeken van mogelijkheden voor het toepassen van (groeps-)beloningen op lange termijn
- **Structure**
 - Communication → *Startup W:* managers laten aansluiten op communicatieplatforms + werken vanuit één kantoorlocatie.
Startup Z: coachingsprogramma + herbeoordelen informatietoegang van medewerkers
- **Socio-ideological**
 - Belief Systems → Motiveren van general managers om ambities en kernwaarden vast te leggen en laat medewerkers kernwaarden uitdragen in alles wat ze doen