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CHANGING DIRECTION AND THE EVOLUTION OF CORPORATE VENTURING IN AN ICT FIRM IN KOREA

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DECLARATION

I hereby declare that this thesis has not been submitted, either in the same or different form, to this or any other university for a degree.

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ABSTRACT

'Corporate Venturing (CV)', which is broadly defined as an innovation practice by creating and nurturing internal CV teams or investing in external start-ups (Burgelman, 1983b; Dushnitsky and Lenox, 2005), has been adopted by large incumbent firms wishing to ensure their survival and business s growth in the future. Despite its promised benefits, CV activities are often terminated in the early stages. Nevertheless, some firms start their CV programs again, and these recurring patterns of CV activities contribute towards 'CV cyclicality'. However, we have limited understandings of the phenomenon of CV cyclicality at the level of the firm. This thesis, therefore, aims to develop a better understanding of the cyclical nature of CV (i.e. CV cyclicality) in a way that helps managers manage CV activities—engaged scholarship (Van de Ven, 2007).

To explore CV cyclicality at the firm level, this thesis adopted an in-depth case study approach. A large Korean ICT firm (pseudonym: Company Alpha), which is the exemplar of a large firm in Korea that repeated CV activities over time, was examined (from early 2013 to 2017) to find out how CV activities were developed, terminated, and then re-started during the period between 1990 and 2015. This approach enabled to find the importance of the term 'direction' for the CV practitioners at Company Alpha and in the Korean context. Hence, this thesis also aims to usefully conceptualize 'direction' *itself* to understand and explain Company Alpha's corporate venturing activities and how they repeat over time.

This thesis suggests that the *direction of corporate venturing* (CV) can be usefully conceptualized as an internal consistency between the firm's structure (with actors residing in the structure) and its strategy. Drawing on *research orchestration* theory (Sirmon et al., 2007; 2011), a conceptual framework (the *direction of CV*) was developed by combining both the main managerial actors who conduct CV activities (the starting point) and the primary *strategic objective* that the CV program pursues and is designed to achieve (the end point).

The thesis demonstrates that this new framing of *direction* helps us to better understand and explain Company Alpha's repeating CV cycles. From the examination of the twenty-six years history of CV (from 1990 to 2015) at the Korean ICT firm through the lens of the *direction of CV*, this thesis makes its main argument about the *CV cyclicality* at Company Alpha: rather than being terminated separately, a series of CV programs evolved over time for the purpose of combining resources in a new way; results of deliberate and experimental efforts then formed an *evolutionary cycle of CV*. The thesis also argues that what was terminated during the firm's repeated CV activities was, instead, a distinct evolutionary cycle of CV, which later re-initiated with the next CV cycle.

This thesis makes substantial contributions to knowledge. Firstly, this thesis makes contributions to the CV literature by providing a detailed and empirical evidence-based explanation of CV cyclicality at a large Korean high-tech firm (repeated evolutionary CV cycles aimed at new resource combination), which goes beyond a relatively simple dichotomy between termination and evolution. Secondly, the thesis also contributes to the strategy and innovation management literature by suggesting a new framing of direction from an internal firm perspective. This helps us to understand organizational and strategic change in a new way that organizations can generate changes *proactively* by reconfiguring their internal elements, even without stimuli external to the firm. Thirdly, for practitioners, the findings from the thesis contribute by providing an empirical insight that can help managers manage their CV activities. Almost no organizational memory about their previous CV efforts remained within the firm, however, this thesis casts an empirical light by unfolding how a repeating pattern (the *evolution of CV*) occurred within the first (1997–2002) and the second CV cycle (2011–2015) of the firm. The case firm and other companies may benefit from having knowledge of a corporate history of CV cycles including failures.

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ACRONYMS AND ABBREVIATIONS

ASC   Annual Strategy Committee

B2C   Business-to-Client

BAO   Business Administration Office

CAGR   Compound Annual Growth Rate

CAQDAS   Computer Assisted Qualitative Data Analysis Software

CEO   Chief Executive Officer

CFO   Chief Financial Officer

CHRO   Chief Human Resources Officer

CIO   Chief Information Officer

COO   Chief Operating Officer

CSO   Chief Strategy Officer

CTO   Chief Technology Officer

CV   Corporate Venturing

CVC   Corporate Venture Capital

CVS project   Corporate Venturing Strategy project

CVU   Corporate Venturing Unit

EBT   Emerging Business Team

EVP   Executive Vice President

GM   General Manager

IC   Idea Competition

ICT   Information and Communication Technology

ICV   Internal Corporate Venturing

IMF   International Monetary Fund

IMPs   Innovation Management Practices

IPO   Initial Public Offering

IT   Information Technology

ITO   Information Technology Outsourcing

ITR   IT Roadmap

LoI	Locus of Innovation
MAI program	Mobile App Idea program
MI	Market Intelligence
MLF	Multi-Layer Framework
MNOs	Mobile Network Operators
NMS project	New Mobile Service project
NPD	New Product Development
NVD	New Venture Division
OS	Operating System
OVS project	Open Venturing Strategy project
PIMS database	Profit Impact of Market Strategies database
R&D	Research and Development
RBT	Resource-Based Theory
RDPD project	R&D Process Development project
RDPI project	R&D Process Implementation project
SCA	Sustainable Competitive Advantage
SI	System Integration
SM	Senior Manager
SMO	Strategic Marketing Office
TI	Technology Intelligence
TMT	Top Management Team
TSC	Technology Strategy Committee
VC	Venture Capital
VP	Vice President

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CHAPTER 1
INTRODUCTION

Observation is always selective. It needs a chosen object,
a definite task, an interest, a point of view, a problem.
—Popper (1963) *Conjectures and Refutations*

1.1 Background

Incumbent firms in rapidly changing environments have to continually innovate in order to survive and grow (Schumpeter 1942/1975). This innovation involves both incremental innovation for undertaking current business *better*, and also activities to stimulate radical innovation for creating *different* future business opportunities. Markides (1997) divides this into a 'better game' and a 'different game'. From a Schumpeterian perspective, 'better' and 'different' are associated with "the doing of things that are already being done in a new way" and "the doing of new things" (Schumpeter, 1947: 151).

Innovation at the level of the firm can be defined as the process of commercialization by which ideas are searched, selected, and then implemented into new products and services to capture their benefits (Tidd and Bessant, 2013). Innovation is not therefore *invention*, which is often a one-off event (Freeman and Soete, 1997). Instead, innovation is a process that benefits from being managed strategically. [1] The strategic importance of *innovation* to firms is widely accepted, but this acceptance raises fundamental questions about how large, incumbent firms can *continually* innovate in their products, services, technologies, and businesses. How do they and how should they continually undertake innovation in order to survive and grow?

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[1] Not surprisingly, there is a wide variety of definitions of innovation. For example, emphasizing the processual feature of innovation, Van de Ven (1986: 591) defined innovation as "the development and implementation of new ideas by people who over time engage in transactions with others within an institutional context."

This issue has been a central topic in both the innovation and the strategy literature where emphasis is placed on "the sustained management of innovation and change" (Tushman and Nadler, 1986: 74) as a source of 'sustainable competitive advantage (SCA)' (e.g. Barney, 1986; Barney, 1991; Grant, 1991). In a similar way, the innovation management literature stresses the crucial role of continued and on-going innovation and the management of 'sustained corporate innovation' (e.g. Rothwell, 1992; Utterback, 1994; Dodgson et al., 2008; Tidd and Bessant, 2013). This is closely related to the question of "how firms achieve sustainable competitive advantage" (Herrmann, 2005: 111), which has been one of the fundamental questions in the strategic management literature from the outset.

Here, the strategic use of innovation to achieve sustainable competitive advantage is crucial (Keupp et al., 2011).[2] As will be discussed in this thesis, large established firms often undertake innovation activities, or practices, in a strategic way to both *search for* new business and technological opportunities and *build capabilities* that enable firms to create and capture the value of the opportunities they have identified. This allows firms to achieve sustainable competitive advantage for their survival and growth. Although a lot of exploration about how large, incumbent firms manage their strategic innovation practice has been carried out in the past (e.g. Kanter, 1989; Stopford and Baden-Fuller, 1990; Christensen and Raynor, 2003), it remains under-explored, despite its importance. The motivation for this study is therefore to develop a better understanding of the process of large firms' strategic innovation practice. Especially, this thesis will focus on an innovation practice called *corporate venturing* (CV), which will be set out in the following section.

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[2] The strategic use of innovation should be distinguished from Markides' (1997) 'strategic innovation'. According to Markides (1997: 11), 'strategic innovation' means "the strategy of breaking the rules", which allows a firm "to successfully attack the established industry leaders or to successfully enter a new market where established players exist … [without] the benefit of a new technological innovation". Approaches to strategic innovation include redefinition of customers (*who*); products and services offered to customers (*what*); and ways to offer products or services cost efficiently (*how*) (*Ibid.*: 12).

1.2 Research topic and problems

1.2.1 Corporate Venturing (CV)

Corporate Venturing (CV) is an innovation practice strategically conducted by large established firms. In their classical book on CV, Block and MacMillan (1993) highlighted that a firm's managerial activities are *corporate venturing* when it:

> 1) involves an activity new to the organization; 2) is initiated or conducted internally; 3) involves significantly higher risk of failure or large losses than the organization's base business; 4) will be managed separately at some time during its life; and 5) is undertaken for the purpose of increasing sales profit, productivity or quality. (Block and MacMillan, 1993: 14)

As we shall see in Chapter 2, the way firms conduct CV has evolved since the 1960s, and in this thesis, CV refers to the venturing activities of large established firms (Von Hippel, 1973), which includes (1) creating venture teams inside the firm; (2) nurturing those teams; and (3) making them into new business units (*internal CV*) (e.g. Burgelman, 1980; Block and MacMillan, 1993; Tidd and Taurins, 1999; Van Burg et al., 2012; Burgelman and Sayles, 1986). The term also includes (4) investing equity (and other kinds of support) in external start-ups outside the firm (*external CV*). This firm-based venture capital activity is also known as *Corporate Venture Capital* (CVC) (e.g. Hardymon et al., 1983; Sykes, 1990; Keil, 2000; Dushnitsky and Lenox, 2005).

CV has been highlighted as a potential option for realizing firms' growth strategies, which can be indicated by new business development and growth in sales, market shares, and profits (Biggadike, 1979; Kuratko et al., 2009). Firms often make a strategic decision to undertake CV as a "source of growth and renewal" (Block and MacMillan, 1993: 71) as part of a firm's 'growth strategy'. As an important part of firms' innovation strategies (Dushnitsky and Lenox, 2005), CV can have other benefits, such as stimulating intrapreneurship within the existing organization (Pinchot, 1985; Parker, 2011) and spreading a creative organizational culture

across the firm (Dushnitsky, 2006).

1.2.2 The cyclical nature of CV activities: CV cyclicality

Despite evidence of its benefits, practitioners face *challenges* in managing corporate venturing given its risks and uncertainty, which are inherent to innovation (Makarevich, 2017). Empirical evidence suggests that CV activities are often terminated in their early stages. Considering that the longevity of CV (and CVC) programs is "influenced by the early venture failure/success" (Sykes, 1986: 281), the average longevity of CVC programs in the 1990s, for example, was only 2.5 years (Dushnitsky, 2011: 45).[3] This short lifespan can be problematic if the CV activities were terminated before achieving their desired outcomes. A number of potential causes of CV's termination have been proposed in the literature: such as unclear missions (Burgers et al., 2009); insufficient commitments (Birkinshaw and Hill, 2005); inadequate processes (Enkel and Goel, 2012); and disappointed decision-makers (Block and MacMillan, 1993). Whereas, theoretical and practical frameworks which help understand the dynamics of CV (including termination) are still quite limited.

An interesting empirical phenomenon is that, some firms start their CV programs *again* with different—either strategic or financial—objectives and with new types of organizational structures (Burgelman and Valikangas, 2005). These *recurring* (or *repeating*) patterns of CV activities, which start, terminate, and restart, may collectively contribute towards *cyclicality* in corporate venturing (e.g. Fast, 1978; Gompers and Lerner, 1998; Burgelman and Valikangas, 2005; Birkinshaw and Hill, 2005; Dushnitsky and Lenox, 2006). With regard to the cyclical nature of CV activities, Gompers and Lerner (1998) initially highlighted that there are three 'waves' in the history of CV funds starting from the mid-1960s, and these findings have been

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[3] Dushnitsky (2011: 45) pointed out that, in the 2000s, the average lifespan of CVC programs was extended to "3.8 years and more than 40 per cent have been working four years or longer."

elaborated and extended by other scholars (e.g. Birkinshaw and Hill, 2005; Dushnitsky and Lenox, 2006; Dushnitsky, 2011). According to Gompers and Lerner (1998):

> The first corporate venture funds began in the mid-1960s, about two decades after the first formal venture capital funds. The corporate efforts were spurred by the successes of the first organized venture capital funds … Excited by this success, large companies began establishing divisions that emulated venture capitalists. During the late 1960s and early 1970s, more than 25% of the Fortune 500 firms attempted corporate venture programs. (Gompers and Lerner, 1998: 6-7)

However, the collapse of the market for initial public offerings (IPOs) in 1973 as well as recession at this time brought an end to the first wave of corporate venturing activities (Birkinshaw and Hill, 2005; Dushnitsky, 2011). And, as Birkinshaw and Hill (2005) noted, this was followed by the second wave:

> A second wave of [corporate venturing] activity began in the early 1980s, fueled by substantial growth in the computer and electronics sectors. When recession hit in the late 1980s, once again, corporate venturing efforts sputtered and halted. (Birkinshaw and Hill, 2005: 248)

Dushnitsky (2006; 2011) explained the third wave of corporate venturing activity in the 1990s:

> The third wave, which took place in during the 1990s, reflected a surge in venture capital investing. It was a period characterised by technological advancement and an explosion in Internet-related new ventures. The number of CVC programmes soared to more than 400; and, by the year 2000, established corporations had become important players in the venture capital industry, managing more than $16 billion (approximately 15 per cent of all venture capital investment that year). (Dushnitsky, 2011: 49)

Today, we are observing "Corporate venturing is on the rise" (Battistini et al., 2013: 31), which is indicated by more than $7.5 billion funding by CVC programs in 2015 to the software, biotechnology, and energy sectors: the highest level since 2000.[4] This indicates that CV is going

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[4] *Lavine* (2016) 'Corporate venturing rises to highest rate since 2000', [online], *Global Corporate Venturing*, 21 January, Available from: http://www.globalcorporateventuring.com/article.php/12894/ corporate-venturing-rises-to-highest-rate-since-2000 [Accessed 25 January 2017]

through its fourth historical wave. After thirty years' studying internal CV (ICV), Burgelman highlighted that ICV activities are characterized by a "seemingly endless cycle" (Burgelman and Valikangas, 2005: 26), and termed this as 'ICV cyclicality'. When taking internal and external CV together, the term can then be defined as *CV cyclicality*. Henry Chesbrough briefly explained what might be a general pattern behind this cyclicality:

> The general pattern is a cycle that starts with enthusiasm, continues into implementation, then encounters significant difficulties, and ends with eventual termination of the initiative. Yet, within a few years, another generation of businesses undertakes the effort anew, and the cycle occurs again. (Chesbrough, 2000: 31)

However, as Burgelman and Valikangas (2005: 33) pointed out, "there has been little systematic discussion of what generates the start, duration and ending of the ICV [,or CV] cycle." [5] This recurrent phenomenon calls for a further investigation in order to better understand the cyclical nature of CV activities, i.e. *CV cyclicality*.

In understanding the phenomenon of CV cyclicality at the firm level (e.g. Gompers and Lerner, 1998; Chesbrough, 2000; Dushnitsky and Lenox, 2005; Burgelman and Valikangas, 2005; Lerner, 2013), it is mainly explained in the CV literature in two ways: *termination* versus *evolution*. Supporters of CV's *termination* suggest that CV activities are designed to be short-lived during the "periods of severe technological discontinuity" (Gompers and Lerner, 1998: 4), hence they are soon terminated. From this viewpoint, a firm's 'CV cycles' could be the result of *termination* of CV activities (or programs) repeated over time. Whereas from an *evolutionary* perspective, CV cycles can be a result of deliberate and experimental effort. For example, Fast (1977) argued that, although CV activities have a short-term life span, CV units that successfully *evolve* through changing the objectives and types of their CV activities (e.g. CV programs) can survive.

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[5] In this thesis, the 'waves' of CV both at the global and national level are distinguished from the 'cycles' of CV at the level of the firm, which is the focal point of this thesis.

This issue about *CV cyclicality* is important because a firm's CV cycles could be the result of undesirable terminations (i.e. repeated mistakes). Given the *uncertainty* in CV, which is inherent in innovation activities, it is not surprising that CV activities sometimes fail. However, if a firm were to cease those activities completely, and then restart them from scratch—with new members and a new set of rules—several years later, it might find itself repeating another unsuccessful CV cycle.

Therefore, assuming that there is a cyclical nature to CV activities, a better understanding of CV cyclicality would help managers make sense of their CV history, and also manage CV activities in a more strategic way. This can be supported by a framework that help understand and explain CV cyclicality at the level of the firm.

1.3 Research context and research questions

1.3.1 Three waves of CV in Korea and Company Alpha (the exemplar of CV cyclicality)

As noted in the previous section, there is a cyclical nature of CV (i.e. *CV cyclicality*) at a global level (largely based on the US and European data), which can be divided into three waves: the first wave since the mid-1960s; the second in the early 1980s; and the third during the 1990s (e. g. Gompers and Lerner, 1998; Dushnitsky and Lenox, 2006). CV researchers suggest that a new wave of CV began since the early 2000s (e.g. Battistini et al., 2013; Dushnitsky, 2011). Also, in South Korea (hereafter 'Korea'), there is a local phenomenon of *CV cyclicality*, which can be divided into three different waves: The analysis of CV studies on Korean firms—which are few in number (e.g. Lee, 2009; Kim et al., 2012)—and the newspaper articles since the 1980s suggests that the first Korean CV wave began in the mid-1980s; the second in the mid-1990s; and the third wave has started in Korea since the early 2010s.

The objective of this research is to develop a better understanding of the cyclical nature of CV

(i.e. CV cyclicality) at the level of the firm. The thesis also aims to understand a pattern of CV cyclicality in a way that helps managers manage their CV activities. The first research question of the thesis is then articulated as follows:

> How are *corporate venturing* activities developed, terminated, and then re-started at the level of the firm?

The articulation of the research question addresses a key issue highlighted by research methodologists: "*What is the case a case of?*" (e.g. Becker, 1992; Ragin, 1992). The case in this thesis is a case of the *process of the repeat of a range of CV activities* in the large firm.

To explore CV cyclicality at the level of the firm, this thesis adopts a *case study* approach (e.g. Ragin, 1997; Morgan, 2012; Yin, 2013). As we shall see in Section 4.2 (research design section), a case firm (Company Alpha) is chosen as it is the exemplar of a large firm in Korea that repeats CV activities over time. Company Alpha was founded in 1990 as an Information and Communication Technology (ICT) subsidiary of a multinational business group (the Alpha Group) headquartered in Korea.[6] This firm is unique in the history of the development of CV in Korea, because it has been at the center of all three CV waves in Korea—both indirectly and directly. In the first Korean CV wave (in the mid-1980s), a subsidiary of the Alpha Group (Company Delta) became a pioneer of CV in Korea.[7] But in both the second (in the mid-1990s) and third (in the early 2010s) waves, Company Alpha itself operated a range of CV programs. For example, Venture-α, which was originally a CV team with an internet-based business model, was successfully spun-off in the late 1990s from Company Alpha; this is still regarded as one of the most successful CV cases in Korean CV history.

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[6] As will be discussed in the research design part (Chapter 4), the real name of this case study firm is disguised for the anonymity of the research.

[7] *The Korea Economic Daily* (1986) 'Company Delta launches corporate venturing, reducing the risks in new business development'

1.3.2 The importance of 'direction' in managers' framing of CV management

Observation of, and interaction with, a number of CV managers across different levels within Company Alpha throughout the period 2012 to 2014 highlighted the importance of the term *direction*. Thinking in Korean CV practitioners' first language system helped engage with their thought processes. In the Korean language, '방향 (bang-hyang)' is the same as the Chinese word '方向 (fangxiàng)', where both words mean 'direction'. The term '방향 (bang-hyang)' is typically used in firms' strategy meetings and business documents, which include when CV managers designed and operated a range of CV programs. Earlier in this period, those actors were very enthusiastic about their growing number of CV programs and new business ideas flowing through to the programs. Starting from 2012, however, there were noticeable changes in these actors as they were more and more disappointed by actual business outcomes. Their words frequently used in the latter part of this period were converged into a theme: the importance of the *direction* of CV activities. For example, in the spring of 2013, a manager at Company Alpha's CV unit said:

> After all, this is about the problem of directionality. … We don't have a clear *direction* of corporate venturing. (I-M, personal interview, 2013).

However, it was also revealed that there was often considerable *ambiguity* about how the concept 'direction' *itself* is interpreted by different actors within the organization. At Company Alpha, the term 'direction' was often used in a vague and inconsistent way.[8]

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[8] Garud and Van de Ven (1992) suggested that 'uncertainty' and 'ambiguity' are two important aspects of CV activities. As these authors pointed out, "[p]ersistence with a course of action is likely to occur especially when there is ambiguity about the right direction to pursue. While *uncertainty* implies imperfect knowledge about the causal relationship between means and ends, *ambiguity* implies imperfect knowledge of which ends are worth pursuing" (Garud and Van de Ven, 1992: 95; emphasis added). In this thesis, however, the ambiguity in CV means the different interpretation of the meaning of 'direction' by different actors (i.e. a vague and inconsistent usage of the term).

1.3.3 The importance of 'direction' in the Korean context

It is not surprising 'direction' is important to the people at Company Alpha. Today, in the Korean context, the importance of *direction* is also highly emphasized. Korea is one of the few countries that have succeeded in 'catching up' and is moving on to 'forging ahead' (Steinmueller, 2017). The Korean Government's 2017 report "The Direction of the new Government's Economic Policy" highlights the fact that the *direction* of the catching-up strategy is no longer valid, as the frontiers to imitate, or to catch up with, are disappearing.[9] The report then concludes by urging that the country needs to pursue an "innovation-led growth" to explore future growth.[10, 11] Assuming that there is a global frontier and a country is located at some point behind this frontier, the concept of direction may be obvious because 'catching up' is "a process with an end"—i.e. to catch up with the frontiers (Steinmueller, 2017: 72). However, in the current Korean national context, not only in the case of Company Alpha, policy makers and advisors also face challenges in setting the *direction* of innovation.

Indeed, *direction* is a core feature of strategy and innovation. In the strategy literature, for example, strategy is often regarded as "about the *direction* of organizations, and most often, business firms" (Rumelt et al., 1994: 9; emphasis added), where strategy is assumed as a plan with some kind of direction (Mintzberg, 1987; Mintzberg et al., 2009). Also in the management of strategic innovation, it is crucial to have a "clear sense of direction" (Tidd and Bessant, 2014: 21). However, within the firm, there was a degree of widespread *ambiguity* about what

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[9] *Ministry of Strategy and Finance* (2017), 'The Direction of the new Government's Economic Policy'

[10] *Ibid.*

[11] This shift from *imitation* to *innovation* in the Korean context was already discussed in the late Lin-su Kim's book, *From imitation to innovation* (Kim, 1997), where he discussed the development of technological capabilities in the Korean industries since the early 1960s. However, this thesis suggests that to understand the direction of, and set the direction of, innovation both in the firm and at a national level have become more crucial for the country.

'direction' really means, let alone how it can be managed.[12]

As set out in Section 1.3.1, this thesis aims to develop a better understanding of the cyclical nature of CV (i.e. CV cyclicality) in a way that helps managers manage CV activities—engaged scholarship (Van de Ven, 2007). The thesis therefore attempts to usefully conceptualize 'direction' *itself* in a way that would help managers make sense of the phenomenon of CV cyclicality, which we address in the first research question. Hence, the second research question can be articulated as follows:

> How can different understandings of *direction* help managers and academics understand and explain Company Alpha's corporate venturing activities and how they repeat over time?

As we shall see in Chapter 3, the thesis reviews how 'direction' is used in the organizational change and the strategic management literature; and in Chapter 7, apply the idea of the *direction of CV* to help understand the process of the repeat of CV activities at Company Alpha.

1.4 Thesis arguments and potential contributions

As highlighted in Section 1.2.2, there are contested viewpoints in the CV literature about the cyclicality of CV between *termination* (e.g. Gompers and Lerner, 1998) and *evolution* (Fast, 1977). However, as Burgelman and Valikangas (2005) point out, little systematic discussion has been taken place about *CV cyclicality*.

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[12] Regarding the ambiguities involved in understanding of 'direction', an example of a 'world map' could be used to enlighten us. There is no doubt from this that the US is a 'western country', however, on the world maps generally used in Korea (e.g. in textbooks), the US is on the right side of the map as those maps are centered on Korea. From the viewpoint of maybe *a few* Korean people, the US could be an 'eastern country'. This suggests an example of potential inconsistency, or an ambiguity, in the concept of direction. We may have *assumed* what direction is and how it is determined; however, we may not have adequately *questioned* about the definition and measurement of *direction*. Some linguists, social scientists, and engineers conducted an interdisciplinary work (Van de Zee and Slack, 2003) to explore the meaning of direction in a linguistic and spacial sense. However, this thesis aims to address this concept in the context of strategy and innovation.

From an examination of the twenty-six years history of CV (from 1990 to 2015) at a Korean ICT firm, which is the exemplar of the firm that repeated CV activities over time, this thesis makes its main argument about the *CV cyclicality* at Company Alpha: rather than being terminated separately, a series of CV programs evolved over time for the purpose of combining resources in a new way; results of deliberate and experimental efforts then formed an *evolutionary cycle of CV*. The thesis also argues that what was terminated during the firm's repeated CV activities was, instead, a distinct evolutionary cycle of CV, which later re-initiated with the next CV cycle.

Therefore, this thesis contributes towards the CV literature by providing this detailed and empirical evidence-based explanation of CV cyclicality at a large Korean high-tech firm. These ideas go beyond a relatively simple dichotomy between *termination* and *evolution*. The thesis then helps us understand the CV cycles of the firm in a new way: repeated evolutionary CV cycles aimed at new resource combination.

Importantly, the idea of *direction* allows us to better understand and explain Company Alpha's repeating CV cycles. As we shall see in chapter 3, traditional strategy literature discussed 'direction' in strategic settings mainly focusing on the *content* of the firm's strategy. However, this thesis additionally focuses on *managerial actors* who play a key role in the organization's *proactive* change and the process of strategy implementation.

This thesis suggests that the *direction of corporate venturing* (CV) can be usefully conceptualized as an internal consistency between the firm's structure (with actors residing in the structure) and its strategy. A conceptual framework (the *direction of CV*) is developed by combining a focus on both the main managerial actors who conduct CV activities (the starting point), and on the primary strategic objective that the CV program pursues and is designed to achieve (the end point).

Seen through the lens of the *direction of CV*, it allows us to see a pattern of change from

Company Alpha's twenty-six-year history of CV activities. One is changes in the starting point of direction (i.e. *locus of innovation*): main managerial actors (and the structural units they reside in) of CV activities swung between the *technology* and the *marketing* sides within the firm. The other is changes in the ending point of direction (i.e. *strategic objective*): a series of CV programs were developed, terminated, and then re-started with changes in the primary strategic objective of the CV programs between *exploration* of new business opportunities and *exploitation* of identified opportunities.

The thesis contributes to the strategy and innovation management literature by providing a new framing of *direction* from an internal firm perspective, which considers both managerial actors and the program-level strategy. It draws on the underexplored, prospective research agenda of *research orchestration* (RO) theory: the *depth* (multiple levels of structures and actors) and *breadth* (multiple levels of strategies) of RO (Sirmon et al., 2011). This new idea of *direction* emphasizes organizational proactive change led by managerial actors, which is particularly crucial in innovation settings. The newly developed framework (the *direction of CV*) helps us understand and explain the process of the repeat of CV activities, specifically from the perspective of new resource combination.

1.5 Thesis structure

The structure of this thesis is as follows. Chapter 2 reviews the CV literature, where CV's definitions, different modes, objectives, and managerial challenges are discussed. This chapter then highlights gaps in the literature, especially the under-explored aspects of CV's repeating cycles and the less well understood composition of CV's actors (and the structures these actors reside in) in large established firms.

Chapter 3 reviews the concept of direction in the organizational change and the strategy literature. Applying three lenses on strategic change, this chapter then scrutinizes two main

[13]

types of direction in the strategy literature, and finds the need for a new framing of direction in the context of corporate venturing, which emphasizes the role of the actors conducting CV activities and the primary goals pursed by CV programs. The chapter finishes by developing an analytical framework (the *direction of CV*), by discussing its underlying a theoretical framework, resource orchestration theory.

Chapter 4 starts by brief reflection on research design in general. The chapter then explains the overall research design of this thesis, which is designed to use the analytical framework developed in Chapter 3 as an investigative tool. Next, the chapter summarizes the data collection process and the methods for data analysis.

In Chapter 5 and 6, the case study firm is empirically examined in a chronological manner. After compiling the timeline of Company Alpha and identifying key events during the period from 1990 to 2015, Chapter 5 analyzes the firm's CV programs during the period 1997 to 2002, which is found to be the firm's first CV cycle. Similarly, Chapter 6 analyzes the second CV cycle from 2011 to 2015.

Using the analytical framework, Chapter 7 analyzes how the direction of CV at Company Alpha has changed both in the first and second CV cycles. This generates a more robust conceptual framework that is both theoretically and empirically supported.

In Chapter 8, three main factors that affected the changes in the re-conceptualized direction are discussed. Based on a repeating pattern occurring within the two cycles, this chapter finishes with the discussion of the evolution of CV at Company Alpha represented by changes in the direction of CV. Finally, Chapter 9 concludes the thesis.

CHAPTER 2
REVIEW OF THE CORPORATE VENTURING LITERATURE

2.1 Introduction

As noted in Chapter 1, large established firms often conduct innovation activities in a strategic way to *search for* new business and technological opportunities and to *build capabilities* to seize the opportunities they have identified (see Section 1.1). These innovation activities, which are mostly risky and entrepreneurial, are strategic to the firm because incumbent firms deliberately pursue innovation to ensure their business continuity (i.e. survival) and to achieve their business growth strategy. These innovation activities include managerial practices such as new product development (e.g. Cooper and Edgett, 2009) and open innovation (e.g. Chesbrough, 2003). Here, the primary focus of this thesis in on *corporate venturing* as an innovation practice. This research topic has been specifically chosen because CV practitioners face significant challenges in managing CV activities, showing the recurrent patterns of the CV activities at the level of the firm (see Section 1.2.2).

To address the research questions articulated in Section 1.3, this thesis examines the case firm's multiple levels of strategy, structure, and actors, and also technological changes by investigating its range of corporate venturing (CV) programs in its twenty-six years history of CV (from 1990 to 2015). It is then crucial to establish a knowledge base associated with CV and to prepare an investigative tool through which the process of the repeat of CV activities can be examined. The aims of this chapter are twofold: (1) to set a solid foundation of knowledge of CV and (2) to find gaps in the CV literature in which to situate research findings. In particular, the latter will be specifically addressed by revisiting seminal works in this domain including those of Robert Burgelman (e.g. Burgelman, 1980; Burgelman, 1983a; Burgelman, 1983b).

2.2 What is Corporate Venturing?

Corporate Venturing (CV) is an innovation *activity*, or practice, of the incumbent firm seeking to generate its new business (Von Hippel, 1973; Von Hippel, 1977). CV has been adopted by large established firms wishing to ensure their survival and growth. As an innovation practice, CV includes (1) creating venture teams within the firm; (2) nurturing those teams; and (3) making them into new business units (e.g. Burgelman, 1980; Burgelman, 1983b). CV activities sometimes include (4) investing equity (and other support) in external start-ups. The former group of activities is known as *internal CV* (ICV); whereas, the latter is known as *external CV* (ECV), or *corporate venture capital* (CVC), which highlights the role of incumbents as corporate investors (e.g. Hardymon et al., 1983; Sykes, 1990; Dushnitsky and Lenox, 2005).

There has been a long-lasting sense of the imperative associated with CV activities. However, the wide scope of such activities requires a clearer understanding of CV. Often, different terminologies were used in describing similar CV practices, generating inconsistencies in definitions (Sharma and Chrisman, 1999). As Narayanan et al. (2009: 68) pointed out, the domain of CV literature "has been fragmented, spotty in its coverage of important issues of interest, and non-cumulative". In order to establish a solid foundation of knowledge for advancing the thesis, the remainder of this section reviews how the term 'corporate venturing' and other related terms have been used and developed.

2.2.1 An old imperative but a newish term

From the perspective of innovation studies, the idea of CV is not completely new. For example, Joseph Schumpeter (1934/1982) emphasized charismatic individuals' entrepreneurial efforts through which new firms and businesses could be generated. In his later work *Capitalism, Socialism and Democracy* (Schumpeter, 1942/1975), however, he highlighted incumbent firms' collective entrepreneurial activities. Here, CV is the very example of the latter Schumpeterian

idea (i.e. Schumpeter Mark II). By activating innovation processes within the organization, large established firms undertaking CV activities can become collective entrepreneurial actors, or innovators, who are the main agents of *creative destruction* at the organization level.

As highlighted by Adams (1969: 255), an incumbent's endeavor to do "new businesses based on new technologies" are not new phenomena; however, in the 1960s, 'new business ventures', the term describing these phenomena, became "an increasingly popular expression among businessmen, investors, and managers of research and development" (*Ibid.*). The usage of the word 'venture' can also be found in Alfred Chandler's pioneering study on the business histories of large US firms between 1890 and 1960. In *Strategy and Structure* (Chandler, 1962), Chandler examined diversification efforts carried out by American Smelting and Refining, which was one of the big four companies in the US copper industry. By establishing a *separate autonomous* organizational unit, this firm attempted to enter a new-to-the-firm market (nonferrous metal processing), and Chandler interpreted this effort as their *venture* activity:

> [The firm] entered the processing of a variety of nonferrous metals from scrap. Because both the purchasing and marketing of these materials were quite different from its primary operations, the company came to form a *separate autonomous unit*… However, this *venture* has not proved very successful, in part because its activities differ from the rest of the larger organization. (Chandler, 1962: 329; emphasis added)

In the 1960s, against the backdrop of the need for diversification, 'venture management' came to be regarded as a new managerial practice available to large firms which want to leverage entrepreneurial resources within the organization. For example, Hanan (1969) emphasized that 'venture management' is "an interesting new approach" (Hanan, 1969: 43), which is "an entrepreneurial concept that enjoys remarkable freedom from typical corporate restraints in seeking out growth opportunities and in preparing to capitalize on them" (Hanan, 1969: 44).

Since the late 1960s, modern studies about CV emerged from business practitioners' observations of large firms mainly in the context of the US, such as Du Pont (Peterson, 1967)

[17]

and 3M (Adams, 1969). Leveraging insiders' viewpoint and data accessibility, they reported a special type of innovation practice adopted by large established firms. For example, in a HBR article "New venture management in a large company", Peterson (1967), Director of R&D at Du Pont, explored the way in which the large firm leveraged advantages of entrepreneurial small ventures by setting up a new venture group within the firm. Similarly, Adams (1969), General Manager of New Business Ventures Division at 3M, reported their innovation practice in an article entitled "An approach to new business ventures".

2.2.2 Emergence of seminal studies on Corporate Venturing

Since the 1970s, an academic foundation in the domain of CV was established mainly by several doctoral researchers. Notable among those researchers who substantially contributed to this area are Von Hippel (1973) at Carnegie-Mellon University; Fast (1977) at Harvard University; and Burgelman (1980) at Columbia University.

Eric von Hippel, who is later known as the iconic scholar of 'user innovation' (Von Hippel, 1988), conducted his doctoral research on determining factors for successful corporate venturing. In a PhD thesis entitled *An Exploratory Study of 'Corporate Venturing'—A New Product Innovation Strategy Used by Some Major Corporations* (Von Hippel, 1973), a distinction was made between firms' innovation *activity* (corporate venturing) and its *actor* (corporate venture) in the context of CV. The study defined 'corporate venturing' as "an activity which seeks to generate new businesses for the large corporation through the establishment of 'internal corporate ventures'" (Von Hippel, 1973: 1)[13]; whereas, an 'internal corporate venture' was defined as "an individual or group given (or having taken on) all aspects on the task of developing a new product concept, bring it to market, and carrying it through at least its initial

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[13] Later, Von Hippel (1977: 163) expanded the definition of CV to include both *internal* and *external CV*: "an activity which seeks to generate new businesses for the corporation in which it resides through the establishment of external or internal corporate ventures".

phases of marketplace activity" (*Ibid.*).

One of the key insights from Von Hippel's seminal work on CV (Von Hippel, 1973; 1977) is a clarification of key concepts in the CV context: *corporate venturing* (CV) is an innovation practice which involves the formation of (internal or external) *corporate ventures*, while *corporate ventures* are either an individual or group level actors in the corporate venturing activity of large established firms. From the 1970s and onward, the term 'corporate venturing (CV)' became more popular in an academic sense, rather than 'venture management' and 'new business venture approaches'. Table 2.1 summarizes definitions of CV from selective literature.

Table 2.1: Definitions of Corporate Venturing (CV)

Author(s)	Definition of Corporate Venturing (CV)
von Hippel (1973: 1)	CV is "an *activity* which seeks to generate new businesses for the large corporation through the establishment of 'internal corporate ventures'"
Biggadyke (1976)	"An *internal corporate venture* was defined as any start-up that: (1) originated internally; (2) was new to the company on at least two of the three dimensions of products, markets, or technologies; and (3) required significant investments of company resources to accomplish a result beyond the year in which the expenditure was made" (as cited in Day, 1994: 156).
von Hippel (1977: 163)	"*Corporate venturing* is an *activity* which seeks to generate new businesses for the corporation in which it resides through the establishment of external or internal corporate ventures"
Burgelman (1980: 8)	"*ICV* aims at developing a new product/market base around which a new business organization can be built, and which can be integrated into the overall corporate context after reaching maturity."
Guth and Ginsberg (1990: 5)	*Corporate venturing* is "the birth of new businesses within existing organizations".
McGrath et al. (1994: 352)	CV is "*entrepreneurial activity* within an established organization, meaning attempts to create products, enter markets, or introduce process innovations that are new to the firm."
Block and MacMillan (1993: 14)	CV is "the *activity* of the company when it: 1) involves an activity new to the organisation, 2) is initiated or conducted internally, 3) involves significantly higher risk of failure or large losses than the organisation's base business, 4) will be managed separately at some time during its life and 5) is undertaken for the purpose

	of increasing sales profit, productivity or quality."
Sharma and Chrisman (1999: 19)	"*Corporate venturing* refers to corporate entrepreneurial efforts that lead to the creation of new business organizations within the corporate organization. They may follow from or lead to innovations that exploit new markets, or new product offerings, or both."
De Bettignies and Chemla (2008: 505)	*CV* is "the financing and development of new business ventures by large established companies, either inside (intrapreneurship) or outside (corporate venture capital) the corporate structure."
Narayanan et al. (2009: 59)	"*CV* is the set of organizational systems, processes and practices that focus on creating businesses in existing or new fields, markets or industries—using internal and external means."
Leten and Dyck (2012: 243)	"*Corporate venturing* is a practice whereby a company sets up a separate organizational unit, the corporate venturing unit (CVU), to invest in new technological and business opportunities arising within or outside the boundaries of the firm, for long-term strategic and/or short term financial purposes."

Source: Elaborated by the author. Emphases are added in *italics*.

Von Hippel's work provides us with another insight as to the difference between CV and *new product development* (NPD). Von Hippel (1977: 173) argues that corporate venturing can be viewed as a variation of new product development. NPD in large organization settings needs to address the problem of "effective integration of specialists" (*Ibid*.: 164), and CV is a special "organizational means" (*Ibid*.) to integrate people having special skills in need (e.g. R&D, marketing, and manufacturing) by forming "small *ad hoc* groups of specialists" (*Ibid*.). Especially, he emphasizes that the key variation from NPD to CV comes from "the vesting of responsibility for the *complete* new product development process, from concept *through* initial marketplace activity, in one venture manager [who is the CEO of a corporate venture]" (*Ibid*.: 173; emphasis in the original).

Next, among those seminal studies on CV, Norman Fast's work focused more on the organizational structural side. In his PhD thesis, *The Evolution of Corporate New Venture Divisions* (Fast, 1977), Fast investigated special separate organizational units in charge of

corporate venturing within large firms. This unit is often called a 'New Venture Division (NVD)', which Fast (1977: 1) defined as "an organizational unit whose primary functions are (1) the investigation of potential new business opportunities, (2) the development of business plans for new ventures, and (3) the management of the early commercialization of these ventures". Using surveys and interview data from 18 companies and 3 follow-up case studies, he argued that the main forces affecting changes in the process of NVD are the *strategic posture* of the parent firm and the *political posture* of the NVD. Fast concluded that the NVD's long term mission to develop new business and its short-term life span would inevitably generate a *dilemma*, claiming that such a dilemma would be solved by "understanding and managing the evolution of an NVD" (Fast, 1977: 3).

Adding to Von Hippel's (1973; 1977) earlier insight into CV—which includes discussions about the innovation activity (corporate venturing), group level actors (corporate ventures), and key individual actors (venture manager, venture sponsor)—Fast (1977) contributed to the body of CV literature by drawing researchers' attention to the *NVD*, which is another group level actor with strong influence over CV activities. The attention to the NVD is followed by a line of research on the 'corporate venturing unit (CVU)' (e.g. Hill and Birkinshaw, 2008).

Finally, Robert Burgelman, who is now regarded as a strategy scholar in the Learning School (Mintzberg et al., 2009), made significant contributions in establishing CV studies as a prominent research domain. In the CV literature, for example, the most cited article is Burgelman's paper in 1983 on the process of 'internal CV (ICV)' (Burgelman, 1983b). It is mainly based on his doctoral research in the 1970s, *A Study of the Process of Internal Corporate Venturing* (Burgelman, 1980), where he observed six ICV projects of a large US chemical firm.[14]

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[14] 'Internal CV (ICV)' is one mode of corporate venturing, and the modes of CV will be reviewed in Section 2.3.

From a processual perspective, Burgelman argued that the main aim of ICV is "developing a new product/market base around which a new business organization can be built" (Burgelman, 1980: 8). While Von Hippel (1973; 1977) perceived that CV is a variation of new product development (NPD), where a range of responsibilities throughout the complete NPD process are vested in a single CV manager (i.e. the CEO of a corporate venture), Burgelman (1980: 8) highlighted that the main difference between CV and NPD is a *degree of novelty* in innovation. From Burgelman's viewpoint, ICV is a strategic means to achieve 'unrelated diversification' or 'radical innovation', which falls outside of the parent firm's existing business area.

Building on his original work, Burgelman published a vast quantity of subsequent publications on the complex and "multilayered picture of the strategic management process" (Burgelman, 1983b: 242) underlying the CV practice (e.g. Burgelman, 1983a; Burgelman, 1984b; Burgelman, 1983c; Burgelman, 1984a; Burgelman and Sayles, 1986; Burgelman, 1988; Burgelman and Valikangas, 2005). Although Burgelman had observed a *single* case study firm, his study advanced previous research on CV due to the in-depth qualitative analysis of a large incumbent firm from a processual perspective and his approach to the analysis of different hierarchical layers to examine "how a total organization works" (Burgelman and Sayles, 1986: 6).

In addition to the inductively developed process model of ICV (Burgelman, 1983b; Burgelman, 1984a), Burgelman pursued a 'theoretical generalization' (Yin, 2013) of the formulation of corporate-level strategy influenced by autonomous strategic behaviors (Burgelman, 1983a; Burgelman, 1988). Indeed, his efforts have contributed to the establishment of the CV and corporate entrepreneurship literature as a prominent domain in strategy and innovation studies. Considering the impact of Burgelman's work on the CV literature, it becomes clear that positioning outcomes of this study relative to his work is crucial. Hence, Burgelman's key literature and his findings will be critically reviewed in Section 2.3.2.

2.3 Modes of Corporate Venturing

In the 1970s, CV was undertaken by large firms as a promising managerial practice.[15, 16] CV researchers, however, faced academic challenges in articulating a clear definition of and ideas about the target research phenomenon because of the "heterogeneity of CV" (Narayanan et al., 2009), which captures the characteristics of CV programs that "vary significantly in their duration, objectives and organization" (Narayanan et al., 2009: 69). Rather than a singular concept, CV is more of organizations' innovation practice that "takes many different forms" (Campbell et al., 2003: 37). Specific forms of CV were stimulated by different external or internal stimuli, and this called for researchers to explore different modes of CV. [17]

2.3.1 Typology and taxonomy of CV

As to the diverse form of CV activities, Roberts and Frohman (1972) set out to explain it by using the '*spectrum* of venture strategies', which were composed of (1) internal entrepreneurial activities, (2) joint ventures, (3) spin-off, and (4) venture capital investments. The spectrum of venture strategies was later refined by Roberts (1980). Depending on the level of involvement and commitment by parent firms, he divided the spectrum with 'internal ventures' (i.e. *internal CV*) at the one end and 'venture capital investment' (i.e. *external CV*, or CVC) at the other end (Roberts, 1980: 135). In between these two were 'venture merging and

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[15] Based on studies in the early 1970s, Fast (1977: 1) estimated that "30 of the 100 largest U.S. industrial companies and as many as 25% of the Fortune 500 adopted" a new type of organizational structure to facilitate new business development during the period 1965 to 1975.

[16] Druker (1968/2011) predicted the 1970s will be the 'age of entrepreneurship' in the large corporation: "we are entering again an era in which emphasis will be on entrepreneurship. However, it will not be the entrepreneurship of a century ago, that is, the ability of a single man to organize a business he himself could run, control, [and] embrace. It will rather be the ability to create and direct an organization for the new. We need men who can build a new structure of entrepreneurship on the managerial foundations" (Drucker, 1968/2011: 43).

[17] In early studies, Hanan (1969), for example, articulated three types of *new venture approaches* depending on the level of ventures' freedom: (1) 'intracorporate ventures' (new business units within the parent firm), (2) 'intercorporate ventures' (joint business units by multiple firms), and (3) 'supracorporate ventures' (external business units with a maximum degree of freedom).

melding', 'new-style joint ventures', 'venture spin-off', and 'venture nurturing'

Maintaining the location of corporate ventures either *external* or *internal* to the firm (Roberts and Frohman, 1972; Von Hippel, 1977; Roberts, 1980), Sharma and Chrisman (1999) made a distinction between 'internal CV' and 'external CV'. *Internal CV* is "corporate venturing activities that result in the creation of organizational entities that reside *within* an existing organizational domain" (Sharma and Chrisman, 1999: 20; emphasis added); whereas, *external CV* is those activities carried out through "the creation of semi-autonomous or autonomous organizational entities that reside *outside* the … boundaries of the exiting organization" (Sharma and Chrisman, 1999: 19-20; emphasis added).

From a theoretical viewpoint, there is little consensus on CV typologies (Narayanan et al., 2009). For an example, Miles and Covin (2002), from the review of extant CV literature, developed a CV typology with two dimensions: (1) the focus (or source) of entrepreneurship, which is either *internal* employees or *external* start-ups and (2) the presence of investment intermediation, which is *direct* or *indirect* investment. Combining these two dimensions, CV types are divided into four generic forms (see Table 2.2).

Table 2.2: Typology of CV

		Presence of Investment Intermediation	
		Direct investment in the venture through the corporation's operating or strategic budgets	Indirect investment in the venture using financial intermediaries
Focus of Entrepreneurship	*Internal to the corporation*	Direct-Internal Venturing	Indirect-Internal Venturing
	External to the corporation	Direct-External Venturing	Indirect-External Venturing

Source: Miles and Covin (2002:24)

From an empirical viewpoint, Keil (2000) classified the modes of external CV based on in-depth

case studies of seven high-tech firms in the ICT sector (see Figure 2.1). As Maula (2001: 21) pointed out, such classification is important in developing an "understanding of the domain of corporate venturing". Considering its empirical origin, the suggested classification is a CV taxonomy.
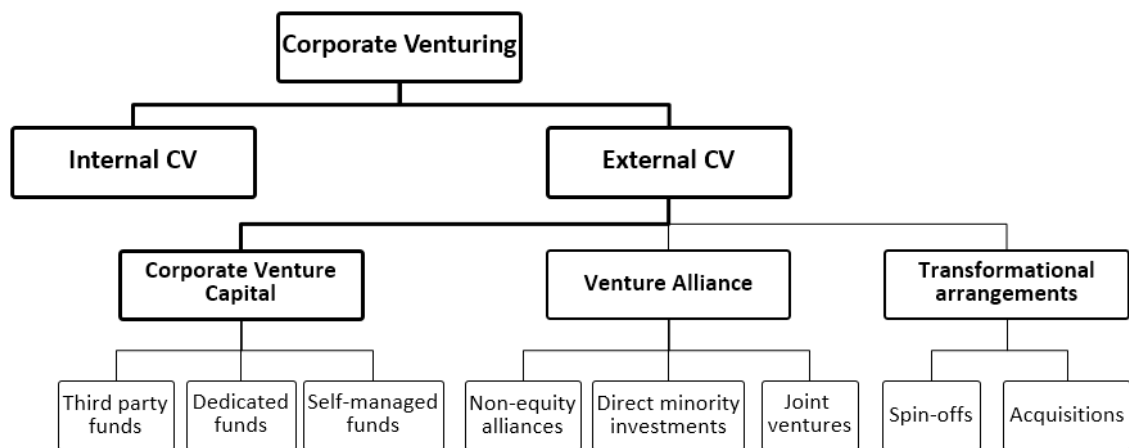
Figure 2.1 Classification of CV (CV taxonomy)
Source: Adapted from Keil (2000: 109).

Having reviewed the spectrum of CV and its typology and taxonomy, the criticism raised by Narayanan et al. (2009) still holds true: "little research effort has been devoted to refining and integrating proposed typologies" (Narayanan et al., 2009: 59). But perhaps more importantly, CV research needs to be advanced through efforts to understand its dynamics, such as the changing modes of CV within the spectrum. This calls for the need of program-level research in CV, which will be discussed in more detail in Section 2.5.1.

2.3.2 Internal CV and revisiting Burgelman's classic studies on ICV

In the 'spectrum of venture strategies' (Roberts, 1980), one far right end of the spectrum is *internal CV* (see Section 2.3.1). Highlighting the maximum level of involvement and commitment made by the parent firm, Roberts (1980: 136) explained that a company adopting *internal CV* "sets up a separate entity within itself—an entirely separate division or group—for the purpose of entering different markets or developing radically different products."

[25]

However, we need to make it clear about the *internal* and *external* distinction. As suggested by Sharma and Chrisman (1999), the focus of this distinction could be on the location of organizational entities newly established for CV activities, which are either within or outside an existing organization (see Section 2.3.1). This is in line with Von Hippel's (1973; 1977) approach, which distinguishes between internal and external CV depending on whether 'corporate ventures'—i.e. CV teams seeking to generate new business—are established external or internal to the firm (see Section 2.2.2). On the other hand, the distinction between *internal* and *external* CV may highlight the origin of entrepreneurial resources necessary for the firm to initiate a new business (Ginsberg and Hay, 1994). In a 'types of corporate entrepreneurship' framework, for example, Botkin and Matthews (1992) set one dimension of the framework to the 'origin' of entrepreneurial resources, which is also either *internal* (e.g. employees) or *external* to the firm (e.g. external start-ups and other individuals).

In this thesis, the term *internal CV* (ICV) is used to emphasize the *inside-out* trajectory of CV activities. As MacMillan et al.'s (2008: 1) put it, "Internal venturing programs "go inside" the firm and create entrepreneurial ventures from within the corporation." In other words, new business ideas are nurtured within the firm's boundaries through ICV (Von Hippel, 1977; Burgelman, 1983b), where sources of those ideas can be either internal or external to the firm. The ideas are then developed into new products or services through the ICV process (Burgelman, 1983b); and there are possibilities that CV teams built around the ideas could be spun off as external independent ventures or established as business units within the firm.

As mentioned in Section 2.2.2, Burgelman's study on ICV made a significant contribution to the CV literature. Although nearly forty years have passed since his study (e.g. Burgelman, 1983a; Burgelman, 1983b; Burgelman, 1983c), which has now become a classic on this topic, revisiting his seminal work will be important in finding gaps in the CV literature and articulating the study's positioning relative to the literature.

Burgelman's ICV research is largely based on a field study of the internal corporate venturing activities in a large diversified US chemical company (pseudonym: GAMMA) in the 1970s (Burgelman, 1980).[18] Those activities were mainly driven by a specialized organizational unit within the firm, which pertains to the "New Venture Division (NVD)" (Fast, 1977).

In Burgelman's study, the large firm undertaking ICV is interpreted as a combination of an *innovating system* and an *operating system* (Burgelman, 1980). The former is an organizational unit "geared toward business development in unrelated areas" (Burgelman, 1980: 7); whereas, the latter is a set of operating (business) divisions. Drawing on Bower's (1970) resource allocation process model, he articulated the ICV process in 'managing innovating systems', which is the very title of his PhD thesis. By examining the ICV process through which new products and markets are developed, Burgelman (1980; 1983c) argues that new business units emerged from an *innovating system* are converged into *operating systems* throughout the ICV process. Burgelman (1980) concludes that managerial problems could arise at the *interface* between the innovating system and the operating system within the firm.

One of the major contributions of Burgelman's empirical analysis is the formulation of a 'stage model of ICV' (Burgelman, 1983b). It should be noted that what this model describes is the sequence of developmental stages at the level of the *project* itself. The model was constructed by a comparative analysis of six ICV projects in GAMMA, and it is composed of four stages of ICV project: a *conceptual*, a *pre-venture*, an *entrepreneurial*, and an *organizational* stage (*Ibid.*). Table 2.3 shows the list of six ICV projects, where the stage reached by each project is indicated.

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[18] Burgelman (1980: 46) examined the Corporate Development Group (CDG) of a chemical firm in the US, which was formed in 1971.

Table 2.3: Burgelman's (1983b) stage model of ICV

Stages of Development Reached by Six ICV Projects

Project	Conceptual	Stages Pre-venture	Entrepreneurial	Organizational
Medical Equipment	*	*	*	*
Environmental Systems	*	*	*	
Farming Systems	*	*	*	
Improved Plastics	*	*		
Fibre Components	*	*		
Fermentation Products	*			
Projects observed	6	5	3	1
Real time observations	1	2	2	1

Note: An asterisk indicates that the project reached this stage prior to the conclusion of the study.

Source: Burgelman (1983b:228)

The stage model of ICV (see Table 2.3) provides a framework through which the chronological development of ICV projects can be systematically analyzed. In the case of GAMMA, for example, the shift from a *conceptual* stage to a *pre-venture* stage captures the development of an ICV project where "an idea for a new business opportunity evolves into a concrete new product [and service] around which a pre-venture team of R&D and business people is formed" (*Ibid.*: 231). These two stages often "take place in the context of the corporate R&D department" (Ibid.). Next, the ICV project reached an *entrepreneurial* stage "was transferred with venture status to the business development department. ... [It] acquired its own organization, general manager, and operating budget, thus becoming an embryonic new business organization in the department" (*Ibid.*: 233). Finally, the project reached an *organizational* stage received "the decision to integrate this new unit into the operating system of the corporation as a freestanding new division or as a major new department of an existing division" (*Ibid.*: 233). Although specific processes of, and organizational structures for ICV may be different in different organizations, Burgelman's stage model provides us with a useful guidance to analyze the development of ICV projects (or, CV teams).

Another major contribution generated from Burgelman's empirical analysis is a 'process model

[28]

of ICV' (Burgelman, 1983b). He asked the research question about how "a diversified major firm transforms its R&D activities at the frontier of corporate technology into new businesses through internal corporate venturing (ICV)" (Burgelman, 1983b: 223). The research was then framed as a process study of ICV, resulting in the generation of an "inductively derived process model for ICV at GAMMA" (*Ibid.*: 229) (see Figure 2.2).

The process model of ICV was developed by connecting a project level analysis of six ICV projects and a corporate level analysis of the parent firm, GAMMA. Burgelman examined the historic development of ICV projects during a fifteen-month period, and interviewed actors at different hierarchical layers across the firm (sixty-one people in total), including project members, directors of departments, and corporate management. The connection between different levels of analysis—i.e. between the project level and the corporation level analyses— was enabled by adopting a process-model approach proposed by Bower (1970), which was originally applied to a resource allocation process in the context of capital investment in a large manufacturing company.
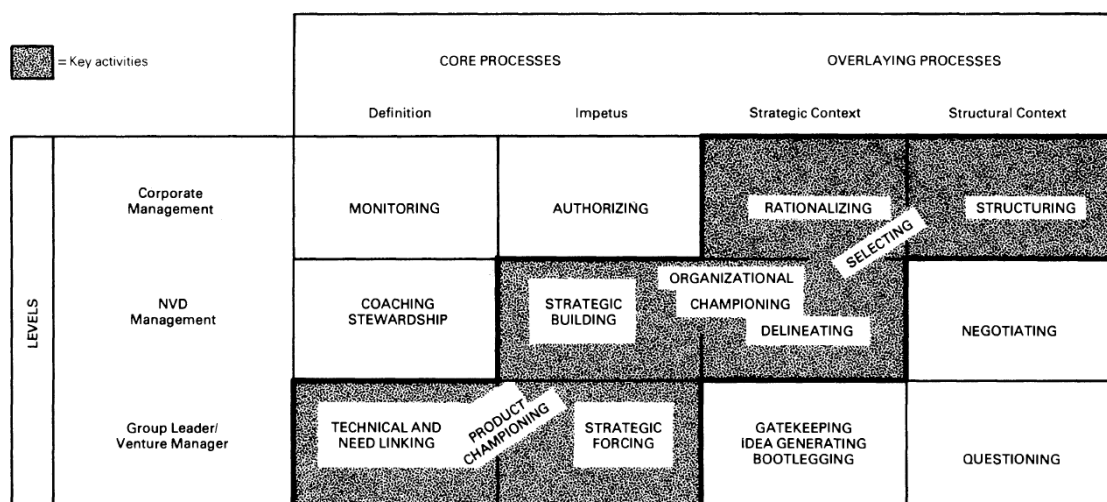
Figure 2.2 Burgelman's (1983b) process model of ICV
Source: Burgelman (1983b: 230).

Its explanatory power and managerial insights, which the process model provides, need to be carefully reviewed, because there is a danger of misinterpretation of the model due to the

complexity and an overlap with the stage model of ICV; perhaps the latter is not explained clearly enough in Burgelman's (1983b) paper. On the one hand, the *core processes*—which include the *definition* and the *impetus* processes—focus on the development of an ICV project *per se* (*Ibid.*: 229). In the process model (see Figure 2.2), the *definition* process encompasses the development of an ICV project from a conceptual stage to a pre-venture stage (*Ibid.*: 231); whereas, the *impetus* process encompasses the development of an ICV project from an entrepreneurial stage to an organizational stage (*Ibid.*: 233). One the other hand, in the *overlaying processes*—which include the *strategic context* and the *structural context* processes—the focus is on the development of a corporate-level context under which the selection of ICV projects and the updates of corporate strategy take place (*Ibid.*: 228).

In terms of managerial insights, the process model of ICV helps clarify the sequence of key *activities* conducted by different levels of actors (e.g. group leader/venture manager; NVD management; and corporate management) while ICV projects are developed along the four stages of ICV (from a conceptual stage to an organizational stage; see Table 2.3). For example, in the *definition* process of ICV (see Figure 2.2), R&D and business people conduct 'technical and need linking' led by a group leader (or, a venture manager); the NVD management conduct 'coaching stewardship'; and the corporate management performs 'monitoring' activity.

Next, Burgelman's process model informs us about key activities in the ICV process and the actors of those activities. Firstly, *product championing* is the activity which aims to turn a new idea into a new viable product (or service) and to create market interest in it (*Ibid.*: 232). By demonstrating the potential value of a new product (or service), the product champion enables an ICV project, which is organized around the new product, to progress from a pre-venture stage to an entrepreneurial stage. The ICV project then becomes "an embryonic new business organization" (*Ibid.*: 233) with an official venture status. In the ICV process, as highlighted by Burgelman (*Ibid.*: 234), the product champion usually becomes the *venture manager* of an ICV

project at an entrepreneurial stage.

Secondly, Burgelman reveals another key activity called *organizational championing*, which is to link the development of an ICV project with the corporate-level strategic context. *Organizational championing* aims to "make corporate management see the strategic importance of a particular new business field for corporate development" (*Ibid.*: 238); hence the activity requires "the rare capacity to evaluate the merit of the proposals and activities of different product champions in strategic rather than in technical terms" (*Ibid.*). Burgelman observed that this activity was often performed by the business development manager who played the role as the "venture manager's manager" (*Ibid.*: 241).

Finally, Burgelman highlights the role of *structuring* conducted by the corporate management in the ICV process. Large innovative firms are, according to Burgelman (1984b: 156), "likely to possess a reservoir of entrepreneurial potential at operational levels that will express itself in autonomous strategic initiatives." Burgelman (1983b: 229) argues that "ICV is primarily a bottom-up process", because it is mainly driven by 'autonomous strategic behavior' (Burgelman, 1983a) of individuals at the operational level of the large innovative firm.

Considering the bottom-up characteristic of ICV, the process model explains that corporate management (i.e. top-level managers) can exert control over the ICV process "through the manipulation of structural context" (*Ibid.*: 242). According to Burgelman, 'structural context' "refers to the various organizational and administrative mechanisms put in place by corporate management to implement the current corporate strategy" (*Ibid.*: 229). The structural context creates an internal selection environment in which "the autonomous strategic initiatives emerging from below [i.e. from operational levels] competed for survival." (Ibid.: 240). Here, structural context is determined by corporate management through *structuring* activity, which Burgelman provides examples of:

[31]

The creation of the NVD as a separate organizational unit, the definition of positions and responsibilities in the department of the NVD, the establishment of criteria for measuring and evaluating venture and venture-manager performance, and the assignment of either entrepreneurially or administratively inclined managers to key positions in the NVD all seemed intended to affect the course of ICV activity. (Burgelman, 1983b: 239–240)

In section 2.5, Burgelman's work reviewed in this subsection will be linked to some gaps in the CV literature, which will guide how this thesis can be embedded in the CV literature.

2.3.3 External CV and Corporate Venture Capital (CVC)

The other end of the 'spectrum of venture strategies' is 'venture capital' (Roberts, 1980). Highlighting the feature of equity investment made by incumbent firms, this activity is called '*corporate venture capital* (CVC)' (e.g. Keil, 2000; Maula, 2001; Dushnitsky and Lenox, 2005). *CVC* is a way in which incumbent firms tap themselves into external entrepreneurial ventures, and Dushnitsky and Lenox (2005: 615) define CVC as "equity investment by incumbent firms in independent entrepreneurial ventures, i.e., relatively new, not-publicly-traded companies that are seeking capital to continue operation". The term CVC highlights the feature of venture investment, which allows the incumbents to make linkages with external ventures. Here, venture funds are sponsored by incumbent firms performing as corporate investors (Gompers and Lerner, 1998).

In Keil's (2000) CV taxonomy (see Figure 2.1), *CVC* was classified as a main mode of external CV along with 'venture alliance' and so-called 'transformational arrangements', which includes 'spin-offs' and 'acquisitions'. However, in many cases, 'alliances' between ventures and investing firms can be viewed as a subset of CVC investments (Van de Vrande and Vanhaverbeke, 2013). In addition, rather than a mode of external CV, 'spin-offs' could be an example of an outcome of internal CV. Finally, 'acquisitions' are usually conducted for multiple reasons, which may be difficult to justify as only a case of external CV (Narayanan et al., 2009).

Therefore, although there is a viewpoint which sees CVC as one mode of external CV along with alliance (or joint ventures) and acquisitions (e.g. Keil, 2000; Schildt et al., 2005; Titus et al., 2017), this thesis uses the term 'external CV' and 'corporate venture capital (CVC)' interchangeably. Here, the term *external CV* highlights the *outside-in* trajectory of CVC activities, which is in line with MacMillan et al.'s (2008: 1) description: "External venturing programs "go outside" the firm and tab external sources of innovation." By *external CV*, in other words, incumbents invest in external start-ups, which may include an alliance with them, with the aim of incorporating their resources (e.g. technology, human resources) into the firm.

Firms undertake CVC mainly in two modes (Gompers and Lerner, 1998). First, they invest *indirectly* in external start-ups by providing funds for independent venture capital (VC) organizations.[19] Next, some companies choose to invest *directly* through the establishment of their own fund management units, which are similar to traditional VCs' organizational structures. Drawing on Miles and Covin's (2002) CV typology with a minor modification, these two modes of CVC pertain to *direct-external CV* and *indirect-external CV* (see Table 2.2).

The study of CVC goes back as early as Rind (1981) in strategy literature. According to Rind (1981: 169), CVC is firms' venture investment through "direct venture capital investment and/or investment as one of many limited partners in a conventional venture capital partnership". Examining a list of firms actively undertaking CVC, he identified that about 20 firms in the US were performing CVC programs, and he expected that more companies will adapt the direct venture capital model in the future for financial and strategic gains.

Since then, a number of studies were carried out focusing on the managerial implications and success factors for CVC (Hardymon et al., 1983; Sykes, 1986; Bleicher and Paul, 1987; Sykes,

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[19] Venture capital (VC) is defined as "equity or equity-linked investments in young, privately held companies, where the investor is a financial intermediary who is typically active as a director, advisor, or even manager of the firm" (Gompers and Lerner, 1998: 6).

1990). Whereas, a financially rigorous study on CVC was that of Gompers and Lerner (1998) who investigated the difference between CVC and traditional VC firms. By comparing investment performance between CVC and VC, they suggested that CVC is as successful as independent VC, "particularly when there is a strategic overlap between the corporate parent and the portfolio firm" (Gompers and Lerner, 1998: 3). And they claimed that a parent firm's strong strategic focus on the portfolio firms is critical.

After the beginning of the new millennium, researchers identified a new wave of CV. Chesbrough (2000) highlighted that CVC was the main mode of CV in this new wave. Recently, CB Insight, a consultancy firm based in New York, reported that the number of new CVC peaked in 2015 with about seventy new CVC units globally.[20] This echoes earlier insights by Rind (1981).

2.4 Why do firms engage in Corporate Venturing?

Researchers have investigated what drives firms to undertake corporate venturing activities. Most previous research agrees that objectives for CV can be grouped into *financial* and *strategic objectives* (e.g. Gompers and Lerner, 1998; Maula, 2001; Campbell et al., 2003; Narayanan et al., 2009). CV can be regarded as an *organizational response* prompted by external stimuli, such as looming crisis in industries (e.g. an economic slowdown in a firm's main business areas) which requires a new approach for mitigating risks. It can also be viewed as incumbent firms' *proactive action* taken outside of any direct stimulus to overcome internal constraints which cannot be met by only relying on existing structures and business efforts. In both cases, the objectives pursued by CV activities need to be clearly articulated. It is because, as Campbell et al. (2003: 36) suggested, the ambiguity over a CV's objectives can generate the

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[20] *CB Insights* (2015) 'Number of New Corporate VCs Set for New High In 2015', Available from: https://www.cbinsights.com/research/new-corporate-venture-capital-firms/ [Accessed 20 September 2016]

danger of mixed messages, which may well result in the failure of CV.

2.4.1 Financial objectives

Financial objectives for CV are relatively simple in both modes of CV (internal and external CV): to achieve financial gains by ensuring return on investment (e.g. Siegel et al., 1988; Lerner, 2013). In the early stages of CV history, internal CV in particular was adopted by established companies to develop radically new business using new technologies (Burgelman and Sayles, 1986). This was a means of business diversification, which ultimately prioritized the financial objective over other objectives. In the case of external CV, or CVC, as it was based on the model of independent VC firms, it would be natural that firms at first pursued financial gains from their venture investments.

Ralph Biggadike, in *The Risky Business of Diversification* (Biggadike, 1979), examined the strategy for internal CV with the emphasis on its role as a means of business diversification.[21] His work influenced researchers to unravel the effect of CV's *aggressive entry timing*, and triggered a new strand of CV research focusing on CV's financial objectives. Maintaining the definition in the Profit Impact of Market Strategies (PIMS) database, Biggadike defined the *corporate venture* as "a business marketing a product or service that the parent company has not previously marketed and that requires the parent company to obtain new equipment or new people or new knowledge" (Biggadike, 1979: 104). He estimated that "new ventures need, on the average, eight years before they reach profitability" (*Ibid.*: 106). He also suggested that this eight-year period "would be reduced if higher relative share were achieved in the early years" (*Ibid.*: 110), emphasizing the need for large-scale entry made by CV activities and the importance of building market share (one of the financial objectives):

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[21] This article was developed originally from the author's PhD thesis at Harvard University published in 1976: *Entry, Strategy and Performance*.

> [A] venture's objective for its early years should be to build share, regardless of short-run financial performance. ... perhaps the biggest risk is entering too small. ... [T]o enter on a large scale is the best strategy. (Biggadike, 1979: 108)

Consequently, a line of CV research was carried out using the PIMS database, such as success factors for financial performance (Miller and Camp, 1985); the effect of aggressive entry (MacMillan and Day, 1987); entry order (Miller et al., 1989); the impact of strategy and environment (Tsai et al., 1991); and the relatedness between CV teams and the parent firm (Sorrentino and Williams, 1995). However, the PIMS database provided the data for corporate ventures that survived until the first four years of their operation—termed "start-up"—and this possessed some limitations in capturing various aspects of CV activities (McGrath et al., 1992a). For example, CV activities conducted for strategic objectives with a time frame of less than four years had to be ignored. This constitutes a challenge to the study of CV's financial objectives, which urges researchers to critically address the use of public financial databases.

2.4.2 Strategic objectives

Today, rather than relatively narrow financial objectives, it is widely accepted that CV has a much broader range of *strategic objectives* as a 'strategic vehicle' of the firm (e.g. Covin and Miles, 2007; Anokhin et al., 2016). CV is also an important part of firms' innovation strategies (Dushnitsky and Lenox, 2005), and there are numerous ways by which this innovation practice can contribute to firms' strategic benefits (Gompers and Lerner, 1998; Covin and Miles, 2007).

As to the strategic objectives of internal CV, Tidd and Taurins (1999) argued that motives for internal CV can be grouped into two types: *learning* and *leveraging*. Based on the examination of fifteen firms in the UK, Tidd and Taurins (1999: 123) identified that some firms conducted internal CV "to leverage existing competencies" such as to utilize slack resources or to expand current businesses, whereas other firms utilized internal CV "to learn new competencies" such as to build new capabilities. Considering motives are—implicit or explicit—reasons for

activities, these two types of motives can be regarded as firms' objectives for internal CV, and the result shows that the identified motives are largely *strategic objectives*.

In the case of external CV, or CVC, the range of its *strategic objectives* is much more diverse. Researchers have suggested that incumbent firms undertake CVC: (1) to access to a window on new technologies (Benson and Ziedonis, 2009; Sahaym et al., 2010; Van de Vrande and Vanhaverbeke, 2013); (2) to bring in new ideas from external sources (MacMillan et al., 2008); (3) to identify acquisition opportunities (Benson and Ziedonis, 2010); (4) to be involved in VC syndication networks (Keil et al., 2010) and monitor market trends spontaneously (i.e. intelligence-gathering) (Lerner, 2013); (5) to recruit and retain talented employees (De Bettignies and Chemla, 2008); and (6) to nurture entrepreneurial corporate culture (Dushnitsky, 2006). Maula (2001) classified strategic objectives of external CV into *learning*, *option building*, and *leveraging*. Overlaying the classification of internal CV (Tidd and Taurins, 1999) with those of external CV (Maula, 2001), a remaining dimension of classification, *option building*, highlights distinctive strategic features of CVC. These include an identification of acquisition opportunities through CVC activities and a consideration of early stage equity investments to external ventures through CVC funds.

In the history of CV research, a new stream of research emerged in the early 1990s which criticizes previous CV studies for their financially oriented approach, paying less attention to non-financial objectives (e.g. McGrath et al., 1992a; McGrath, 1995; Keil et al., 2009). Instead, this new stream of CV study urges to pay closer attention to strategic objectives pursued by CV activities. For example, McGrath, Venkataraman, and MacMillan (1992a) point out that incumbents' CV activities have typically been measured for success or failure mainly by using financial criteria (e.g. return on investment or market shares). However, they argue that many firms conduct CV as a mechanism for generating *new resource combinations*, which may well be specific to each firm (McGrath et al., 1992a; McGrath et al., 1994).

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From this alternative viewpoint, definitions of *success* for CV can be different, and some perceived CV failures can even be framed as "desirable disappointments" (McGrath et al., 1992b). Claiming disappointments during CV operations are inevitable, McGrath (1995) suggests that managers of CV activities can learn and benefit from disappointments. Based on a single firm case study of a large high-tech company, the study emphasizes strategic benefits of *learning*, or developing new competencies, through CV activities. Similarly, based on a single firm case study of a large European electronics firm, Keil, McGrath, and Tukiainen (2009) argue that the main benefit of CV activities is the development of new capability rather than CV teams' commercial success. The study argues that, although CV activities are mostly seen as failures from a financial perspective, knowledge and capabilities developed, or learned, through CV can be maintained within the firm (Keil et al., 2009).

In this line of CV research which emphasizes strategic aspects of CV and the value of 'learning from failure', the Resource-Based Theory (RBT) has been suggested as a potential theoretical perspective to develop a deeper understanding of CV's contribution to the firm (e.g. McGrath et al., 1994). A fundamental premise of the RBT is the *heterogeneity* of the firm (e.g. Penrose, 1951), and CV is closely linked to the generation of the heterogeneity because it enables the firm to uniquely combine internal and external resources in new ways. As McGrath et al. (1994: 355) put it, "the experimental learning created through [corporate] venturing allows a firm to create firm-specific and idiosyncratic insight into future possibilities". Here, what contributes to the firm's uniqueness includes managerial actors conducting CV activities. It is because "no two individuals are likely to develop the same set of belief structures … they will tend to simplify reality in an idiosyncratic way" (*Ibid*.). Considering its firm-specific nature of CV activities, it can be suggested that case studies of a single firm could generate both theoretically and empirically meaningful contributions. From the perspective of the Resource-Based Theory, however, we still have a limited understanding of how firms conduct CV

activities as a way to combine resources in new ways (for their survival and future growth). This calls for further research on CV focusing on the process side of CV, and this will be discussed in the following section.

2.5 Concluding reflection

Selective CV literature has been reviewed in this chapter. Findings from the review shed light on several gaps in the CV literature which can be addressed by this thesis. These gaps are closely related to further study areas in the CV literature that are also found from the review of Burgelman's seminal studies on ICV (in Section 2.3.2). This section summarizes those gaps and explores potential contributions the thesis can generate towards the CV literature.

2.5.1 CV programs as strategic vehicles

CV is an innovation practice undertaken by large established firms with a range of objectives. Many researchers and practitioners agree that CV activities are not so much a means for only achieving financial objectives as they are *strategic tools* available to firms. Here, it should be noted that CV is not a singular and predefined object such as different tools in a toolbox; it is rather a multipurpose tool including multiple features.[22] Considering CV as a strategic vehicle, the study of CV activities at the level of the *program* becomes an important research agenda. A 'program' is a collection of related processes that are articulated to implement a specific practice. In corporate settings, resources are officially allocated to the program once its plan secures an approval from the management by convincing them of the program's legitimacy. Therefore, the CV program can be an effective unit of analysis to understand strategic use of CV practices, and there are some examples of program-level studies (e.g. Exxon's 'Exxon New

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[22] The researcher acknowledges that this idea of 'CV as a singular objective' was inspired in a discussion with Professor Edward Steinmueller.

Ventures' program (Sykes, 1986); IBM's 'Innovation Jam' program (Bjelland and Wood, 2008)).

However, we have, it would seem, a limited understanding of CV practice at the level of the *CV program*. For example, as reviewed in Section 2.3.2, even Burgelman's research on ICV is based on the study of projects rather than specific programs. Burgelman (1983b) interpreted the process model of ICV by analyzing six internal ICV projects. This model explained the ICV process as the development of *bottom-up* and *autonomous* strategic behaviors of actors at the operation level, which was later rationalized by the corporate management in a *top-down retrospective* way (*Ibid.*). As Burgelman (1983b: 229) put it, ICV was regarded as "primarily a bottom-up process", which is not necessarily the result of deliberate, top-down strategic planning. Even with the establishment of the NVD (or a CV unit), Burgelman claimed that it could be "a manifestation of corporate management's uneasiness with autonomous strategic behavior" (*Ibid.*: 242), trying to consolidate ICV efforts without a clearly formulated strategy.[23] In the classic study of ICV, there is no description of CV programs which were deliberately planned and operated by the firm.

Today, large firms' knowledge of CV practice has advanced, although CV activities often show patterns of "seemingly endless cycle" (Burgelman and Valikangas, 2005: 26), or *CV cyclicality* (see Section 1.2.2). Perhaps CV activities cannot just be regarded any more as a firm's response to bottom-up and autonomous strategic behaviors. Now, firms proactively adopt CV as an innovation practice with different forms of *CV programs.* Through meticulously designed CV programs, different modes of CV (e.g. internal and external CV*)* can be mixed (MacMillan et al., 2008: 1). For example, as already reported by Sykes (1986), who was a CV manager of the Exxon New Ventures program, Exxon's CV program was originally a "mix of venture capital and

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[23] In Burgelman's (1983b) own words, "The establishment of a separate, new venture division may be more a manifestation of corporate management's uneasiness with autonomous strategic behavior in the operating system than the adaptation of the structure to implement a clearly formulated strategy" (Burgelman, 1983b: 242).

internal investments" (Sykes, 1986: 276), thorough which 19 ICV projects and 18 CVC investments were managed between 1970 and 1980. Also, the design of a CV program can extend sources of new ideas to include people outside the firm beyond internal employees (e.g. Chesbrough, 2003).

This suggests that the CV literature needs to be updated by further program-level studies on CV, which then can provide insights for the strategic management of CV activities. In addition, the review of the CV literature suggests that it is timely to move beyond typology or taxonomy type of studies about modes of CV activities. As noted in Section 1.3.1, this thesis aims to develop a better understanding of *CV cyclicality* at the level of the firm in a way that helps managers manage CV activities. The thesis therefore addresses the question about how *corporate venturing* activities (or programs) are developed, terminated, and then re-started at the case firm. Hence, this research can contribute to the CV literature as a program-level study on the process of CV activities of a large firm.

2.5.2 CV unit as a main actor of CV

Considering CV as an innovation practice, the study of main actors of CV activities becomes an important research agenda. In general, innovation practice is mainly driven by *entrepreneurs*, who are seen as "an individual or group who sees an opportunity and takes the risk of trying to exploit it" (Tidd and Bessant, 2014: 7). In CV settings, there is a wide range of entrepreneurial actors including people within the firm (e.g. employees who propose their entrepreneurial ideas) and often outside the firm (e.g. members of external start-ups invested in by a CVC fund).

For the examination of main actors of CV, the review of the CV literature suggests that the multi-hierarchical nature of large firms needs to be taken into consideration. Firms were often regarded as a unitary agent, or "a singular decision taker" (Grant, 1996). In reality, however, firms are organizations with multiple layers of units, where each unit has actors with different

roles and authorities (e.g. managers, senior managers, top management, etc.).

As to the multiple levels of strategy and structure in CV settings, Narayanan et al.'s (2009) systematic review of the CV literature in the period from 1995 to 2004 provides a good frame of reference. The review identifies that CV practices have been examined at three levels of analysis: (1) the *parent firm-*; (2) the *CV unit-*; and (3) the *CV team-level*. Studies on CV at the *parent firm-level* have focused on types and objectives of CV activities from parent firms' viewpoint. They also include studies of CV landscapes using global surveys (e.g. Battistini et al., 2013) and the scale of CVC investments (e.g. Dushnitsky and Lenox, 2005). At the *CV unit-level*, research on CV has examined the design and performance of CV programs (i.e. *program-level* analyses) and the structure of the *CV unit* itself (e.g. Hill and Birkinshaw, 2008). At the *CV team-level*, CV studies include the development of internal CV teams (e.g. Keil et al., 2009) and also the examination of external start-ups backed by CVC funds (e.g. Park and Steensma, 2012).

Having identified the three levels of CV analysis, it can be claimed that individual actors residing within the *CV unit* (or the NVD) are the main actor of CV activities. Those individuals are responsible for managing CV programs, and they themselves can be regarded as entrepreneurs. Here, the *CV unit* plays a key role as a collective actor in designing and operating CV programs; hence, to develop a clear understanding of the CV unit becomes an important research topic.

However, the review of the CV literature suggests that our understanding of the *CV unit*, as a main actor of CV, has not yet been sufficiently advanced after Burgelman's (1983b) classic study on internal CV. As reviewed in Section 2.3.2, Burgelman investigated the multilayered hierarchy of actors in CV settings, and underlined the crucial role of middle-level managers residing in the New Venture Division (NVD) (i.e. the CV unit). The CV unit plays a key role of *organizational championing* as a group of "venture manager's manager[s]" (*Ibid.*: 241). Whereas, top-level managers exert control over the CV activities "through the manipulation of

structural context" (*Ibid.*: 242) by *structuring* activity, which includes "[t]he creation of the NVD as a separate organizational unit [and] the definition of positions and responsibilities in the department of the NVD" (ibid.: 239–240).

Recently, CV researchers began examining more about the CV unit such as a typology of CV unit (Hill and Birkinshaw, 2008) and its interaction between the parent firm (Hill and Birkinshaw, 2014).[24] However, we still have limited knowledge of the CV unit, such as the role of CV unit associated with CV programs; the formation of the CV unit; and the interaction between the CV unit and other parent firm- and the CV team-level actors.[25] This calls for further research on the CV unit to develop a better understanding of the main actors of CV activities. As we shall see in Section 3.4.2, this thesis develops a conceptual framework about the direction of CV which considers the CV unit as one of the dimensions. Therefore, part of this thesis can be positioned in the CV literature as a study on the CV unit within the large firm.

2.5.3 A processual approach to CV research

One of the general consensus in the CV literature is that *managing CV is not an easy task* which poses a number of managerial challenges (e.g. Sykes and Block, 1989; Block and MacMillan, 1993; Burgelman and Valikangas, 2005; Lerner, 2013). Not surprisingly, the idea of *venturing* by large incumbent firms, as if they were small and innovative start-ups, has been regarded as 'oxymoronic' (e.g. Burgelman, 1984b) and 'paradoxical' (e.g. Ginsberg and Hay, 1994). From

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[24] Hill and Birkinshaw (2008: 425) defined the 'corporate venture unit (CVU)' as "a distinct organization unit controlled by the parent firm that has responsibility for investing in business opportunities that are new to the corporation … which may engage in a variety of forms of investment, from making investments in independent start-ups, to incubating internal business ideas, to spinning out businesses."

[25] As the role of actors in CV settings, Day (1994) examined the role of champions at different levels (e.g. bottom-up, top-down, and dual-role champions) in internal CV, and suggested that the dual-role champion in the firm's upper ranks "who acts both as product champion and organizational sponsor" (Day, 1994: 148) is important when innovative ideas are highly uncertain. Recently, Basu et al. (2016) explored the process of external CV in searching for external knowledge and integrating it into the parent firm. They found that managers in CVC units play a key role in "building bridges between specific [external] ventures and relevant mainstream units [inside the firm]" (Basu et al., 2016: 149).

the review of Eastman Kodak's CV activities and its failure in the 1980s, Ginsberg and Hay (1994) correctly highlighted the oxymoronic nature of CV activities in large firms:

> Organizations are designed to administer, maintain, and protect the status quo; ventures strive to create and nurture that which has never existed before. Managers are responsible for developing routines to handle day-to-day problems; entrepreneurs must be free to operate strategically and to allocate resources in response to highly unstructured conditions. … Can the entrepreneurial and the management function coexist successfully in the same company? (Ginsberg and Hay, 1994: 384–385)

If the firm wants to use the CV as its strategic vehicle, and to avoid an oxymoronic trap, if there is one, it would be important to have a clear understanding of the *process* of CV activities. Enkel and Goel (2012) also suggested that, for example, procedural clarity and procedural discipline of CV are critical factors for the successful management of CV.

Since the process study of ICV (Burgelman, 1983b), CV researchers endeavored to develop an understanding of the CV process (e.g. Sykes and Block, 1989; Block and MacMillan, 1993). More recently, researchers have examined diverse facets of the CV process, which include the process of idea generation (e.g. Husted and Vintergaard, 2004); capability building (e.g. Keil, 2004); and organizational structuring (integration of corporate ventures into business divisions) (e.g. Van Burg et al., 2012). The review of the CV literature, however, suggests that there need to be more studies on the CV process which take into consideration CV programs and their main actors (e.g. the CV unit).

In Section 1.2.2, this thesis particularly highlighted *CV cyclicality* at the level of the firm. Some studies in the CV literature have mentioned the waxing and waning of CV activities (e.g. Gompers and Lerner, 1998; Chesbrough, 2000; Dushnitsky and Lenox, 2005; Burgelman and Valikangas, 2005; Lerner, 2013). Here, recurrent patterns of CV activities, which include start, termination, and re-initiation of those activities, may collectively contribute towards the *cyclicality* in corporate venturing. With regard to this recurrent phenomenon, this thesis

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specifically addresses our knowledge of the *cyclicality of CV* at the firm level (see Section 1.2.2).

In the extant CV literature, there are exploratory but contested viewpoints on the cyclical nature of CV activities: *termination* versus *evolution*. For example, Gompers and Lerner (1998) explained that CVC (a mode of CV) was designed for the "periods of severe technological discontinuity" (Gompers and Lerner, 1998: 4), describing CV programs as an activity that is originally meant to be short-lived and soon terminated. This being the case, a firm's 'CV cycles' could be the result of *termination* of CV activities (or programs) repeated over time.

Whereas from the viewpoint of *evolution*, CV cycles can be a result of deliberate and experimental effort. Back in the 1970s, Norman Fast (e.g. Fast, 1977; Fast, 1978) helpfully supplied an insight. Fast (1977) argued that NVDs' long term mission—to develop new businesses—and their short-term life span ultimately generates a dilemma. Among the eighteen NVDs (or, CV units) he studied, half of them were terminated during the study, showing an average life span of four years. However, he found that those surviving NVDs were *evolved* as well by changing, for example, objectives and types of activities (e.g. CV programs). If this is the case, we need to know more about the evolution of CV units and CV programs in order to develop a deeper mature understanding of *CV cyclicality*.

As will be discussed later in the thesis, this thesis is a process study of CV activities which takes consideration into both the main objective of CV programs and the main actor (i.e. the CV unit). Findings of the study will provide an insight as to the recurring phenomenon of *CV cyclicality*. In addition, given the emphasis on CV as a means to innovative new *resource combinations* to create a new business (Sharma and Chrisman, 1999), this study will cast light on the process of combining resources in new ways through CV activities.

CHAPTER 3
RETHINKING 'DIRECTION' AND
DEVELOPMENT OF AN ANALYTICAL FRAMEWORK

3.1 Introduction

In Chapter 1, managerial challenges practitioners face in managing corporate venturing (CV) were identified. Key challenges found through engaging with those practitioners were converged into the concept of 'direction' (see Section 1.3.2). As emphasized by Tidd and Bessant (2014: 21; emphasis added), "*innovation* is about creating value through change", and hence rather than random changes, managing innovation in a strategic manner requires a "clear sense of *direction*". However, interactions with, and observations of, a number of managers across different hierarchical levels revealed that there is often considerable *ambiguity* about how the concept of 'direction' is interpreted by actors within the organization. Motivated by this managerial problem, this chapter sets out to address the research questions of the thesis (see Section 1.3) by exploring different understandings of *direction* in strategic settings and also in the context of CV activities.

In general, the word *direction* is used in a colloquial sense. For example, the *Oxford dictionary* defines *direction* as "a course along which someone or something moves"; "a general way in which someone or something is developing"; and "general aim or purpose".[26] Going back beyond the modern dictionary, the English word 'direction' came from the Latin verb *dirigere*, which means 'to set straight'.[27] According to an etymology dictionary, initially in the fourteenth century, the word was about "orderly arrangement", which is about putting things

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[26] *Oxford Dictionary* (n.d.) 'Definition of *direction* in English' Available from: https://en.oxford dictionaries.com/definition/english [Accessed 25 January 2017]

[27] The word *dirigere* is composed of 'di' which means 'apart' and 'regere' meaning 'to keep straight'. The normative noun form is *directio*.

in order. [28] In the fifteenth century, however, it is described as the "action of directing" something. By the 1660s, its meaning became a "course pursued by a moving object", which is the modern meaning of *direction*. [29]

In modern academic discourse, the notion of *direction* has been extensively applied when examining and describing changes in a variety of target objects and phenomena. For example, Arrow's (1962) classic study on the resource allocation for innovation was part of a book entitled *The Rate and* <u>*Direction*</u> *of Inventive Activity* (emphasis added). Because of its inseparable relationship with *change*, innovation researchers have repeatedly discussed a wide variety of kinds of directional concepts in technological, economic, and social changes. These include 'trajectory (i.e. direction) of technological change' (Dosi, 1982); 'direction argument' in the innovation process (Nightingale, 1998); 'direction of innovation' in the government's mission-oriented financing (Mazzucato, 2013a; 2013b); and 'directionality of innovation' that considers alternative pathways for progress (Stirling, 2008; 2009; 2011). [30]

Similarly in the strategy literature, where strategy is "about the *direction* of organizations, and most often, business firms" (Rumelt et al., 1994: 9; emphasis added), strategy researchers have examined directions in strategy settings: 'Direction of strategic change' associated with changes in generic strategies (Zajac and Shortell, 1989; Zajac et al., 2000); 'strategy as vector' (Burgelman, 2002a); 'direction of search' in corporate R&D (Stuart and Podolny, 1996); and 'direction of strategic change' affected by managers (Hartog and Neffke, 2017).

This illustrative list of research shows that 'direction' is a dimension which discerns changes

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[28] *Online Etymology Dictionary* (n.d.) 'Direction' Available from: http://www.etymonline.com/index.php?term=direction [Accessed 25 January 2017]

[29] *Ibid.*

[30] Stirling (2008) stressed that innovation does not follow a linear and pre-determined pathway for a progress but it has a directionality: "innovation is a vector, rather than just a scalar quantity" (Stirling, 2008: 263).

over time, i.e. dynamics, in a target being examined; however, the notion of direction *itself* in a specific context could also be a target of research, as how we see the concept—direction *per se*—will have (ontological and epistemological) impacts on our approaches to research.

Having identified the core element of the thesis—a better understanding of the concept and dynamics of 'direction' in the context of CV activities—this chapter aims to review the wider relevant literature. As this thesis is a theory building rather than a hypotheses testing study, which attempts to develop theoretical building blocks from an in-depth analysis of a small number of cases, the review of the extant literature is an important step: (1) to prepare *a priori* potential constructs and (2) to find relevant literature to which emerging findings can be either situated or contested (Eisenhardt, 1989; Eisenhardt and Graebner, 2007).[31]

In this chapter, Section 3.2 reviews notions of 'change' and 'direction' in the organizational change and the strategy literature, which finds two main types of the direction of firms' strategy distinguished by its focus on *state* versus *process*. Section 3.3 then reviews three lenses on strategic change, and scrutinizes the two types of direction through the identified three lenses. By modifying underlying assumptions of 'direction' in the strategy literature, this section suggests an alternative way of framing direction. Finally, Section 3.4 develops an analytical framework that will be used to examine the CV practice of the case firm in the remainder of the thesis.

3.2 Literature review on 'change' and 'direction'

Direction is one of the key attributes of *change* (Demers, 2007). When something changes its states, courses, or processes, its dynamics can be captured through the notion of direction.

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[31] As will be discussed in Chapter 4 on the research design of the thesis, this step helps strengthen internal validity, generalizability, and the conceptual level of theories built from case study research (Eisenhardt, 1989: 544).

Considering the inseparable relationship between *direction* and *change*, the way in which we understand *direction* may well be related to the perspectives on, and knowledge of, *change*. Given limited literature that explicitly discusses the concept of 'direction' (except, e.g. Johnson, 1992; Proctor, 1997; Siguaw et al., 2006; Werhahn et al., 2015), this section continues by reviewing the concept of 'change' in the organizational change literature.

3.2.1 'Change' in the organizational change literature

Scholars have examined the concept of 'change' from a variety of disciplines and theories (e.g. Solow, 1957; Rosenberg, 1963; Nelson and Winter, 1982; Gersick, 1991; Weick and Quinn, 1999; Tidd and Bessant, 2013). For example, in the strategic management literature, *changes* within the organization has been one of the classic questions along with purposes, *direction*, and choices (Pettigrew et al., 2006: 3). In innovation studies, a key question is about "Change … in the things (products/services) which an organization offers, and change in the ways in which they are created and delivered" (Tidd et al., 2001: 6). Here, the way in which change is viewed is quite diverse, and what underlies this diversity is, as Van de Ven (2007: 14) rightly emphasized, "a philosophy of science that informs a scholar's approach to the nature of the phenomenon examined (ontology) and methods for understanding it (epistemology)".

In the organizational change literature, *change* is often regarded as 'one type of event' and defined as "an empirical observation of difference in form, quality, or state over time in an organizational entity" (Van de Ven and Poole, 1995: 512). However, there have been some shifts in the perspectives on change in the organizational change literature. From a chronological analysis of the literature, Demers (2007) suggests that those shifts can be characterized by the 'debate between *adaptation* and *selection*' in the early 1970s and the 'debate between *transformation* and *evolution*' from the early 1980s. As Demers (2007) points out, the central question in the debate over *adaptation* and *selection* was whether

organizations can change *themselves* (or not). Depending on varying degrees of managers'

freedom of action, this can be displayed by a *continuum* of perspectives on change, where

voluntarism (e.g. Child, 1972) is positioned at the one end and *environmental determinism* (e.g.

Hannan and Freeman, 1984) at the other.

However, in the early 1980s, there occurred a significant shift in the way organizational

changes are perceived, which is put forward as tensions between changes by *transformation*

and by *evolution* (Demers, 2007). As Van de Ven and Poole (1995) stressed, the focus of

organizational change shifted to the actual *process* of change (e.g. how and why organizations

change, or evolve, over time).[32] Demers (2007) highlights the essence of this shift as follows:

> Change is now studied as an *episode*, a series of actions and *events*, rather than as a
> difference or an outcome, as in the previous period. Questions relating to both the
> nature of change (its content, scope, magnitude, and *direction*) and the dynamics of
> change (its pace, timing, and the sequencing of actions) come to the forefront. (Demers,
> 2007: 46; emphasis added)

In a way, this shift of viewpoints shows theoretical approaches that contested against each

other in the context of organizational change: *contingency* and *configuration* theories (Demers,

2007) (see Table 3.1). In *contingency* theory, organizations are regarded as *loosely coupled*

systems which can change *incrementally* while being contingent upon a number of constraints

(i.e. contingencies) often external to the firm (e.g. Woodward, 1965; Thompson, 1967;

Lawrence and Lorsch, 1969; Donaldson, 1996). Whereas, in *configuration* theory, organizations

are assumed as *tightly integrated* systems of "interdependent and mutually supportive

elements" (Miller and Friesen, 1984: 1) which can change *radically* but in a coherent way. Here,

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[32] In this thesis, 'process' is defined as "the progression (i.e., the order and sequence) of events in an organizational entity's existence over time" (Van de Ven and Poole, 1995: 512). As to the definition of 'process', Van de Ven (1992) noted that its meaning is used in three distinctive ways: "(1) a logic that explains a causal relationship between independent and dependent variables, (2) a category of concepts or variables that refers to actions of individuals or organizations, and (3) *a sequence of events* that describes how things change over time" (Van de Ven, 1992: 169; emphasis added).

'organizational configuration' can be defined as "any multidimensional constellation of conceptually distinct characteristics that commonly occur together" (Meyer et al., 1993: 1175).[33, 34] With a holistic view of firms, configuration theorists have argued that there are common combinations of organizational elements, i.e. *configurations*, which frequently occur together among strategic, structural, and other dimensions (e.g. Mintzberg, 1979; Miller, 1981; Miller and Friesen, 1984; Miller, 1986; Miller, 1987; Miller, 1996).

Table 3.1: Theoretical approaches in the organizational change literature

	1970s	*1980s–*
Theory	*Contingency theory*	*Configuration theory*
Viewpoint on change	• Debates between *adaptation* and *selection*	• Debates between *transformation* and *evolution*
Viewpoint on organizations	• *Loosely coupled* systems • Change *incrementally* while being contingent upon a number of contingencies	• *Tightly integrated* systems • Change *radically* but in a coherent way
key questions	• Can organizations change *themselves*? • How can organizations adapt themselves to contingencies (often *external* to the firm)?	• How can organizations generate change? • What process can be used by organizations to generate change *internally* (even without stimuli *external* to the firm)?

Source: Elaborated by the author, based on Demers (2007)

Importantly, the move from contingency theory to configuration theory in the theoretical approach in the organizational change literature (see Table 3.1) provide us with an insight into the conceptualization of 'direction' in the context of CV. Having contingency theory as an

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[33] The term 'configurations' was presented as 'archetypes' and 'gestalts' (e.g. Miller, 1981; Miller, 1987), where the word 'gestalt' originally means 'form' and 'shape' in German (*Oxford Dictionary*) that are used interchangeably.

[34] More specifically, 'configuration' is defined as relatively few "*common* alignments of elements" (Miller, 1996: 506; emphasis added), which is "relatively *few* and very *different* from one another" (Miller, 1981: 1; emphasis added). As a result, it forms an "internally consistent set of attributes" (Miller, 1981: 11) among strategy, structures, and technologies at a given time (Miller and Friesen, 1980; Miller, 1981; Miller and Friesen, 1984; Miller, 1986; Miller, 1987; Miller, 1996).

interpretive framework, organizational change was regarded as "a deliberate but reactive and constrained process of gradual adaptation" (Demers, 2007: 8). However, from a configuration approach, it is accepted that organizations can generate change *proactively* by reconfiguring their internal elements, even without stimuli external to the firm. Especially, this is the case in innovation practices, such as corporate venturing, which emphasize the importance of firms' proactive change (e.g. Tidd, 2001) rather than a responsive one. Building on this insight, Section 3.4 in this thesis develops an analytical framework about the *direction of CV*, which explores how the firm reconfigures its strategic and structural elements in the context of CV. As discussed in Section 3.1, the etymological origin of the English word 'direction' in the fourteenth century was an 'arrangement in order', and this suggests that thinking about 'direction' through a configuration logic is to revisit the previous meaning of the word.

3.2.2 'Direction' in the strategy literature

To review the notion of *direction* discussed in the strategy literature, books and articles in the strategic management literature were systematically examined, applying several key words and phrases such as 'direction', 'directionality', and 'change'. Despite the importance of the concept of 'direction' in strategy, it has only been discussed explicitly in quite a small number of studies. Recently, for example, Hartog and Neffke (2017) examined new managers' influences on "determining the strategic direction of their organizations" (Hartog and Neffke, 2017: 2), using the terms *strategic change* and *direction of strategic change*. Drawing on Boeker's (1997) operationalization of 'strategic change', where the subject of change is "the overall set of products and services the organization competes in" (Boeker, 1997: 213), Hartog and Neffke (2017) measured 'strategic change' as being "the change in an establishment's main line of business" (Hartog and Neffke, 2017: 5). This subsection continues by reviewing two main concepts about 'direction' in strategic settings found from the strategy literature.

Burgelman's strategy vector

Earlier in the strategy literature, Burgelman (2002a) argued that strategy has a directionality. Based on a "comparative longitudinal study" (Burgelman, 2002a: 325) of Intel, he proposed the concept of *strategy vector* to explain Intel's strategy-making process, which was mainly led by Andy Grove—the CEO of Intel from 1987 to 1998. *Strategy vector* was developed from the term 'vectoring', which Grove himself used to explain his strategic approach:

> Grove described his approach as "vectoring" Intel's strategy-making process. Vector—a quantity having direction and magnitude, denoted by a line drawn from its original to its final position (*Oxford English Dictionary*)—seems an apt metaphor to describe his efforts to align strategy and action. By creating a strategy vector, Grove was able to drive Intel in the intended direction with a total force equal to all the forces at its disposition. (Burgelman, 2002a: 326; emphasis added)

According to Burgelman (2002a), *strategy vectoring* was an effective strategic approach in resolving the conflict between i860 (RISC) and x86 (CISC) microprocessors, because Grove as a CEO was able to "vectorize everybody at Intel in the same direction … [and] created an induced strategy process … suited for exploiting the rich opportunities in the PC market" (Burgelman, 2002a: 335–336). [35] As we shall see in Section 3.2.3, Burgelman's *strategy vector* can be categorized as a case of the *direction of strategy*, which this thesis refers to as *Type I* direction.

Zajac's direction of strategic change

In the strategy literature, the topic of direction was systematically studied by Edward Zajac. Along with co-authors, he conceptualized the *direction of strategic change* (Zajac and Shortell, 1989; Zajac et al., 2000). As will be discussed in Section 3.2.3, Zajac's *direction of strategic change* is categorized as what the thesis refers to as *Type II* direction.

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[35] 'Reduced instruction set computing (RISC)' and 'complex instruction set computing (CISC)' are types of microprocessor architectures.

Strategic change, as defined by Zajac et al. (2000: 436), is "changes in an organization's core strategy". Here, the word 'strategic' is not being used as an adjective to describe changes that are strategic. Instead, the subject of 'strategic change' is the strategy—especially the content of strategy—which undergoes change. 'Strategic change' in this context then refers to changes in strategy, which do not have to be 'strategic' in the sense of being well thought through. For example, a new CEO could come in and implement a poor-quality strategy. When a firm has a strategy, 'strategic change' highlights the firm's decision and following events to change its strategy from an old state to a new strategic content. If we think about IBM, their strategies have changed from being a mainframe supplier to a PC supplier, and to a service supplier. Here, the *direction of strategic change* captures the shift from being a mainframe supplier to a PC supplier, or from being a PC supplier to a service company.

Zajac and Shortell (1989) believed that organizations change their strategies in response to changing environmental conditions, where the impacts of environmental shifts on strategic change are not random. Hence, they suggested that there is "a directional pattern of changes" (Zajac and Shortell, 1989: 415) in generic strategies when industries experience a severe environmental shift. From the empirical analysis of strategic changes in the health care industry, Zajac and Shortell (1989) argued that "effects of the dramatic environmental shift led to a strong industry-wide shift away from the Defender strategy and towards the Analyzer (primarily) and Prospector strategies" (Zajac and Shortell, 1989: 427). This argument clearly shows that the *direction of strategic change* indicates the difference in the content of strategy, capturing the movement from one generic strategy to other.[36] Extending this line of thought,

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[36] As to generic strategies, Miles et al. (1978: 550) suggested that there are three strategic types of organizations (prospectors, analyzers, and defenders), each of which has unique strategy [i.e. generic strategies]. *Prospectors* are organizations continuously searching for opportunities in the market. *Analyzers* are organizations which operate both in stable and changing markets, hence they pursue efficiency in stable areas while closely monitor competitors in changing markets. *Defenders* are organizations in a narrow market, therefore, relatively inactive in searching for new opportunities (Miles and Snow, 1978).

Zajac et al. (2000) later argued that "the timing, *direction*, and magnitude of *strategic changes* can be logically predicted based on differences in specific environmental forces and organizational resources" (Zajac et al., 2000: 429; emphasis added).

Theoretically, Zajac's *direction of strategic change* was conceptualized by drawing on *generic strategies* literature (e.g. Miles et al., 1978; Porter, 1980) and the theory of *strategic fit* (e.g. Venkatraman and Camillus, 1984; Ginsberg and Venkatraman, 1985; Venkatraman, 1989). These theories, or approaches, allow us to unpack two main assumptions underlying the *direction of strategic change* concept. One of the assumptions is that there are pre-defined generic strategies that firms can adopt.[37] However, Zajac and Shortell (1989: 413) refuted the idea that generic strategies are equally viable options that can be selected and implemented. This leads to the other assumption that changes in external environments can cause firms to change their generic strategy. Considering strategic change "as a function of changing environments" (Zajac and Shortell, 1989: 413), they stressed the knowledge of "changes in generic strategies over time in response to changing environmental conditions" (Zajac and Shortell, 1989: 413-414).

Importantly, the second assumption is closely related to *strategic fit* between environmental conditions and strategy.[38] In conceptualizing the *direction of strategic change*, Zajac adopted the viewpoint that there are particularly appropriate "fit, match, or congruence" (Zajac and

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[37] As Herrmann (2005) pointed out, the idea about 'generic strategies' is a dominant design in the development of strategic management, which consistently attempts "to answer the fundamental question of how firms achieve sustainable competitive advantage" (Herrmann, 2005: 111). He argues that the development of strategic management similarly follows the cycle of technological change (Anderson and Tushman, 1990) with the development of dominant designs (Utterback and Abernathy, 1975; Abernathy and Utterback, 1978) in strategy theories, such as 'generic strategies' and the 'resource-based view' of the firm.

[38] As Grant (2012: 219) pointed out, the concept of fit has been widely accepted and applied: "Organizational economics, sociotechnical systems, and complexity theory have all emphasized the importance of fit between an organization's strategy, structure, management systems, culture, employee skills—indeed, all the characteristics of an organization".

Shortell, 1989: 429) between environmental conditions and firms' strategy, and this means *strategic fit*, which is "a core concept in normative models of strategy formulation" (*Ibid.*).

'Fit' has its theoretical root in contingency theory (Ginsberg and Venkatraman, 1985). The concept of matching organizational resources with environmental conditions has been supported from early stages of the strategy literature (e.g. Chandler, 1962; Andrews, 1971; Hofer and Schendel, 1978), and the organization literature similarly suggests that there is a desirable match between environmental conditions and structures (e.g. Burns and Stalker, 1961; Lawrence and Lorsch, 1967; Thompson, 1967; Galbraith, 1973). By using the 'direction of strategic change' concept, Zajac attempted to expand "the static orientation that the concept of [strategic] fit has historically implied" (Zajac et al., 2000: 429) to cover *dynamic fit*. Because when firms try to maintain their strategic fit to changing environmental conditions, they inevitably confront "the question of strategic change" (*Ibid.*).

3.2.3 Two types of direction of strategy

From the review of the strategic management literature, it is found that there are two main concepts about 'direction' in strategic settings: (1) the *direction of strategy* (e.g. Burgelman's (2002a) *strategy vector*) and (2) the *direction of strategic change* (e.g. Zajac et al. (2000)) (see Section 3.2.2). In this thesis, these two ways of thinking about 'direction' will be referred to as *Type I* and *Type II*, respectively.

Direction of strategy (Type I)

One way of thinking about direction in the strategy literature is the *direction of strategy*, which is an indication of the *content* of the firm's core strategy. When a firm faces its external environment, it can choose a number of strategic options that reflect how the organization will respond and change. The choice of which strategy to adopt reflects the direction of strategy,

[56]

and the type of generic strategy the organization adopts (e.g. being a 'defender' or a 'prospector' in Miles and Snow's (1978) generic strategies) is an example of *Type I* direction.

For example, Burgelman's (2002a) *strategy vector* reviewed in Section 3.2.2 corresponds to the *direction of strategy*. By setting a strategy vector (or a direction of strategy) in the early 1990s, the CEO of Intel set the firm's next position with regard to its core product (microprocessor) and architecture. This allowed the CEO to direct, or to "vectorize everybody at Intel in the same direction" (Burgelman, 2002a: 335–336). However, as Burgelman emphasized, this *strategy vector* can create an induced-strategy process leading to 'coevolutionary lock-in', which he defined as: "a positive feedback process that increasingly ties the previous success of a company's strategy to that of its existing product-market environment, thereby making it difficult to change *strategic direction*" (Burgelman, 2002: 326; emphasis added). Here, the emphasis on changes in *strategic direction* calls for our attention to another type of direction, the *direction of strategic change* (Type II direction), which will be discussed in the following section.

Direction of strategic change (Type II)

The other way of thinking about direction is the *direction of strategic change* (strategy-change), which is identified in the body of strategic change literature (e.g. Zajac and Shortell, 1989; Rajagopalan and Spreitzer, 1997; Zajac et al., 2000). Here, the *direction of strategic change* (Type II direction) reflects changes in the *content* of the firm's core strategy, which is a move from one Type I strategy to another (i.e. the strategy change, not the change is strategic).

For example, Zajac's *direction of strategic change* (Zajac and Shortell, 1989; Zajac et al., 2000) represents the direction of change between different types of generic strategies (e.g. from a 'defender' to a 'prospector' in Miles and Snow's (1978) generic strategies). This type of directional changes occurs when environmental conditions are shifting, and the firm is

responding by selecting a new (more appropriate) strategy from a set of pre-defined generic strategies, as if it was choosing a new tool from its toolbox when conditions change.

The conceptual difference between the two types of direction can be more clearly understood using a *vector* analogy (see Figure 3.1).
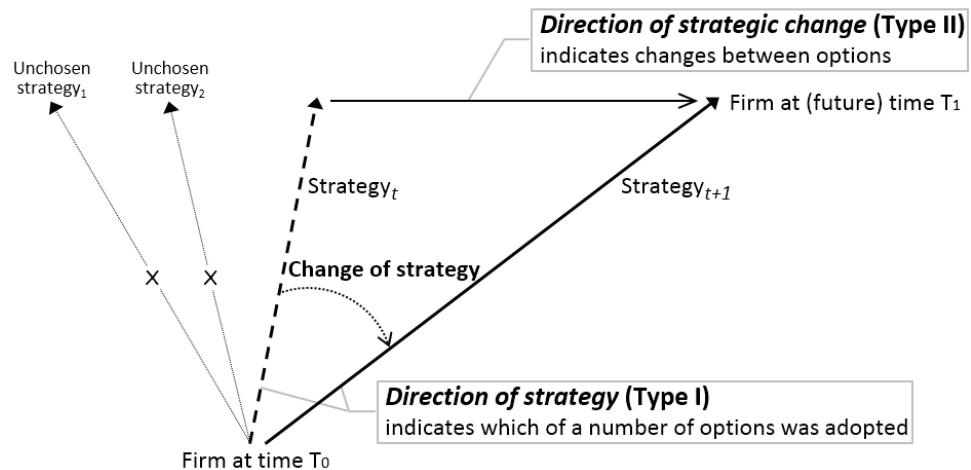
Figure 3.1 'Direction of strategy' (Type I) and 'direction of strategic change' (Type II)
Source: Developed by the author.

The figure indicates that a strategy *itself* has a direction (the *direction of strategy*), and the *content* of strategy (as a plan) at time t ($Strategy_t$) and time t+1 ($Strategy_{t+1}$) can be represented by vectors with their own directions (reflecting where the organization is now and where it is planned to be in the future). Here, *changes* in the content of strategy (shifting from one plan to another) have *another* direction (the *direction of strategic change*), which can be represented by the difference of the two vectors.

In a way, these two types of direction demonstrate a stark contrast in strategy *content* and strategy *process* division, which Herrmann (2005: 113) referred to as the "separation between strategy process and strategy content researchers". The direction of strategy is about the nature and characteristics of strategy *per se*, which is a fundamental interest in strategy *content* research. Whereas, the direction of strategic change is more associated with the question of *how* strategy is changed, which is a main interest area in strategy *process* research.

[58]

As will be discussed in Section 3.3.2, this vector metaphor suggests that both Type I and Type II directions mainly focus on the *content* of firms' strategy seen through the *rational lens* on strategic change. Assuming that there is a stable *equilibrium* between the firm's environmental conditions and subsequent organizational responses, an appropriate generic strategy at time t (Strategy$_t$) under certain conditions is expected to be different from a new appropriate strategy at time t+1 (Strategy$_{t+1}$) under different environmental conditions. This suggests that the firm *should*—in the 'normative' (Zajac et al., 2000: 430) sense—change its strategy, aiming toward a new fit, or a new *equilibrium*. As a result, the strategy will change from Strategy$_t$ to Strategy$_{t+1}$, which can be captured by the direction of strategic change.

3.3 Rethinking 'direction' through the three lenses on strategic change

When scrutinizing the concept of direction, Rajagopalan and Spreitzer's (1997) exhaustive review of strategic change literature helps us to reflect the *direction of strategic change* (changes in strategy) theoretically. In particular, *three lenses on strategic change* suggested from their review open up a new avenue for further discussion about the 'direction' concept.

3.3.1 Three lenses on strategic change

Changes in strategy can be explored in a variety of ways, and there are many theoretical approaches that can be adopted in analyzing strategic changes. Rajagopalan and Spreitzer (1997) suggested that those approaches can be classified into three distinctive theoretical lenses: the *rational*, *learning*, and *cognitive lenses*. As we shall see in Section 3.3.2, these lenses can be used in scrutinizing the two types of direction (Type I and Type II) discussed in the previous subsection (see Section 3.2.3), and in developing an analytical framework about the *direction of CV* in Section 3.4.2.

The rational lens on strategic change

The first theoretical lens suggested by Rajagopalan and Spreitzer (1997) is the *rational lens* on strategic change. This lens informs us that changes in firms' strategies can be analyzed by examining the linkages among 'environmental conditions' (e.g. munificence, uncertainty), 'organizational conditions' (e.g. size, age, and prior performance of the firm), 'strategic change', and 'organizational outcomes' (e.g. firm performance) (*Ibid.*).

As Rajagopalan and Spreitzer (1997) pointed out, 'strategic change' through the rational lens is the changes in the *content* of the firm's strategy. This is the very strategic change associated with *Type II* direction (see Section 3.2.3), where firms are seen as continuously trying to establish a *fit* with changing environmental conditions; hence, pursuing the fit is "a sequential, planned search for optimal solutions for well-defined problems" (Rajagopalan and Spreitzer, 1997: 50). This suggests that the *rational managers*' main role is to establish a fit by "the creation and implementation of a strategic vision [or the direction of strategy]" (*Ibid.*).

The rational lens has the same limitations as the other two lenses, such as less clarity on the operationalization of environmental and organizational conditions, a lack of correspondence between theoretical constructs and operational measures (*Ibid.*). However, as will be discussed in Section 3.3.2, one critical limitation of the rational lens is its perspective on the external environment that is assumed as *given* and *objectively determined*. In addition, this lens has "the narrow definition of strategic change (i.e., changes in the content of strategy alone)" (Rajagopalan and Spreitzer, 1997: 55) without enough consideration of the role of managers (managerial actors) when changes in strategies occur (*Ibid.*).

The learning lens on strategic change

Due to the limitations of the rational lens on strategic change, managerial actors and their

(managerial) cognitions associated with strategic changes can be considered. Rajagopalan and Spreitzer (1997) referred to these alternative theoretical approaches as the *learning* and *cognitive* lenses on strategic change.

In the learning lens, strategic changes are analyzed by examining additional linkages by considering *managerial actions*. This results in a broader definition of 'strategic change', as it includes both changes in the content of strategy (a narrow definition of strategic change in the rational lens) and changes in environmental and organizational conditions brought about by "managerial actions in the process of change" (Rajagopalan and Spreitzer, 1997: 57).

Through the learning lens, strategic change is viewed as an iterative and evolutionary process, which is a more realistic and holistic approach in contrast to the rational lens. Environmental and organizational conditions are "assumed to be uncertain and dynamic" (Rajagopalan and Spreitzer, 1997: 57) rather than deterministic, immutable, and objectively determined as in the rational lens perspective. Here, the role of managers, who are learning through the process of strategic change, is "to understand an ambiguous environment through a series of iterative actions (e.g., information gathering)" (*Ibid.*). In other words, the learning lens highlights the importance of *managerial actors* (managers) who can learn from experiences and attempt to *proactively* influence environmental and organizational conditions.

The cognitive lens on strategic change

Finally, the *cognitive lens* perspective on strategic change emphasizes differing interpretations of similar contexts, which are influenced by actors' managerial cognitions. As pointed out by Rajagopalan and Spreitzer (1997: 62), one of the key assumptions underlying the cognitive lens is that "the environment cannot be objectively determined; instead, it is enacted by managers and represented through cognitions". In other words, similar, or the same environmental and organizational conditions can be interpreted in a variety of ways by different managerial actors,

[61]

rather than normatively analyzed in a unitary way through the rational lens.

The distinctive difference between the learning and cognitive lenses is that whereas the learning lens places importance on *managerial actions*, the cognitive lens places its main emphasis on *managerial interpretations*. From the perspective of the cognitive lens, the role of *managerial cognitions* is crucial as they intervene in the middle of 'environment and organizational conditions' and 'changes in the content of strategy'.[39]

The intervening effect of managerial cognition becomes crucial when it comes to firms' innovation activities. As we shall see in Section 8.2.1, the imperative of R&D and innovation can be interpreted differently depending on the perspective of the individual member in the top management team (TMT). Under the same environmental and organizational conditions, whether they decide to implement strategic change can differ depending on each individual actor's belief structures, such as their propensity for innovation. Even the same individual actor can decide whether or not to implement strategic changes differently, if he or she perceives a situation in other ways due to changes in their personal belief systems. Rajagopalan and Spreitzer (1997: 65) noted that, "transformational strategic changes were more likely … to be accompanied by shifts in top managers' belief structures.

3.3.2 Scrutinizing direction through the three lenses

The three lenses discussed in the previous subsection enables us to scrutinize the current dominant concepts of *direction* in strategy settings. The current concepts of direction, which this thesis categorized as Type I and Type II (see Section 3.2.3), is mainly seen through what Rajagopalan and Spreitzer (1997) call the *rational lens* perspective on strategic change (see

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[39] Rajagopalan and Spreitzer (1997: 63) argue that such intervening influences are either through "the direct relationship between [managerial] cognitions and changes in the content of strategy" or through indirect effects in that cognitions are "manifested in actions".

Section 3.3.1). However, due to some inherent limitations in the rational lens perspective, these two types of direction are not conducive to capture and explain changes especially in the context of *innovation* activities. The limitations in the rational lens can be revealed by reviewing the underlying assumptions of the rational lens on strategic change.

Firstly, the *rational* lens assumes that firms' external environmental conditions are "deterministic and immutable" (Rajagopalan and Spreitzer, 1997: 56).[40] This postulates that the firm's strategy and structure are contingent upon its environmental conditions. Firms are then regarded as capable of evaluating objectively given environmental conditions.

Secondly, the *rational* lens assumes the existence of *equilibrium*. *Equilibrium* often means 'a mutually consistent state' in economics. Hahn (1960: 21), for example, defined equilibrium as a state where "the intended actions of rational economic agents are mutually consistent and can, therefore, be implemented" (as cited in Teece, 1984: 90). However, equilibrium in the rational lens is more of an "organization–environment equilibrium" (Miles et al., 1978), which is a state where the organization establishes an effective alignment with external environmental conditions.[41]

Thirdly, in the *rational* lens on strategic change, the organization is assumed as an *equilibrium-seeking* rational system. Seen through the rational lens, firms are perceived as organizations responding to environmental conditions, attempting to establish "an effective organization–

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[40] The term 'Deterministic' is associated with environmental determinism in population ecology (e.g. Aldrich, 1979; Hannan and Freeman, 1984), which emphasizes the role of external environments in deciding organizations' longevity. Similarly, the term 'immutable' describes how environments have the effect of being unchanging constraints upon organizations.

[41] Similarly, Hirsch and Lounsbury (1997) noted that the population ecology (e.g. Aldrich, 1979; Hannan and Freeman, 1977, 1984) and the new institutionalism (e.g. DiMaggio and Powell, 1983, 1991) "treat organizations as atoms subject to the law of large numbers and other macropressures that force populations of firms into an *equilibrium* state" (Hirsch and Lounsbury, 1997: 80; emphasis added).

environment equilibrium" (Miles et al., 1978: 547) with environmental conditions.[42] Here, change is the *rational adaptation* of the organization to external conditions, which is to make rational decisions *responsively* to achieve an organization–environment equilibrium, or in Tushman and Romanelli's (1985: 186) term, "an external consistency".

In the last couple of decades, the rational lens on strategic change has been complemented by the *learning* and *cognitive lenses* on strategic change (Rajagopalan and Spreitzer, 1997) (see Section 3.3.1). Emphasizing the role of actors with managerial actions (the learning lens) and managerial cognitions (the cognitive lens), these two lenses, taken together with the rational lens, "provide a more comprehensive understanding of strategic change than any perspective by itself" (Rajagopalan and Spreitzer, 1997: 69-70). This suggests that it is worth rethinking about 'direction' through the complementary—learning and cognitive—lenses.

In order to conceptualize 'direction' in the context of CV, Section 3.2.1 has discussed that a new concept of direction needs to capture organizational *proactive* change generated by reconfiguring their internal elements, even without stimuli external to the firm (see Table 3.1). Looking through the *learning* and *cognitive lenses*, we can ask questions that challenge the assumptions underlying the rational lens and then modify them. This thinking process generates more realistic assumptions, which allow us to develop a new framing of 'direction' in the context of CV, which will be discussed in Section 3.4.2.

Are external environmental conditions deterministic and immutable?

The learning and cognitive lenses suggest that external environmental conditions need to be

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[42] Drawing on the theory of *strategic fit* (e.g. Venkatraman and Camillus, 1984; Ginsberg and Venkatraman, 1985; Venkatraman, 1989) (see Section 3.2.2), these equilibrium-related assumptions can be explained by a *fit* between external environmental contingencies and organizations. The logic of *fit* reads: the higher the fit between the firm's environment and its content of strategy, the better the firm's performance. The organization as an equilibrium-seeking rational system captures organizational changes to achieve a *fit*, or a match, between firms' environmental and organizational conditions.

"assumed to be uncertain and dynamic" (Rajagopalan and Spreitzer, 1997: 57), rather than objectively given and immutable. The rational lens provides a narrow definition of 'strategic change' as it only considers changes in the content of strategy (see Section 3.3.1). However, environmental conditions can also be changed influenced by *managerial actors*, who attempt to change the environment proactively, or who interpret the same environment differently.[43] If 'strategic change' considers only certain changes in the content of strategy, which is the very definition through the rational lens, 'strategic change' is not necessarily *strategic*. Here, the subject being changed is 'strategy', where changes could be random rather than the outcomes of strategic thoughts. The definition of 'strategic change' can be broadened by including changes in environmental conditions influenced by managerial actors. This enables the term 'strategic change' to capture 'changes that *are* strategic', rather than only 'changes *in* strategy' (i.e. strategy-change).

Is there an equilibrium between environmental conditions and the organization?

The assumption of *equilibrium* is one which generates plural perspectives in academic disciplines. In economics, for example, equilibrium is often regarded as 'a mutually consistent state', but it has been challenged by scholars with an evolutionary perspective, who criticize neo-classical economics for its strong assumptions of *rationality* due to 'imperfect knowledge' and the 'imperfect competition' of economic actors (e.g. Nelson and Winter, 1982; Dosi and Nelson, 1994). Similarly, in the strategy literature, the assumption of equilibrium has been challenged by strategy theorists with behavioral approaches (e.g. Bromiley and Papenhausen, 2003; Powell et al., 2011).[44] The behaviorists are characterized by their belief about what

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[43] This is in line with Demers's (2007: 9) criticism of contingency theory: "… the assumption of severe environmental constraints on managerial choice inherent in this view [the contingency approach] is strongly challenged, particularly by European scholars. … They oppose the notion that the environment is a given, a constraint over which organizational members have no control."

[44] For example, Bromiley and Papenhausen (2003) argue that "two core assumptions of economic

underlies "the choice process of strategic actors" (Levinthal, 2011: 1517), and they have "realistic assumptions about human cognition, emotion, and social interaction" (Powell et al., 2011: 1369). As Bromiley and Rau (2013) highlighted, one of the key assumptions in a behavioral approach to strategy is 'unknown optimum':

> [R]ealistically, no one can ever consistently and repeatedly make the best of all possible decisions. For complex organizations and situations, it is not even clear what an optimum means. Even if an optimum level of performance exists, bounded rationality implies decision makers cannot identify it. Instead, firms compare performance to their past performance and that of other similar firms. (Bromiley and Rau, 2013: 12)

In the rational lens on strategic change, it is assumed that there is an "organization–environment equilibrium" (Miles et al., 1978), or "an external consistency" (Tushman and Romanelli, 1985: 186). However, organizations' radical and *proactive* change can be better enabled by "intra-organizational consistencies" (Tushman and Romanelli, 1985: 177). [45] Therefore, to capture and explain changes in the context of innovation activities, a modified assumption reads: equilibria *do* exist, but it is not so much an effective alignment between environmental conditions and organizations but rather an internal consistency, which is "an internally consistent combination of strategy, organization and technology that provide superior performance in a given environment" (Tidd, 2001: 178).

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analysis—managers and employees make *optimal decisions* and markets operate in *equilibrium*—have undesirable implications in strategic management research", because these assumptions are (1) inconsistent with the empirical evidence; (2) inconsistent with the objective of the research to find a better choice—because "the optimality assumption means all choices were optimal"; and (3) followed by "factually incorrect generalizations" that "there can be no rules that will improve performance" (Bromiley and Papenhausen, 2003: 413-414; emphasis added). They suggested that an alternative to such assumptions may be adopting a *behavioral view*, which "accepts psychological and sociological findings about organizations" and "recognizes bounded rationality, emotions", and other factors (Bromiley and Papenhausen, 2003: 419), then, as a result, can explain how firms behave more realistically.

[45] Tushman and Romanelli (1985: 214) noted that organizations can initiate 'metamorphic changes' which are either "proactive responses to changing competitive conditions or the result of crises which follow extended periods of economic decline."

Is the organization an equilibrium-seeking rational system?

The rational lens's assumption about the organization as being an *equilibrium-seeking* rational system can be challenged in the context of innovation activities such as corporate venturing (CV). In innovation studies, the assumption of the *equilibrium-seeking* firm is questioned, as innovation is regarded as the realization of 'creative destruction' (Schumpeter, 1934/1982). Here, what is important is Schumpeterian activities of "disrupting equilibrium" (Schumpeter, 1937/1989: 166) rather than to attain a state of equilibrium.[46] In CV, incumbent firms are seeking to generate their new business (see Section 2.2); hence, what firms do is to deviate from or even disrupting a *status quo* equilibrium state.[47]

Again, this calls for our attention on managerial actors, or *innovators*, who are the agents of changes and play a key role in the organization's proactive change. Despite actors playing a crucial role in disrupting an equilibrium, the rational lens focuses on discrete changes in the content of strategy with less consideration of managerial actors as if they were inside a "black box" (Rajagopalan and Spreitzer, 1997: 55). Here, rational managers are regarded as "strategic thinkers who could rationally plan and direct performance enhancing changes" (Hirsch and Lounsbury, 1997: 81). Looking through the learning and cognitive lenses, however, organizations are perceived as systems constituted of both individual actors at different levels (e.g. managers, top management, etc.) and collective actors (e.g. organizational units). This provides an insight that a new framing of direction needs to consider actors of innovation activities to capture organizational *proactive* change through innovation.

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[46] In Schumpeter's (1937/1989: 166) own words, as cited in Fagerberg and Verspagen (2009: 220), "there was a source of energy within the economic system which would of itself disrupt any equilibrium that might be attained." In this quote, the 'source of energy' is 'innovation' meant by Schumpeter (*Ibid*.).

[47] Stacey (1995: 485) criticized—both stable and unstable—equilibrium in the context of innovation by saying, "where the primary task is that of generating new products and services, continually renewing and transforming, then both the stable equilibrium and the unstable equilibrium states are death."

3.3.3 Towards a new framing of direction

This chapter has reviewed the dominant concepts of *direction* in the strategic management literature. The review suggests that there are two main types of 'direction' in the strategy literature: (1) the *direction of strategy* (e.g. Burgelman's (2002a) *strategy vector*) and (2) the *direction of strategic change* (e.g. Zajac et al. (2000)). By examining these direction concepts through three lenses on strategic change suggested by Rajagopalan and Spreitzer (1997), it has now become clear that the extant concepts of direction—the *direction of strategy* (Type I) and the *direction of strategic change* (Type II)—are related to the rational lens on strategic change.

In order to scrutinize the current concepts of direction, three main assumptions underlying the rational lens were articulated in Section 3.3.2. The rational lens assumes (1) external conditions as deterministic and immutable; (2) the existence of equilibrium between the firm and its external environmental conditions; and (3) organizations as equilibrium-seeking rational systems. However, in the last couple of decades the rational lens on strategic change has been complemented by what is called the learning and cognitive lenses (Rajagopalan and Spreitzer, 1997). These two lenses emphasize the *proactive* role of actors with managerial actions and cognitions. With these different ways of looking at strategic change, a modified set of more realistic assumptions are generated: (1) environmental conditions are uncertain and dynamic, which can be changed influenced by *managerial actors*; (2) organizations' *proactive* change can be better enabled by an internal consistency; and (3) what firms do for innovation is to deviate from or even disrupting a *status quo* equilibrium state. These modified assumptions suggest that researchers should take account of the impact and influence of key events generated by actors in organizations.

One of the critical limitations of the direction concept is that it is mainly *confined* within the boundaries of the *content* of strategy. However, in reality, *actors* who are agencies of firms' managerial actions play crucial roles in both developing and implementing strategies. Focusing

on changes in the content of strategy, strategic change may be viewed as organizational *response* to the external environment. However, if we are to consider the organization's proactive change that is particularly important in innovation settings, the concept of direction also needs to consider managerial actors who are attempting to seize opportunities and to shape external environments. These ideas are in line with changes in the organizational change literature summarized in Table 3.1, where the perspective on change shifted from *adaptation* (i.e. to adapt the organization to contingencies often *external* to the firm) to *transformation* (to generate change internally even without stimuli *external* to the firm).

The discussion made in this subsection suggests that there would be a new way of framing direction by placing emphasis on *actors* of innovation activities. [48] Unlike extant concepts of direction in the strategy literature, which have mainly focused on the *content* of strategy, this framing allows us to think direction in a new way: It takes account of both (1) *actors* of innovation activities—*who* in the organization innovate—and (2) primary *strategic objectives* of the innovation activities—*why* (i.e. for what reasons) the organization conducts innovation activities. The following section discusses this new framing of direction in detail.

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[48] Although this thesis highlights the role of actors in innovation practice called corporate venturing and sets out to develop a new framing of 'direction', this study does not rely on the 'strategy-as-practice (SAP)' approach (Johnson et al., 2003; Whittington, 2006; Jarzabkowski et al., 2007), which has emerged since early 2000. Researchers in this school see 'practices' as tools of, and a means to, strategy-making, and they have examined topics such as 'textual practices (e.g. strategic plans)', which is the outcome of strategic planning (Fenton and Langley, 2011); 'meeting and workshop practices' for strategic reflection (Jarzabkowski and Seidl, 2008); and the role of 'materials' in strategizing (Lê and Spee, 2015), etc.

From the SAP perspective, strategy is seen as not so much something that firms *have*, but as "something people *do*" (Whittington, 2006: 613; emphasis in the original). Attention is therefore given to the roles of managers and other actors in the organization engaged in strategy work, emphasizing that strategy needs "to be understood as an activity or practice" (Golsorkhi et al., 2015: 8). Although their emphasis on actors and practices has some overlap with this thesis, however, this study mainly focuses on the role of collective actors within structural units (who drive innovation activities), which is not strongly linked to the SAP approach's main focus, such as 'the micro-level social activities' and 'individual actions' (Golsorkhi et al., 2015).

3.4 Analytical framework of the research

Based on the review of the organizational change literature (see Section 3.2.1) and the strategic management literature (see Section 3.2.2), this thesis suggests that the *direction of CV* relates to an internal consistency, within the firm conducting CV activities, between the firm's structure (with actors residing in the structure) and its strategy. To address the research questions (see Section 1.3), this thesis develops an analytical framework about the *direction of corporate venturing* (CV), which combines both *who* in the organization innovates (main *managerial actors* who conduct CV activities) and *why* (the primary *strategic objective* pursued by the CV program). This is a new way of framing *direction* in innovation settings, which considers the concept of direction from an internal firm perspective.

Rather than focusing on the *content* of the firm's strategy (Type I direction), or *changes* in the content of strategy (Type II direction) (see Section 3.2.3), this new framing of direction involves defining the starting and end points. The *direction of CV* starts with the main *managerial actors* who conduct CV activities, and it has as its goal, or an initial end point, which is a primary *strategic objective* that the CV program pursues and is designed to achieve. Thinking about *direction* in this way allows us to see it as a combination of *who* in the organization innovates and *why*, which is associated with two fundamental questions in innovation studies.

To ensure the validity of the re-conceptualization of direction, the concept needs theoretical support (i.e. an appropriate theoretical framework) and also empirical support which shows it is both a valid and useful analytical tool for examining empirical phenomena (i.e. It fits within an appropriate analytical framework). The concept then can be used as a means of measuring key features of the direction of CV and its dynamics (i.e. changes over time). Therefore, this section aims to generate an analytical lens to conduct both theoretically rigorous and empirically justified research. In order to prepare an analytical framework, this section

continues by reviewing a theoretical framework (resource orchestration theory) which underlines the role of managerial actors and their resource related activities (Section 3.4.1). Drawing on resource orchestration theory, an analytical framework about the *direction of CV* is developed by reviewing relevant literature related to each of the axes of the analytical framework (Section 3.4.2).

3.4.1 Theoretical framework: Resource orchestration theory

In this thesis, *research orchestration* (RO) theory (Sirmon et al., 2007; Sirmon et al., 2011) is adopted as a theoretical framework to develop an analytical framework about the *direction of CV*. It is because there are significant overlaps between what RO emphasizes (the role of managerial actors and the internal process of resource combination) and what have been found to be crucial in rethinking 'direction': the role of actors in innovation settings (Section 3.3.2) and firms' proactive change by reconfiguring their internal elements (Section 3.2.1). In addition, the review of CV literature concluded that more attention needs to be given to managerial actors of CV activities (see Section 2.5.2) and the process of combining resources in new ways through CV activities (see Section 2.5.3).

Research orchestration (RO) is a relatively recent theory that is being developed from a framework. RO was proposed as a means to address main challenges in resource-based theory—a lack of attention on *actors* and *processes*. In the field of strategic management research, one of the central and relatively unique questions is "how firms compete" (Peteraf, 1993: 179). In dealing with this question, the resource-based view of the firm emerged (e.g. Penrose, 1959; Wernerfelt, 1984) and developed along the lines of research (e.g. Barney, 1991; Barney et al., 2001; Barney et al., 2011). The resource-based view then evolved to become resource-based theory, which is "one of the most prominent and powerful theories for understanding organizations" (Barney et al., 2011: 1299). However, resource-based theory

faced criticism for its lack of information about actors and rather static approaches to resources. As Sirmon et al. (2011: 1391) pointed out, "the role of managers is the most underdeveloped element [in resource-based theory] … in terms of the resource-related processes or actions". Priem and Butler (2001: 33) also criticized resource-based theory because "the processes through which particular resources provide competitive advantage remain in a black box".

Emphasizing the role of managerial *actors* and the *process* of resource combination, Sirmon, Hitt, Ireland, and Gilbert (2011) proposed RO framework (see Figure 3.2). Advocators and supporters of RO framework, or theory, highlight that to possess resources with special characteristics (e.g. valuable, rare, inimitable, and nonsubstitutable) (Barney, 1991) is necessary but insufficient to link the firm's resources to its competitive advantage and value creation (Sirmon et al., 2007; Carnes et al., 2017). Instead, they argue that the process of resource management has to be distinguished from the characteristics of resources being managed (Sirmon et al., 2007; Sirmon et al., 2011).
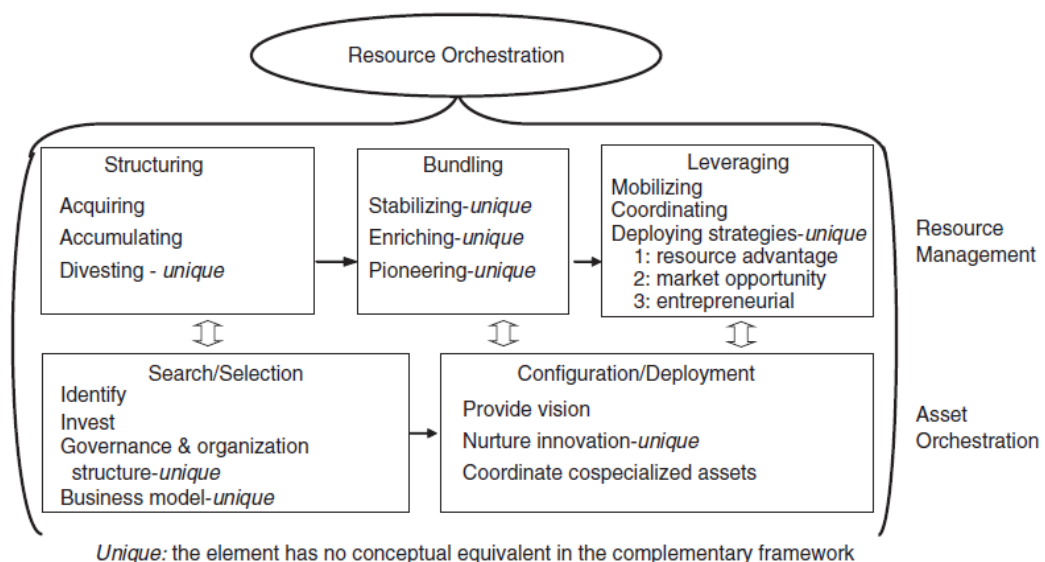
Figure 3.2 Resource orchestration framework (comparing resource management and asset orchestration framework)
Source: Reproduced from Sirmon et al. (2011).

As shown in Figure 3.2, RO is developed by the integration of 'resource management' (Sirmon et al., 2007) and 'asset orchestration' (Helfat et al., 2007) frameworks.[49] From the perspective of RO, "resources must be managed effectively in order to produce innovation" (Carnes et al., 2017: 473). Its theoretical arguments suggest that managers' resource-related efforts can be divided into the three main actions of *structuring*, *bundling*, and *leveraging* (Sirmon et al., 2007; Sirmon et al., 2011). Specifically, *structuring* is aimed at the formation of the firm's 'resource portfolio', which is "the sum of all firm-controlled resources (i.e., tangible and intangible assets)" (Sirmon et al., 2007: 278); *bundling* is the integration of resources to build the firm's capabilities; and *leveraging* is the application of the firm's capabilities to create value. Here, what is important is the synchronization of the firm's resource orchestration actions (Sirmon et al., 2011).

Today, RO has been adopted by researchers in the fields of strategy and innovation studies to address actor- and dynamic-focused questions associated with firms (e.g. Chadwick et al., 2015; Baert et al., 2016; Carnes et al., 2017). Nevertheless, as RO is at a very nascent stage in its developmental process as a theory, there are some gaps that can be filled by further research.

Currently, the subprocesses of RO inherit those of resource management framework (Sirmon et al., 2007): (1) *structuring* involves 'acquiring' external resources, 'accumulating' resources internally, and 'divesting' unnecessary resources; (2) *bundling* incorporates 'stabilizing' to improve current capabilities incrementally, 'enriching' to extend current capabilities, and 'pioneering' to create new capabilities; and (3) *leveraging* involves 'mobilizing', 'coordinating', and 'deploying' (see Figure 3.2) (Sirmon et al., 2011). However, if we take account of multiple levels of managers coexisting within the firm, subprocesses of RO can differ by managerial level

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[49] *Resource management* framework (Sirmon et al., 2007) is a process- and manager-oriented framework, which is defined as "the comprehensive process of *structuring*, *bundling*, and *leveraging* the firm's resources with the purpose of creating value for customers and competitive advantages for the firm" (Sirmon et al., 2011: 1392; emphasis added).

(Sirmon et al., 2011: 1404). Hence, Sirmon et al. (2011) suggest that one of the future research agenda in the development of RO is the *depth of RO* (resource orchestration across levels, or managerial hierarchy, within the firm). Furthermore, the scope to which the logic of resource orchestration can be applied varies across the firm. This is suggested as another future research agenda: the *breadth of RO* (resource orchestration across the scope of the firm) (*Ibid*.). As we shall see in the following subsection (Section 3.4.2), the analytical framework of the thesis is developed by considering both the *depth* (multiple levels of structures and actors) and the *breadth* (multiple levels of strategies) of RO. This will help the thesis to generate theoretical contributions to knowledge in addition to provide novel empirical insights.

3.4.2 Analytical framework: Direction of Corporate Venturing (CV)

At the start of Section 3.4, it has been suggested that the *direction of CV* relates to an internal consistency, within the firm conducting CV activities, between the firm's structure (with actors residing in the structure) and its strategy. Maintaining this perspective, this thesis develops an analytical framework that can help address the research questions by combining a focus on both the main *managerial actors* who conduct CV activities, and on the primary *strategic objective* that the CV program pursues and is designed to achieve. As we shall see in the thesis, this framework, which is a new framing of direction, helps explain the case firm's CV activities repeated over time.

To position the framework in the CV and the strategic management literature, this analytical framework is developed by drawing on resource orchestration theory (see Section 3.4.1). As Eisenhardt (1989) suggested, theory-building research does not follow a purely inductive or deductive logic. Instead, it begins with identifying and measuring possible constructs, which is followed by the iterative process of analyzing data; finding patterns; and tying emergent findings (including hypotheses being shaped) to the existing literature (Eisenhardt, 1989;

Eisenhardt and Graebner, 2007). During this iterative process, an analytical framework is necessary as an investigative tool of research. It is a tentative research outcome, which later can be developed into a conceptual framework, which is a type of theory (Frankfort-Nachmias and Nachmias, 1996; Ravitch and Riggan, 2016) that can describe a phenomenon of interest (e.g. Gartner, 1985).[50]

Given that internal consistency between structure (with actors residing in the structure) and strategy is important, an analytical framework can be generated along two dimensions: (1) the main *managerial actors* of CV activities and (2) the primary *strategic objective* of a CV program (see Figure 3.3). Specifically, one axis of the framework is referred to as *locus of innovation*, which is the starting point of the *direction of CV* and cares where in the organization an activity starts. This X axis reveals the main actors of CV activities as either being 'technology-driven' or 'market-driven'. The other axis is *strategic objective*, which is the end point of the direction. The Y axis displays two possible primary goals of CV programs: 'exploration' and 'exploitation'.
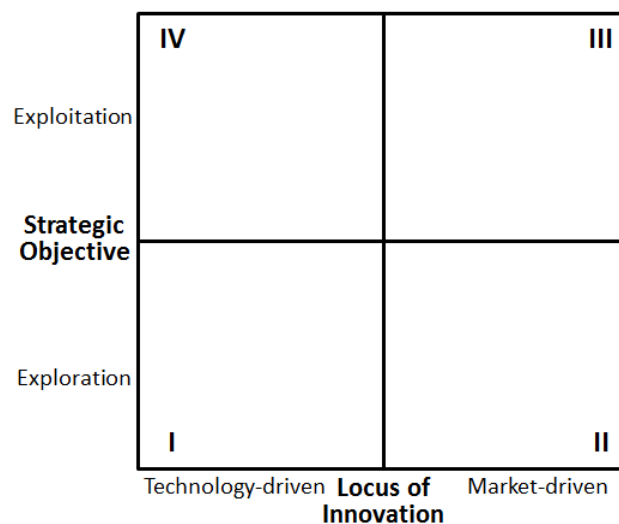
Figure 3.3 The direction of corporate venturing (CV)
Source: Developed by the author.

The theoretical background to the analytical framework's dimensions can be provided by

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[50] The conceptual development process will be discussed in more detail in Chapter 4 on research design.

drawing on the underexplored, prospective research agenda of *research orchestration* (RO) theory: the *depth* (multiple levels of structures and actors) and *breadth* (multiple levels of strategies) of RO (Sirmon et al., 2011). Firstly, the *depth of RO* considers managerial actors positioned at, and interacting across, different levels (i.e. managerial hierarchies) within the firm.[51] From the *depth of RO*:

> … multiple levels of managers coexist, with each level contributing, in different ways, to the achievement of a competitive advantage. As such, the *structuring*, *bundling*, and *leveraging* subprocesses of resource orchestration likely differ by managerial level. (Sirmon et al., 2011: 1404)

Specifically, RO theory suggests that mangers' *structuring* action forms the firm's resource portfolio, which is "the sum of all firm-controlled resources (i.e., tangible and intangible assets)" (Sirmon et al., 2007: 278). However, the *depth* of RO informs that managers' resource-related actions—*structuring*, *bundling*, and *leveraging*—would be differ by managerial levels in the organizational hierarchy. In particular, top management's *structuring* may well differ from that of middle-level managers. It is because from the viewpoint of top management, managerial actors themselves are included in resources (human resource) that need to be *structured*.[52]

As explained, the X axis (*locus of innovation*) of the analytical framework represents the main actors of CV activities. In this thesis, *locus of innovation* refers to a distinct group of individual actors who reside in specific structural units within the firm and dominantly manages a range of CV activities (e.g. CV programs, CV teams, etc.). Of course, main actors of CV activities can emerge in a bottom-up manner. This is what Burgelman's (1983b) classic study on internal CV observed and interpreted with the development of the process model of ICV, describing CV

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[51] More discussion about the *depth* of RO from the case will be addressed in Section 7.3.

[52] As Sirmon et al. (2011) acknowledged, some elements in the 'asset orchestration' (Helfat et al., 2007) framework are "not explicitly addressed in the resource management framework" (Sirmon et al., 2011: 1394). Such elements include organizational and governance structure, business model, and innovation (see Figure 3.2). Top management's *structuring* action discussed in this thesis addresses the role of 'organization structure' in RO.

activities as *bottom-up* and *autonomous* strategic behaviors of actors at the operation level (see Section 2.5.1). However, firms can also proactively adopt CV as an innovation practice. In this case, the *locus of innovation* within the firm can be a result of top management's (e.g. a CEO) resource *structuring* action, which is followed by CV programs deliberately planned and operated by middle-level actors at the *locus of innovation*. This is supported by a theoretical claim from the depth of RO: "… top management is more likely to delegate authority to middle managers to direct the necessary structuring, bundling, and leveraging actions" (Sirmon et al., 2011: 1405).[53] As we shall see in Section 7.3, a pattern emerges from the empirical data shows that the *locus of innovation* at the case firm swung between the technology side (i.e. *technology-driven*) and the marketing side (i.e. *market-driven*) within the firm.

Secondly, the *breadth of RO* takes account of multiple levels of strategies across the firm (e.g. corporate- and business-level strategies) where RO logics can be effectively applied. RO theory suggests that "[o]rchestrating resources is critical to developing and implementing a range of firm strategies" (Sirmon et al., 2011: 1394). Here, the idea underpins the *breadth of RO* is that to orchestrate resource needs to consider different levels, or layers, of strategies across the scope of the firm. It is because "different strategies at the corporate and business levels require a unique set of capabilities to effectively implement them" (*Ibid.*: 1407).[54]

Following the review of CV literature, this thesis specifically focuses on the strategy at the level of the CV program (see Section 2.5.1). From the RO perspective, managerial actors, particularly middle-level managers, design and operate a range of CV programs by conducting resource-related actions—*structuring*, *bundling*, and *leveraging*. However, for an effective implementation of CV strategies, the *breadth* of RO informs us that their resource

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[53] The authors adopted this idea from the review of Floyd and Lane (2000) about the bottom-up strategy-making sequence.

[54] More discussion about the *breadth* of RO from the case will be addressed in Section 7.4.

orchestration actions need to be guided by an overarching strategy (i.e. program-level strategy), which may not be those of corporate- or business-level strategies.

As noted, the Y axis (*strategic objective*) of the analytical framework represents the primary goal of the CV program (i.e. a program-level strategy). As Burgelman and Von Hippel assumed, the main aim of CV at the level of the firm can be regarded as 'business diversification' (Burgelman, 1980; Burgelman, 1983b) and 'new business creation' (Von Hippel, 1973; 1977) (see Section 2.2.2). However, at the program level, firms implementing CV strategy could have a diverse portfolio of projects, or CV teams, to *explore* new business opportunities (by searching for novel and innovative ideas). Or conversely, they can focus on a specific emerging technology or commercial opportunity to utilize, i.e. to *exploit*, identified business opportunities. As we shall see in Section 7.4, a pattern emerges from the empirical data shows that the primary *strategic objective* of CV programs changed between *exploration* and *exploitation*. This distinction of *exploration* and *exploitation* may appear to be not entirely consistent with two modes of learning activity suggested by March (1991): "the *exploration* of new possibilities and the *exploitation* of old certainties" (March, 1991: 71; emphasis added). However, given that *exploitation* aims to achieve "refinement, … implementation, [and] execution" (*Ibid.*), CV activities' strategy at the program level—to *identify* new business opportunities and to *utilize* identified opportunities—can be captured by the exploration– exploitation terminology.

The framework in Figure 3.3 is a CV typology which reveals different types of an internal consistency between structure (with actors residing in the structure) and strategy when a firm operates a CV program. As we shall see in Chapter 7 and Chapter 8, this typology helps explain the firm's resource orchestration process through CV activities (Chapter 7). In addition, it allows us to better understand and explain Company Alpha's repeating CV cycles (Chapter 8).

CHAPTER 4
RESEARCH DESIGN AND METHODS

The Master said: Look at the means he employs, observe the sources of his conduct, examine what gives him comfort—where can he hide? Where can he hide? [55]
—Book II of *The Analects of Confucius*

4.1 Reflection on research design

A thesis is a coherent set of defensible arguments providing an original and substantial contribution to existing knowledge (Booth et al., 2008). As the origin of the word 'thesis' in Greek meaning 'to place' suggests, researchers try to *place* their arguments on a certain body of knowledge by defending their arguments in a convincing way—in light of others' criticism and intellectual scrutiny.[56] A thesis therefore is an outcome of a research process, through which a chain of arguments being generated are logically and robustly supported by appropriate evidence.

Here, the research process necessarily reflects a researcher's philosophical perspective on the research (i.e. how a researcher sees and understands the world) (Van de Ven, 2007). As Van de Ven (2007: 58) highlights, 'realism' is a perspective which "contends that there is a real world existing independently of our attempts to know it", and this thesis follows the viewpoint of critical realists:

> … [T]here is a real world out there, but our attempts to understand it are severely limited and can only be approximated. This perspective argues that all facts, observations, and data are theory-laden and embedded in language. Moreover, most phenomena in the social world are too rich to be understood adequately by any single person or perspective. Consequently, any given theoretical model is a partial representation of a complex phenomenon that reflects the perspective of the model

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[55] Translated by Robert Eno. (Original text: "子曰 "視其所以, 觀其所由, 察其所安. 人焉廋哉? 人焉廋哉?"")

[56] *Oxford Dictionary* (n.d.) 'Definition of *thesis* in English' Available from: https://en.oxford dictionaries.com/definition/thesis [Accessed 25 January 2017]

builder. (Van de Ven, 2007: 14)

How to generate arguments by linking claims and their supporting evidence is, or should be, a matter of 'scientific reasoning', whether it is mainly deductive or inductive, or a mixture of both. This brings us to the importance of 'research design', which is 'an action plan' (Rowley, 2002), or 'a blueprint' (Sekaran and Bougie, 2013), for implementing the scientific reasoning process in the research.

As Hakim (2000: xi) highlights, "Research design is the point where [research] questions raised in theoretical or policy debates are converted into feasible research projects … that provide answers to these questions." Research design, as a blueprint for the research, should be distinguished from 'research methods'. For example, in building a brick house (i.e. a research project), the house is built according to its blueprint (i.e. research design); however, its implementation, such as grading, framing, and roofing, represents builders' activities (i.e. research methods). In this example, both the house and the research project need to be robust enough to withstand the forces of gravity in the former, or the criticism of readers in the latter.

This analogy of 'house building' also suggests that there is an aspect of 'intellectual invention' in research design, which may well provide an originality to the research. Sometimes, this *inventive* nature in research design makes some fields of research advance relatively slowly. Platt (1964) argued that some fields of science are advancing very rapidly because they are applying "a particular method of doing scientific research … [which can be] systematically used and taught" (Platt, 1964: 347).[57] However, especially in social science where research designs are usually embedded in the real world rather than some laboratory settings, inventing a

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[57] John Platt, who is an American physicist and biophysicist, suggested the process of 'strong inference', highlighting the power of "accumulative method of inductive inference" (Platt, 1964: 347). In his article in *Science*, he emphasized the need for alternative hypotheses and 'the logic of exclusion' which negates and excludes irrelevant hypotheses.

[80]

research design that can be systematically and repeatedly applied is both time consuming and challenging. This chapter discusses the research design (Section 4.2) and methods employed (Section 4.3 and 4.4), and some research issues will also be discussed to show how the research was conducted to confront the challenges in the research (Section 4.4).

4.2 Research design

In order to explore *CV cyclicality* at the level of the firm, as noted in Section 1.3.1, this thesis adopted a *case study* approach (e.g. Ragin, 1997; Morgan, 2012; Yin, 2013). As Ragin (1997: 30) highlights, *cases* are "meaningful but complex configurations of events and structures" (Ragin, 1997: 30). They are single, purposefully chosen objects that are empirically explored in parallel with concept formation and elaboration. According to Morgan (2012), a *case study* approach is seen as particular "modes of scientific reasoning" (Morgan, 2012: 667), and she highlights that 'a case study' is "an in-depth study of a single whole" (*Ibid.*: 668), which involves open-ended investigations of a bounded whole object in the complexity of a real-life setting to generate a complex, narrated account by applying potential research methods (e.g. survey, statistical, and historical work).[58] The outcome of case studies needs to be tested for *validity* (internal, construct, and external validities) and *reliability* for their rigorousness (Cook and Campbell, 1979; Gibbert et al., 2008).[59]

The research setting in the early stage of this research was characterized by both a relative lack of existing empirical data and well developed theoretical approaches with clearly defined

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[58] From Yin's (2013: 16) definition, "A case study is an empirical inquiry that investigates a contemporary phenomenon (the "case") in depth and within its real-world context, especially when the boundaries between phenomenon and context may not be clearly evident." Morgan (2012: 668) however pointed out that a better definition is necessary in social scientific fields, although Yin's definition is widely quoted especially in sociology and management fields.

[59] As Yin (2013) suggests, 'internal validity (or logical validity)' can be enhanced by theory triangulation, 'construct validity' by data triangulation, and 'external validity' by case studies of different organizations (or different cases within one organization).

dimensions that can be tested. Given the limited extent of previous studies to guide data collection and interpretation, there is clearly a danger of generating unrobust results. Hence, a research design is needed that will generate robust and meaningful findings, and move beyond a simple descriptive study. Given the research setting and the focus on a 'how' question, the research design of this thesis adopted a *qualitative case study* approach (Yin, 2013). As stressed by Ragin (1999), data from cases can be collected by using *qualitative* or *quantitative* data collection methods, or combining both. Hence, "data collection techniques per se can be seen as relatively neutral" (Ragin, 1999: 1140), and "what matters most is the researcher's goal" (*Ibid.*), which is dominantly divided into "making facts understandable and making causal-mechanistic predictions" (*Ibid.*: 1150). Ragin underlines that research designs and methods follow research goals: the first goal is followed by *case-oriented* research and the second by *variable-oriented* research. Drawing on Ragin's (1997; 1999) classification, the research design of this thesis can be explained as *case-oriented* research using *qualitative methods* (e.g. Miles et al., 2014) for data collection and analysis.[60]

Specifically, this thesis adopted a *case study* approach to examine a *single*, purposely chosen firm. A *single-case study* approach is particularly useful in examining critical, revelatory, and longitudinal (e.g. temporal changes in the sequence of events) cases (Yin, 2013: 51), and it has been adopted by researchers who examined CV activities (Burgelman, 1980; McGrath, 1995; Keil et al., 2009). As noted in Section 1.3.1, a large ICT firm in Korea was chosen with the focus on the specific phenomenon (CV cyclicality at a firm level), as it is the exemplar of a large firm in Korea that repeats CV activities over time. In other words, the single case firm was selected by 'theoretical sampling' (Eisenhardt, 1989; Eisenhardt and Graebner, 2007), rather than

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[60] As Ragin (1999) highlights, data collection methods in research can be grouped into *qualitative* (e.g. observation, in-depth interviews) and *quantitative* (e.g. surveys, analysis of census data) groups. Also, data collected from case study research designs can "be qualitative (e.g., words), quantitative (e.g., numbers), or both" (Eisenhardt, 1989: 534-535). In this thesis, a *qualitative case study* approach means a *case-oriented* research design using *qualitative methods* for data collection and analysis.

random sampling. To maintain confidentiality, the case study firm is anonymized and called 'Company Alpha'. Company Alpha is ideal for the empirical setting of the research because the firm has been at the center of all three CV waves in Korea—both indirectly and directly. As noted in Section 1.3.1, Company Delta, which is another subsidiary of the Alpha Group, was a pioneer of CV in Korea in the mid-1980s.[61] However, Company Alpha *itself* actively conducted a range of CV programs both in the second (in the mid-1990s) and third (in the early 2010s) waves of CV in Korea.[62]

In addition, as the speed of change in the ICT industry is generally faster than other industries, it was assumed that this would make observations and analyses clearer and more reliable. For example, Christensen (1997) examined sixteen years' development of the hard-disk-drive (HDD) industry between the period of 1976 and 1992, and its high speed of development rate, such as the physical size and the disk capacity of HDDs, helped the researcher to identify a repeating pattern in the industry and develop an understanding of *disruptive technologies* (e.g. Bower and Christensen, 1995; Christensen, 1997). Similarly, a relatively faster speed of technology development in the ICT industry was expected to help observe and examine the repeat of CV activities by the high-tech firm in this industry.

In order to capture the degree of variance in the case study firm, changes associated with the firm's CV and CVC programs (main units of analysis) were examined in a *longitudinal* manner. As Burgelman (1983b: 224) highlighted, in the study of CV activities where project development has a long time horizon, "a truly longitudinal study [is] beyond the available

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[61] *The Korea Economic Daily* (1986) 'Company Delta launches corporate venturing, reducing the risks in new business development'

[62] As we shall see in Section 5.2.1, Company Alpha is an ICT subsidiary of the Alpha Group, which was established by the Alpha Group in 1990 with the aim of diversifying its business portfolios into the IT industry. Company Delta is another subsidiary of the Alpha Group, and findings of the research suggests that Company Delta's CV activities in the first Korean CV does not have any noticeable influence on Company Alpha's CV activities thereafter.

resources." Instead, Burgelman suggested that "a longitudinal-processual approach (Pettigrew, 1979)" (*Ibid.*) is one viable option. He, therefore, studied the developmental process of six internal ICV projects of a single case firm (see Section 2.5.1), in which "each case was traced and the progress of each case during a fifteen-month research period was observed and recorded" (*Ibid.*). In this thesis, the case was examined with the focus on CV programs as the *unit of analysis*. The firm's data associated with CV activities were traced and recorded through the fifty-month data collection period of the research (from January 2013 to March 2017). As the case study in the thesis examines multiple units of analysis within a single case study firm, its research design can be categorized as an 'embedded case study design' (Yin, 2013).

For the data collection and analysis, an analytical framework developed in Section 3.4.2 was used as a tentative investigative tool to unpick changes within the case firm. This analysis approach is found to be useful because it allowed the within-case analysis of different CV programs at Company Alpha. Significantly, a longitudinal-processual approach to the research made it possible to identify two different CV cycles within the firm and also to carry out the comparison between the two. As George and Bennett (2005: 81) suggested, the comparison was "achieved by dividing the single longitudinal case into two", which as a result generated the 'before' case (the first CV cycle, which will be analyzed in Chapter 5) and the 'after' case (the second CV cycle, which will be analyzed in Chapter 6) divided by a discontinuity between the two cycles.[63]

4.3 Data collection

Applying the research design discussed in the previous section, data were collected through the fifty-month data collection period of the research (from January 2013 to March 2017). The

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[63] This thesis refers to this discontinuity between the two CV cycles as the *hidden* period, which will be discussed in Section 6.2.

data collection and analysis were conducted in overlapping phases throughout the process of 'building theory from case study' research (Eisenhardt, 1989; Eisenhardt and Graebner, 2007). As stressed by Eisenhardt (1989: 538), "A striking feature of research to build theory from case studies is the frequent overlap of data analysis and data collection." In addition, due to the relatively distinct features of theory building research, the scope of data collection was extended (interview questions and data sources being updated) and the research question was evolved during the research.

4.3.1 Initial literature review and pilot interviews (January 2013 to August 2014)

During the initial research phase, both the *initial literature review* and the *pilot interviews* were completed. At the outset, bodies of literature on CV and strategic management were reviewed. As Eisenhardt (1989) suggested, the initial literature review stage is critical as it helps sharpen the broad research question and identify *a priori* constructs that can help understand and explain the case being examined. During this stage, 165 studies on CV and CVC since the mid-1970s were identified, and by reviewing the literature, potential constructs (and special terms), such as 'CV cyclicality' and 'multiple levels of CV analysis', were identified.

The initial research phase involving 18 *pilot interviews* with 5 interviewees was conducted from January 2013 to August 2014. The researcher managed to establish access to 5 managers within the CV unit at Company Alpha, who were at different levels (1 general manager (the director of the CV unit); 2 senior CV/CVC managers; 1 CV manager; and, 1 venture team manager). Every interview was a one-to-one interview using video communication programs (e.g. Skype, Google Hangouts, and Apple FaceTime). Each interview was conducted in Korean and took 30 minutes to 2 hours, all of which were recorded after obtaining the consent of the interviewees. In the early part of the pilot interview stage, interviews were conducted in a *non-structured* format; whereas at a later stage, interviews were carried out in a *semi-structured*

format because the learning from a series of pilot interviews informed the development of an interview guide, which is more closely related to the refined research questions.

Doing the pilot interviews was an important part of this study, which firstly involved identifying two *key informants*. Key individuals involved in CV activities were also identified, who were then contacted for participation in the subsequent in-depth interviews. As Yin (2013: 111) highlights, 'key informants' play a crucial role in a case study approach because, rather than just being a 'respondent', they can even provide insights about the current situation and help a researcher to get access to other interviewees and some sources of critical evidence. Secondly, a key concept (the *direction of corporate venturing*) emerged by engaging with these practitioners, which is in line with an 'engaged scholarship' as suggested by Van de Ven (2007). It was then assumed that a better understanding of 'direction' could help explain *CV cyclicality* at the firm level, which is the empirical phenomenon that motivated this research.

4.3.2 In-depth interviews and archival data collection (September 2014 to March 2017)

One-to-one *in-depth interviews* were conducted 42 times with 28 interviewees from September 2014 to March 2017. The list of 28 interviewees in total is summarized in Appendix A. They are chosen from internal employees and external professionals in order to build a chain of evidence. One group of interviewees is made up of 16 people in Company Alpha: 6 managers within the CV unit, 2 top level management (including CTO), 2 general managers, 3 venture team managers, and 3 senior managers outside the CV unit who closely collaborated with the CV unit.[64] The other group is composed of people outside Company Alpha, which includes 3 members of the CV program's advisory board, 1 external venture team manager, and industry and academy experts in CV domains. The second group of people was interviewed to mitigate

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[64] Among these people, 5 people overlap with the interviewees in the pilot interview stage.

a potential bias due to solely relying on the interviewees within the case firm.

In the early in-depth interview stage, interviews with these 28 interviewees were conducted in Korea during the fieldwork period in the second half of 2014. The interviews were conducted in a semi-structured format using the interview guide (see Appendix B), which was developed during the pilot interview stage. Using the interview guide is important as it helps establish a close link between research questions and the questions for data collection to ensure *construct validity* (Rowley, 2002).[65] Every interview was conducted out of the office, and all interview procedures were conducted in accordance with the research ethics of the researcher's research institute. In the interview, the researcher provided a brief explanation of the research (without directly talking about the research question), and explained the *anonymity* of both the firm and the interviewee and the interviewee's rights. Then the researcher asked the questions based on the interview guide in a *semi-structured* format. When a new finding or evidence was identified, further questions were asked, and some discussion ensued with some interviewees. Each interview was conducted in Korean and lasted 30 minutes to 2 hours, and all of the interviews were recorded after obtaining the interviewees' consent.

During the in-depth interviews in Korea, 5 interviewees (internal employees) who needed to be followed up were clearly identified, as they were involved in strategic decisions and key operations of CV programs. Therefore, a series of follow up in-depth interviews were conducted from late 2014 to March 2017 when important strategic and organizational changes occurred in the firm. These interviews were conducted as one-to-one interviews using video communication programs, which were also recorded.

The longitudinal-processual approach to interviews (repeated interviews with the same people

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[65] As Rowley (2002: 20) highlights, construct validity can be increased by "establishing correct operational measures for the concepts being studied."

at various time intervals) is found to be critically important, because it allowed the researcher to identify changes in the interviewees' perspectives on, and knowledge about their CV activities. For example, subtle changes in emotions, or attitudes towards the CV programs were observed during the period 2012 to 2015. The passion and enthusiasm they had shown for their programs changed into lethargy, frustration, and skepticism, which were identified from the words, gestures, and facial expressions of the interviewees. It would not have been possible to capture such changes if the research design had adopted one-off interviews. In addition, some of the follow-up interviews in early 2017 took on the role of *post-analysis* interviews, which corroborated the findings from the analysis. Key informants said they also benefited from the research findings (e.g. the evolutionary CV cycles, see Appendix E).

All interview recording files were stored in NVivo software to develop a case study database, which is a way to ensure *reliability* (Gibbert et al., 2008).[66] Throughout the interview stages (in both *pilot* and *in-depth* interviews), *field notes*, which is "a running commentary to oneself" (Eisenhardt, 1989: 538)—were written down using Evernote software. About 500 field notes were stored in Evernote, which became a complementary case study database.

Archival data was also collected during this stage for data triangulation purposes. Business and news archives were collected: meeting minutes (e.g. Technology Strategy Committee, Annual Strategy Committee, etc.); program plans; organizational charts; financial reports; and news articles. In particular, there were only a few business archives related to CV activities between the 1980s and 1990s; hence, archival data during this period is mostly news articles retrieved from Naver News Library.[67] All collected data were stored in the case study database (Evernote).

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[66] NVivo is a Computer Assisted Qualitative Data Analysis Software (CAQDAS).

[67] Naver News Library (https://newslibrary.naver.com/) provides news articles in Korean newspapers from the 1920s to 1999.

4.4 Data analysis

As Eisenhardt (1989: 539) stressed, the data analysis process is at "the heart of building theory from case studies, but it is both the most difficult and the least codified part of the process." In this thesis, the data analysis was conducted in line with two data analysis strategies suggested by Eisenhardt (1989: 540): (1) "within-case analysis" and (2) "cross-case analysis search for pattern". And this was enabled by "dividing the single longitudinal case into two" (George and Bennett, 2005: 81), which are the 'before' case (the first CV cycle) and the 'after' case (the second CV cycle).

When analyzing the data and displaying its results, data coding and displaying methods mostly followed the process that Miles and Huberman (1994) suggested. These methods were extended by Saldaña (2013), updating Miles and Huberman's methods (Miles et al., 2014). As Miles, Huberman, and Saldaña (2013) suggest, the qualitative data analysis process consists of 'first cycle coding', 'second cycle coding (pattern codes)', and identifying emerging themes (or propositions) through the support of 'analytic memoing' (Miles et al., 2014).[68] First cycle coding initially processes the chunks of collected data into meaningful segments; Second cycle coding then groups those segments "into a smaller number of categories, themes, or constructs" (Miles et al., 2014: 86).

The data analysis process can be divided into four stages. Firstly, as the major portion of the qualitative data was interview recording files (36 hours), recordings were initially processed by transcribing this into text. During this stage, 14 in-depth interviews that were found to be critical were transcribed word for word, and then translated into English by the researcher. The other interviews were summarized immediately following the interviews with some

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[68] *Codes* can be defined as "labels that assign symbolic meaning to the descriptive or inferential information compiled during a study" (Miles and Huberman, 2014: 71).

important parts being transcribed verbatim. The researcher's transcription and translation work was useful in familiarizing the researcher with the data and developing a more in-depth understanding of the case in both Korean and English language contexts. The use of both languages at the analysis stage, however, raised an issue regarding a degree of potential bias as a result of selecting limited English words for specific Korean words and expressions. Hence, data coding was conducted using transcriptions in Korean, and thought processes were also conducted in the Korean language and ex post translated.[69]

Secondly, as part of the *within-case analysis*, the *first cycle coding* was conducted using the 'descriptive coding' and 'in vivo coding' methods.[70] During this stage, the 'provisional coding' method was additionally applied as this research used the analytical framework to analyze the data. As Miles and Huberman (1994: 58) suggest, "creating a provisional "start list" of codes" from a conceptual framework or research questions are an effective way of coding. Drawing on the analytical framework, provisional codes such as 'locus of innovation' and 'strategic objective' were prepared by the researcher to undertake provisional coding. The qualitative data were electronically coded using NVivo, and the list of provisional codes used is summarized in Appendix C.

Through the first cycle coding, 29 key events related to the developments and operations of CV programs were identified; these key events are displayed in a tabulated format in Table 5.2.

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[69] As will be discussed in Section 9.3.3, the subjective nature of translation was addressed by explicitly dividing the language for thought and analysis processes and the language for written words. The use of the Korean language, during the thought process of data coding and the analysis process, generated the subsequent richness of the interview data—from being conducted in the first language of the interviewees and the language archival data was written. (The author acknowledges that these benefits were inspired in a discussion with Josh Hutton.)

[70] These are types of elemental coding methods (Saldaña, 2013: 83). 'Descriptive coding' captures "the basic topic of qualitative data" (Miles et al., 2014: 74) in words or short phrases to capture specific topics for categorizing. Whereas 'in vivo coding' assigns codes to data using the interviewee's own language (*Ibid.*), which is effective as it can be used to capture useful sound bites from the interviews to support findings.

Next, based on the key events, the timeline of Company Alpha during the period 1990 to 2015 was compiled, which is displayed in Figure 5.2. Finally, by elaborating on the sequence of key events, detailed write-ups (135 pages, double spaced) on the 'before' and 'after' cases along with analytic memos were generated as an outcome of the within-case analysis. As Eisenhardt (1989: 540) stressed, this stage allowed "the unique patterns of each case to emerge", which will be discussed in Chapter 5 (the first CV cycle as the 'before' case:) and Chapter 6 (the second CV cycle as the 'after' case).

Thirdly, a further *cross-case analysis* following on from the within-case analysis was carried out to search for patterns; this cross-case analysis stage overlapped with the *second cycle coding* using the 'axial coding' method.[71] Groups of similar codes identified in the previous stage were reduced to a small number of categories or themes, where *category* becomes the 'axis' of axial coding (Saldaña, 2013: 218). The within-case analysis documents of the first and second CV cycles and initial codes were reviewed and manually categorized.

During the cross-case analysis and the second cycle coding, some patterns were identified as a result of comparing the two CV cycles. For example, four CV programs in the first CV cycle and six CV programs in the second were categorized into similar types (see Table 6.3). In addition, the dimensions of the analytical framework were refined through the process of analysis, which was a highly iterative process. These categories emerging through the axial coding supported the division of *locus of innovation*, which is one dimension in the analytical framework, into 'market-driven' and 'technology-driven'. Similarly, emerging patterns confirmed that *strategic objective*, which is the other dimension, can be divided into 'exploration' and 'exploitation'. These dimensions will be discussed in Section 7.3 and 7.4.

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[71] According to Saldaña (2016: 244), 'axial coding' "extends the analytical work from Initial Coding and … [t]he "axis" of Axial Coding is a *category* (like the axis of a wooden wheel with extended spokes) discerned from first cycle coding."

4.5 Conclusion

Considering "conceptual framework is a theory" (Maxwell, 2013: 40), the conceptual framework developed in this thesis by building theory from case studies is the "final product" (Eisenhardt, 1989: 545) of this research. However, this conceptual framework is not a set of hypotheses which have passed through hypothesis testing research. As Ragin (1987; 1999) discussed, hypothesis testing can be generally enabled by variable-oriented research (see Section 4.2). The outcome of case-oriented research in this thesis, however, develops a conceptual framework with its underlying testable hypotheses. Here, the conceptual framework should avoid *ad hoc* explanations that may be "idiosyncratic to the specific cases of the study" (Eisenhardt, 1989: 544). Hence, a key part of the analysis process is to sharpen the hypothesis and make a link to the existing literature (Eisenhardt and Graebner, 2007) in order to ensure internal validity and to widen external validity (Gibbert et al., 2008).

In Chapter 5 and Chapter 6, the case firm will be analyzed using the research design and methods that have been discussed in this chapter. Following on from this, in Chapter 7 and Chapter 8, the developed conceptual framework is set out alongside the changes in direction (the direction of CV) within Company Alpha, and the factors influencing these changes. Chapter 7 includes a discussion of the theoretical interpretation of the developed conceptual framework from the perspective of resource orchestration theory (Sirmon et al., 2007; Sirmon et al., 2011) discussed in Chapter 3. Chapter 8 then applies this developed conceptual framework to analyze the case through the new framing of direction.

CHAPTER 5

COMPANY ALPHA'S CORPORATE VENTURING PROGRAMS: THE FIRST CYCLE OF CORPORATE VENTURING (1997–2002)

5.1 Introduction

This chapter has two main goals. One is to establish contextual knowledge about the empirical settings by reviewing the profile of the case firm, which enables a more robust analysis of the case in Chapter 5 and 6. The other is to analyze the first CV cycle at Company Alpha (1997-2002), which includes a range of CV and CVC programs that were developed and terminated during this period.

As Van de Ven and Huber (1990: 213) stressed, "describing and explaining the temporal sequence of events that unfold" is important with respect to the question of *how* changes occur over time. In this chapter, the 'before' case study, which was discussed in Section 4.2, is described by weaving the sequence of key events identified from the within-case analysis into a narrative around the topic: the first CV cycle.

In this chapter, Section 5.2 reviews the case firm, summarizes 29 key events, and provides the firm's 26-year timeline. Section 5.3 then explains a detailed description of Company Alpha's CV programs in the first CV cycle. And Section 5.4 concludes.

5.2 Case briefing: Company Alpha

Company Alpha was chosen as a case study firm and the rationale for the selection has already been discussed in Chapter 4. Subsequently, this section reviews the profile of the firm and compiles a timeline of Company Alpha associated with CV programs during the period from 1990 to 2015 (see Appendix D). This timeline is one of the significant empirical outcomes of this research, which informs subsequent analyses in the remaining parts of the thesis.

5.2.1 Profile of Company Alpha[72]

Company Alpha is an Information Communication Technology (ICT) service firm in Korea. The company is an ICT subsidiary of the Alpha Group, which is a multinational 'business group' headquartered in Korea with over 30 subsidiaries as of 2015.[73] Company Alpha was established by the Alpha Group in 1990 with the aim of diversifying its business portfolios into the IT industry.[74] Since then, Company Alpha has developed into a leading IT system integration (SI) firm in Korea, which had an annual revenue of about $1 billion by the year 1999.

In 2005, the CEO of Company Alpha (hereafter CEO#5) set out the corporate vision as "the global top ten IT service company", which was shared through internal emails, public media, and the keynote speech at a corporate anniversary event. As a leading ICT service firm in Korea, Company Alpha's main business areas encompass: IT consulting, system integration (SI), IT outsourcing (ITO), IT infrastructure (e.g. data center), and IT solution services.[75] Table 5.1 summarizes the definitions of the firm's business areas as of 2012.

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[72] The issue of *anonymity*: This thesis is based on the case study of a firm which is *anonymized* for the reasons discussed in Chapter 4, such as sensitive data pertaining to the firm. The name of the case study firm and other relevant data (e.g. titles of archival data, names of specific job positions, etc.) are modified as much as possible to ensure *anonymity*. In line with this approach, sources of quotations not from academic materials (e.g. journal articles, books) are mostly cited in footnotes, if necessary, in slightly adjusted forms. There is a consensus among researchers (e.g. Rasmussen, 2011) that *confidentiality* could be derived by anonymizing the information of cases and interviewees, and the *confidentiality* facilitates wider and deeper access to archival data and induces more open and honest responses from interviewees.

[73] Borrowing the definition from Chang and Hong (2000: 429), a business group is "a gathering of formally independent firms under the single common administrative and financial control of one family." For instance, well known Korean large business groups include Samsung, LG, and Hyundai; and Chang and Hong (2000: 429) notes that top 30 business groups "accounted for 40 percent of Korea's total output as of 1996".

[74] Alpha Group's official website (Alpha Group (n.d.) 'Pioneering the Digital Age', *History Timeline* [Accessed 18 July 2016])

[75] The analysis of business archival data identified that Company Alpha used the business jargon 'service lines' to mean business areas (business domains) of the firm.

Table 5.1: The definitions of main business areas of Company Alpha (as of 2012)[76]

Business Area	Definition
IT Consulting	"Advisory [and implementation] services that help clients assess different technology strategies and, in doing so, align their technology strategies with their business or process strategies."[77]
System Integration (SI)	"The process of creating a complex information system that may include designing or building a customized architecture or application, integrating it with new or existing hardware, packaged and custom software, and communications."[78]
IT Outsourcing (ITO)	Service that provides "IT-enabled business process, application service and infrastructure solutions for business outcomes."[79]
Infrastructure (Infrastructure as a Service)	"A standardized, highly automated offering, where compute resources, complemented by storage and networking capabilities are owned and hosted by a service provider and offered to customers on-demand."[80]
IT Solution	Service that provides products (software packages), combination of products and services to address customers' business problem.

Source: Elaborated by the author, based on Gartner IT Glossary (http://www.gartner.com/it-glossary/) and the business archival data of Company Alpha.

It should be noted that in a longitudinal study, having a set of definitions of the business of the firm being analyzed and technologies at a specific point of time is important. This is because they may well be used as a frame of reference in discerning changes in businesses and technologies resulting from the development of managerial and technological capabilities. For example, the analysis of the firm's business archival data shows that the definition of

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[76] These definitions are based on the review of Company Alpha's business archives between the period 2010 to 2012, and by drawing on up-to-date definitions suggested by Gartner, a top-tier IT consultancy firm.

[77] *Gartner* (n.d.) 'IT consulting', *Gartner IT Glossary*, Available from: http://www.gartner.com/it-glossary/it-consulting/ [Accessed 18 July 2016]

[78] *Gartner* (n.d.) 'System integration', *Gartner IT Glossary*, Available from: http://www.gartner.com/it-glossary/system-integration/ [Accessed 18 July 2016]

[79] *Gartner* (n.d.) 'IT outsourcing', *Gartner IT Glossary*, Available from: http://www.gartner.com/it-glossary/it-outsourcing/ [Accessed 18 July 2016]

[80] *Gartner* (n.d.) 'Infrastructure as a Service (IaaS)', *Gartner IT Glossary*, Available from: http://www.gartner.com/it-glossary/infrastructure-as-a-service-iaas/ [Accessed 18 July 2016]

'Infrastructure' business area was updated after 2008 due to the rise of relevant emerging technology (cloud computing technology) and the growing understanding of the on-demand concept in the firm.

As of 2015, Company Alpha's annual revenue was $6.6 billion, and the number of employees was about 13,000, with branches located around the world (e.g. US, UK, China, Brazil, India).[81] The major customers were the Alpha Group's affiliated companies, organizations in the Korean government, and other public and private organizations, globally.

5.2.2 Timeline of Company Alpha (1990–2015)

Based on the data collected from the fieldwork, this thesis now examines organizational changes in Company Alpha over the research time period. Changes of, or in, organizations can be examined from two different perspectives: the *external* and *internal* viewpoints of the firm. The former is the change observable from outside the firm, which is about the change associated with the scale of the firm and is usually based on publicly available data (e.g. annual revenues, number of employees). Whereas, the latter (the internal viewpoint) is more strategic and incorporates changes that cannot be as easily observed from outside the firm; however, this can be identified by examining the data retrieved from inside the firm (e.g. interviews with employees, business archival data).

Drawing on financial and human resources data, organizational changes from the *external* viewpoint are compiled as shown in Figure 5.1. The figure shows changes in the number of employees, annual revenues, and operation incomes between 1995 and 2015.

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[81] In this thesis, all monetary values in Korean Won (KRW) are converted to US Dollars (USD) at the average exchange rate of 2015 (1 USD = 1,130 KRW on average in 2015).
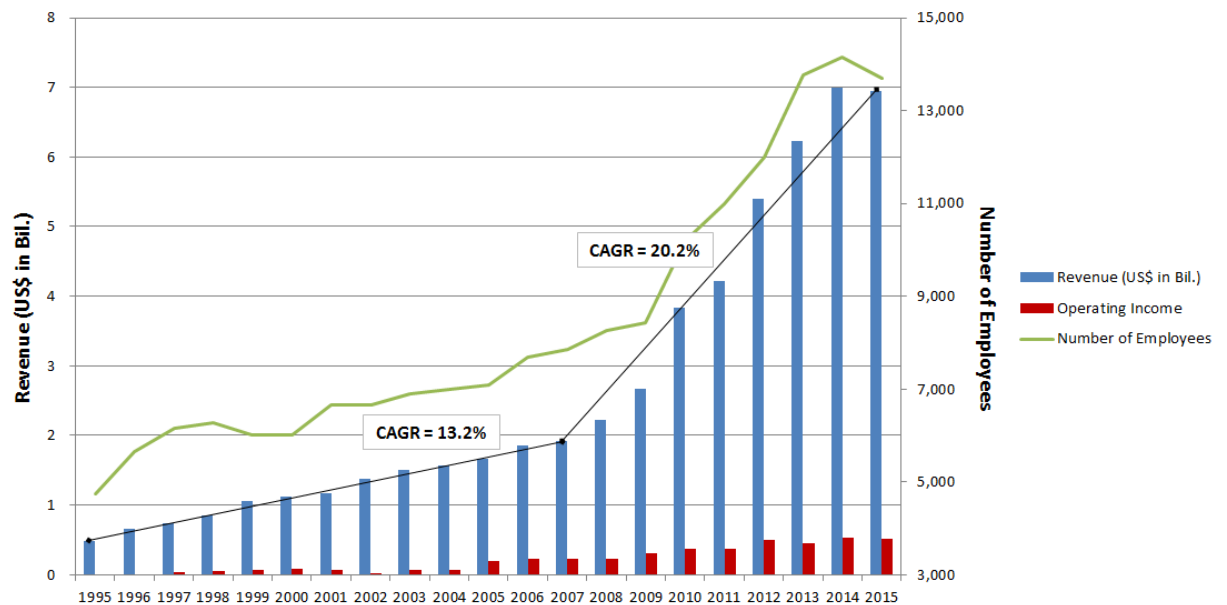
Figure 5.1 Changes in the number of employees and annual revenue (1995–2015)
Source: Elaborated by the author based on the data obtained from the Data Analysis Retrieval and Transfer (DART) system (https://dart.fss.or.kr/) and the business archives.

Figure 5.1 indicates two particular trends in the organizational changes at Company Alpha from the *external* viewpoint. As to the first trend, it is apparent from the graph that the increasing rate of annual revenue can be divided into two stages: the first stage (from 1995 to 2007) with a relatively less compound annual growth rate (CAGR) of 13.2%, and the second stage (from 2007 to 2015) with a higher CAGR of 20.2%. However, the second trend indicates that although the total number of employees increased in accordance with the growth of the annual revenue, the period from 1999 to 2000 shows a noticeable decrease in the number of total employees.[82]

The two trends discerned from the above analysis are important because they form the organizational context, which allows a more realistic and insightful analysis of organizational change from the *internal* viewpoint. For example, they enable a better understanding of actors' motives behind activities and the firm's authentic objectives (or goals, aims) for CV programs. Although Figure 5.1 and the two trends will be referred to later, the sudden decrease in the

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[82] According to a newspaper article published in December 1999, the annual turnover rate of Company Alpha, which was 3% in general, increased to 4% in 1998 and then to 5% in 1999 (*The Kyunghyang Shinmun* (1999) 'A report on Company Alpha').

number of employees in 1999 is discussed here prior to the analysis.

With respect to the radical decrease in human resources for high-tech companies in the ICT industries in the late 1990s, Beck (2000), then Director of Research at the Korea Economic Institute of America, explains that many business groups in Korea suffered a human resource drain due to start-up (venture) companies at this time. Due to the rapid growth of ICT start-up (venture) companies during this period, the migration of employees on mass to venture companies damaged Korean high-tech companies' internal structures.

CVC-SM-A, who was a Corporate Venturing Capital Senior Manager responsible for the CVC investment from 2000 to 2005, confirmed that the decrease in the number of employees at Company Alpha in the late 1990s was due to the venture boom in Korea:

> In the late 1990s, there was a venture boom in Korea. In our company [Company Alpha], we had a *human resource drain* on a massive scale because our firm was one of the largest IT companies in Korea. At that time, actually the management was preparing a lay-off plan; however, due to the venture boom, skilled members were beginning to leave the company instead of people to be laid-off. (CVC-SM-A, personal interview, 2014; emphasis added)

By drawing on the data retrieved mainly from inside the firm—from interviews with business people and reviews of business archival data—organizational changes from the *internal* viewpoint are revealed as shown in Table 5.2. The table highlights key events and dates related to Company Alpha's CV programs between 1990 and 2015.

As to the analysis process, after collecting Company Alpha's business archival materials and having transcribed the interviews, the data was stored into NVivo, Computer Assisted Qualitative Data Analysis Software (CAQDAS). Then the analysis process was continued by identifying key events and a detailed sequence of events associated with the development and termination of the firm's CV and CVC programs.

Table 5.2: Key events and dates related to Company Alpha's CV programs

No	Date		Key Events	External Environment	Strategy	Structure	People	Program/Project
1	1990	May	Company Alpha was established.			✓		
2	1993	September	New Chief Executive Officer (**CEO#3**) was appointed.				✓	
3			The first autonomous R&D program for employees, '**Research Challenge**', was initiated.					✓
4	1997	July	The 'Special Law for Venture Business Promotion' was enacted by the Korean government.	✓				
5		October	The first corporate venturing (CV) program, '**ICV-α1**', was announced with three ICV teams.					✓
6		December	Korean economic crisis occurred, receiving financial support from the International Monetary Fund (IMF).	✓				
7	1998	December	New Chief Executive Officer (**CEO#4**) was appointed.				✓	
8	1999	June–July	Two ICV teams were spun-off (web development agency, internet search company).					✓
9	2000	March	**CEO#4** announced new corporate-level business strategy and formed the New Venture Division.		✓	✓		
10		March–July	The CV program was continued as '**ICV-α2**'; The first corporate venture capital (CVC) program, '**CVC-α**', was announced in July and began operations.					✓
11	2001	-	KOSDAQ market collapsed and hit the lowest in September 2001, after the burst of the dot-com bubble in the spring of 2000.	✓				
12		September	The New Venture Division was disbanded.			✓		
13	2002	December	New Chief Executive Officer (**CEO#5**) was appointed.				✓	
14	2006	January	New Chief Technology Officer (**CTO#12**) was appointed.				✓	
15		September	A corporate-level three-year technology roadmap, '**IT Roadmap**', was firstly announced to the public.					
16	2010	January	CTO#12 mandated the Technology Strategy Team to develop a new 'R&D process' innovation strategy.		✓			✓

No.	Year	Month	Event					
17		December	New Chief Executive Officer (**CEO#6**) was appointed.				✓	
18	2011	April	A firm-level new business ideation program, '**2011 Corporate Idea-α**', was operated by the Technology Strategy Group (the *de facto* CV unit) in the Technology Strategy Team.					✓
19		September	The Emerging Business Team (the *official* CV unit) was newly created within the Strategic Marketing Office, and the Technology Strategy Group was transferred into the new team.	✓	✓			
20		January	A national-level new business ideation program, '**National Idea-α**, was operated by the Innovation Group in the Emerging Business Team.					✓
21	2012	April	A firm-level new business ideation program, '**2012 Corporate Idea-α**', was operated by the Innovation Group in the Emerging Business Team.					✓
22		July	A venture acceleration program, '**Acceleration-α**', began operation, providing IT infrastructure and mentoring to internal/external CV teams.					✓
23		January	A global-level new business ideation program, '**Global Idea-α**', was operated by the Innovation Group in the Emerging Business Team.					✓
24	2013	February	A firm-level new business ideation program, '**2013 Corporate Idea-α**', was operated by the Innovation Group in the Emerging Business Team.					✓
25		July	The Emerging Business Team (the *official* CV unit) was transferred from the Strategic Marketing Office to the Corporate R&D Center.			✓		
26		December	New Chief Executive Officer (**CEO#7**) was appointed.				✓	
27		April	The Emerging Business Team was disbanded.			✓		
28	2014	December	The Innovation Group was disbanded.			✓		
29		December	A global-level CVC program based at Silicon Valley, '**Global CVC-α**', began operation.					✓

Source: Developed by the author based on interviews, business archival data, and newspaper articles.

Table 5.2 summarizes 29 key events in total and the dates identified from the analysis. These events are either directly related to the development of CV programs (e.g. the initiation of special CV programs or projects), potential factors for influencing CV programs (e.g. the

appointment of a new top-level management), or possible conditions under which CV programs were conducted (e.g. the enactment of law, economic crisis). Hence, five columns on the right of Table 5.2 evaluate the types of key events using the five dimensions below:

• **External environment**: The event is relevant to an economic, social, or legal factor.

• **Strategic change** (corporate-level): The event is related to top-level—business or technology—strategy.

• **Structural change**: The event is associated with organizational change in structure (e.g. annual restructuring).

• **People change**: The event is a change in human resource such as a new appointment of top management.

• **Program or project**: The event is directly related to the development of CV programs (e.g. the initiation of special CV programs or a projects)

Based on Table 5.2, this thesis now compiles a 26-year timeline of Company Alpha during the period from 1990 to 2015 as shown in Figure 5.2. This figure unpacks the sequence of events focusing on the emergence of a range of CV programs of Company Alpha. In Figure 5.2, each row of the timeline matches the dimension in Table 5.2 that was used to evaluate the type of events. Only the last dimension ('program or project') is expanded to the rows describing 'strategy development projects' (5th row), 'CV programs' (6th row), and 'CV teams' major events' (7th row).

The timeline shows the temporal order in the sequence of key events. In addition, the rows in the timeline clearly distinguish key events related to CV programs (which need to be placed at the forefront for analysis) from other events (which can be placed in the background as they played a role as factors and conditions for the change in CV programs).

[101]

The compiled timeline shows that sets of CV programs are grouped into two periods, one in 1997–2002 and the other in 2011–2015, each of which represents Company Alpha's CV activities that have different characteristics. More specifically, the CV activities in these two periods were both the combination of both CV and CVC activities. For example, CV activities in the first period began from the ICV-α1 announced in 1997, which was then followed by the ICV-α2 and the CVC-α in 2000.

Similarly, CV activities in the second period were mixtures of different programs which emerged in the period from 2011 to 2015—the Corporate Idea-α, the National Idea-α, the Global Idea-α, the Acceleration-α, and the Global CVC-α. But more importantly, it should be noted that there were small-scale, and perhaps *pilot-like programs* before each period: the Research Challenge program in 1993 to 1994 and the Mobile App Idea program in 2010.

It has been found that these two periods, or *cycles* in the case firm's history are almost parallel to the first and second waves of CV in Korean industrial history. This suggests that the findings from the study can contribute to our knowledge of CV and CVC, which will help develop an understanding of the dynamics of CV's waves in Korea, which will be discussed in Chapter 8.
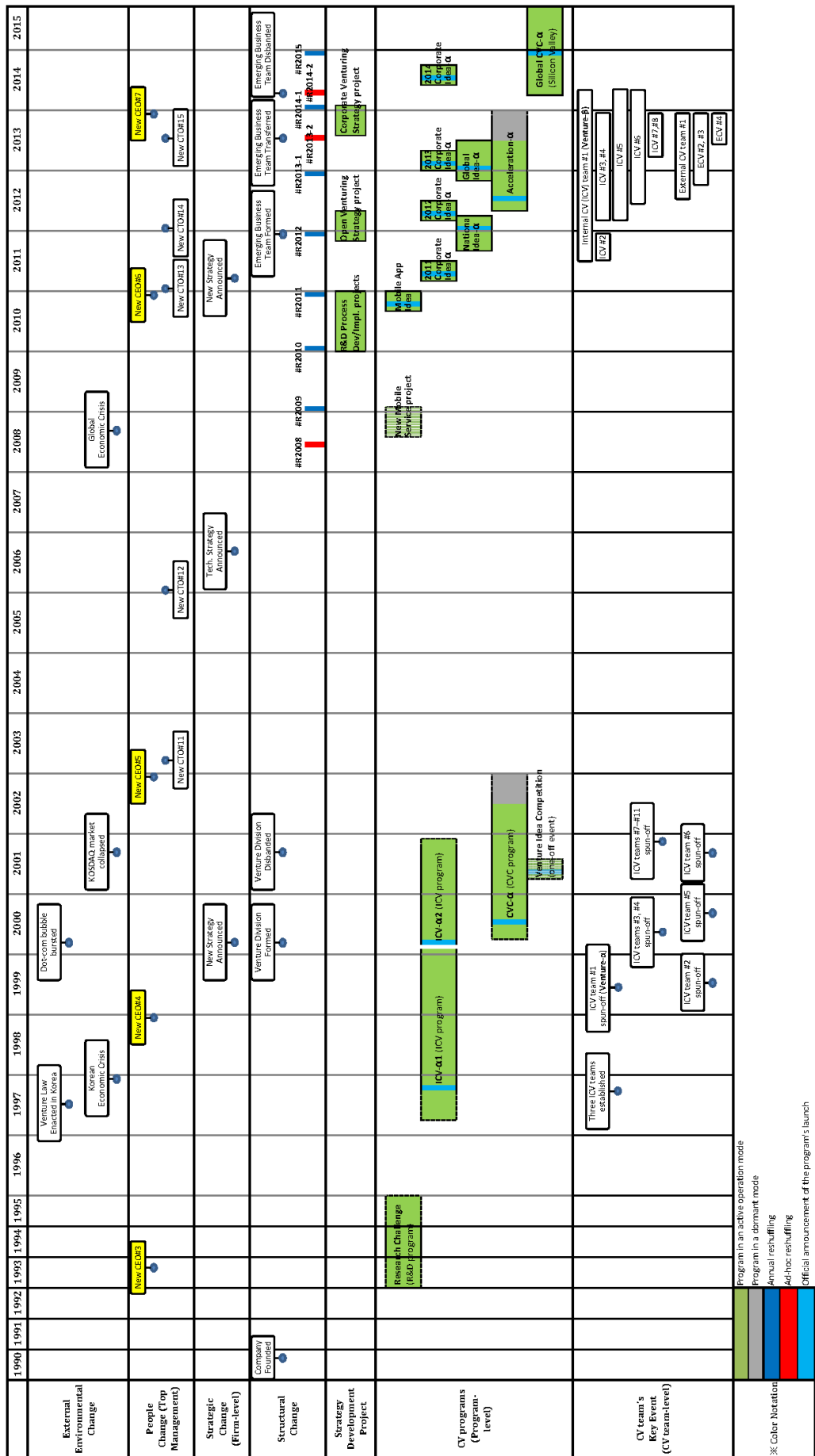
Figure 5.2 The 26-year timeline of Company Alpha associated with CV programs (1990–2015)

Source: Developed by the author.

5.3 The first CV cycle at Company Alpha (1997–2002)

This section now elaborates the history of Company Alpha's CV programs based on the series of key events identified in the previous section. The firm's 26-year timeline related to the firm's CV programs (see Figure 5.2), which is one of the key empirical outcomes of the study, clearly shows that two groups of activities were separately carried out in two periods of time. Using qualitative and longitudinal analysis, this study found *two cycles of CV* in the history of Company Alpha: the first cycle in 1997–2002, which is analyzed in this section, and the second cycle in 2011–2015, which will be analyzed in the following chapter (see Chapter 6). Notably, the periods of these two cycles broadly overlap with the *two waves of CV* in Korean industrial history.

However, it should be noted that there are contextual differences between the two periods: a range of CV programs in the first and the second cycles were initiated and implemented by different actors with different motives/objectives. This section therefore aims to build a "historical narrative" (Hull, 1975) of the first cycle of Company Alpha's CV, and the next chapter will analyze the second cycle in order to identify contextual differences and to establish contextualized knowledge before analyzing the changing *direction of CV*. In order for an analysis of the first cycle of CV in the 26 years' timeline, the left side of the timeline, beginning from 1990 and ending at 2003, is taken from Figure 5.2 and enlarged as shown in Figure 5.3.

Figure content (timeline table, 1990–2003):

	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
External Environmental Change								Venture Law Enacted in Korea / Korean Economic Crisis		Dot-com bubble bursted		KOSDAQ market collapsed		
People Change (Top Management)				New CEO#3						New CEO#4			New CEO#5 / New CTO#11	
Strategic Change (Firm-level)										New Strategy Announced				
Structural Change	Company Founded									Venture Division Formed		Venture Division Disbanded		
Strategy Development Project														
CV programs (Program-level)				Research Challenge (R&D program)				ICV-α1 (ICV program)			ICV-α2 (ICV program) / CVC-α (CVC program) / Venture Idea Competition (one-off event)			
CV team's Key Event (CV team-level)								Three ICV teams established		ICV team #1 spun-off (Venture-α) / ICV team #2 spun-off	ICV teams #3, #4 spun-off / ICV team #5 spun-off	ICV teams #7–#11 spun-off / ICV team #6 spun-off		

Color Notation:
- Program in an active operation mode
- Program in a dormant mode
- Annual reshuffling
- Ad-hoc reshuffling
- Official announcement of the program's launch

Figure 5.3 Timeline associated with CV programs (1990–2003)
Source: Developed by the author.

5.3.1 1993: Research Challenge, the launch of an intrapreneurship program

In September 1993, three years after the firm had been founded (key event #1; hereafter *KE#1*), a new chief executive (hereafter CEO#3) was appointed by the Alpha Group (*KE#2*). In 1993, Company Alpha began running a special R&D program entitled the 'Research Challenge'. It was an *individual-led* R&D initiative in which selected members were able to participate in an

[105]

individual software development project *autonomously* (*KE#3*).[83] An ex-researcher, who as of

2016 is a Business Development General Manager (BD-GM) in the Mobile Business Division

(MBD), shared his experience back in 1994:

> Employees, once chosen for the [Research Challenge] program, had the right to develop
> any kind of software they wanted to without worrying about business hours and work
> places. They worked very freely, and called other members just by their nicknames.[84]
> In planning and operating the program, the R&D Management Team [in the Corporate
> R&D Center] was deeply involved [in the process]. (Ex-researcher, personal interview,
> 2016)

The Research Challenge was the first *intrapreneurship* (Pinchot, 1985) program in the history

of Corporate Alpha because the program allowed, or even induced, members joining the

program to pursue his or her *entrepreneurship*. In the corporate context, *entrepreneurship* was

referred to as 'passion', and the members pursued their *passion* by defining problems,

committing their resources (e.g. time and energy), attempting to develop technological

solutions in the form of computer software. If successful, intrapreneurship programs are

conducive to the innovation of the firm; hence, considering the definition of corporate

venturing (CV) (see Section 2.2), the Research Challenge was definitely one of the earliest CV

programs (CV-I-#1) in the history of Company Alpha.

Among four members who joined the Research Challenge in 1994, one member (hereafter RC-

A) attempted to develop his idea about voice recognition software, which the idea's owner

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[83] Unlike other CV programs, documented information about the Research Challenge program and business archives such as organizational charts when the program was operated (between 1993 and 1995) were found to be rare and hard to obtain, or it may be the case that such information was not properly archived. In addition, even retired employees interviewed did not remember the details of the program enough, which is probably due to the limitation of human memory. Fortunately, the researcher was able to find an ex-researcher who remembered the program, and there was one newspaper article in the archive of *Joongang Ilbo* which interviewed a member of the program.

[84] In Korean contexts, calling other people by their first name is socially regarded rude in general. In the working environment, therefore, people call others by a combination of their surname and their titles. For example, if one is to call Mr. Ian Chang, who is a Business Development Manager, other people, even people from other firms, he or she calls him "Hello *manager Chang*", rather than "Hello Ian".

had been interested in since he was a computer science (CS) major undergraduate.[85] Although the voice recognition project ended within a year as a one-off event, another member of the Research Challenge (hereafter RC-B) who had an idea about *internet searching* technologies successfully made a transition to a different career pathway.

Data show that RC-B later participated in the ICV-α1 program, the first CV program launched in 1997 (see Section 5.3.2). RC-B set up an internal corporate venture team, Venture-α, in 1997, which successfully spun-off in late 1999.[86] Considering the size of the business (e.g. annual sales revenue and the number of employees) and the valuation in the stock market, Venture-α is one of the most successful CV teams not only from its firm-level business history but also at the national level: the history of CV in Korea.

5.3.2 1997–1998: The first CV program (ICV-α1), and the economic crisis in Korea

ICV-α1, the first CV program

In the spring of 1997, the firm decided its corporate-level strategy as "becoming a global top ten IT service company by the year 2005". And prior to the anniversary celebration event, the firm released a statement which described the new strategy in the name of CEO#3.[87]

Under the leadership of CEO#3, Company Alpha announced that they were to launch the 'ICV-α1' program (CV-I-#2) from the autumn of 1997 (*KE#5*). The ICV-α1 was the company's first corporate venturing (CV) program. Rather than financial objectives (i.e. financial gains), the

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[85] Retrospectively, the idea of this enthusiastic member was not successfully developed and commercialized as a real product or service. This draws our attention to the fundamental question of how innovation can be managed.

[86] Kim, who was then a junior researcher, was selected as a member of the Research Challenge program in 1994 and developed database (DB) software for a year (Ex-researcher, personal interview, 2016).

[87] *Company Alpha* (1997) 'Press Release: Company Alpha's vision for 2005'

newly announced program was initiated mainly for strategic reasons: to *explore new business opportunities* for the firm's business growth in the future.

In the case of the earlier CV program, the Research Challenge, it was designed to leverage individual employees' curiosity and creativity that may be generated by providing them with an autonomous business environment. People who joined the program were internal employees with an entrepreneurial mindset, i.e. *intrapreneurs*. However, the program's focus was mainly on the *novelty* of R&D items rather than much consideration of its business impact.

But later, the program became a *prototype* for the forthcoming CV programs as the experiences and its operation knowhow were fed into the first cycle of CV, which was then evolved into the following CV program, the ICV-α1 program. The ICV-α1 was designed to *explore* new business opportunities with its highlighted emphasis on the value of CV teams' business items as to the possibility of becoming the next core business items of Company Alpha. The firm's press release when announcing the program clearly shows the *program-level* strategy of the ICV-α1:

> Extending the intrapreneurship program [the Research Challenge program] previously operated, the ICV-α1 program is aiming to nurture internal venture teams and to support them so that they can grow up as independent ventures. Rather than just eliciting entrepreneurial business ideas from employees, the goal of the ICV-α1 program is to *explore new business opportunities* upon which the company is able to build core businesses in the future. The program finds talented individuals inside the firm and help them establishing corporate venture teams.[88]

When launching the ICV-α1, Company Alpha established three initial corporate venture teams (hereafter *CV teams*), and over sixty members across the company joined the CV teams. The new CV teams' main business models were 'internet searching', 'internet-based retailing (e-commerce)', and 'internet site developing', respectively. The company's press release

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[88] *Yonhap News Agency* (1997) 'Company Alpha launches the ICV-α1 program'

reported in a business newspaper provides more detailed information about the program's operation:

> The CV teams are located in a new building located in the southern part of Seoul [the capital city of Korea]. As a 'business sponsor', Company Alpha [parent firm] supports the internal venture teams [CV teams] financially (e.g. initial investment) and provides administrative assistance. The initial investment to each CV team is estimated to be about $4.5 million. Venture managers now take full charge of managing the ventures, such as R&D, sales, and human resource management. CV teams have the time span of 4 years, and in terms of assessment, there will only be mid-term assessment once in two years with no other reporting responsibilities.[89]

As to the CV unit who managed the ICV-α1, however, it is difficult to find more information. The lack of information hinders a deeper understanding of the role of middle-level managers, especially actors in the CV unit who are venture managers' manager, whose role is emphasized by Eric von Hippel in his classic research on CV (e.g. Von Hippel, 1973; Von Hippel, 1977). An ex-researcher explained that the R&D Management Team in the Corporate R&D Center played a central role in planning and managing CV teams in collaboration with the Human Resource (HR) team at the headquarters (Ex-researcher, personal interview, 2016).

ICV-α1 and the strategy layers of CV

In analyzing CV activities, multiple layers of strategies and structures which are specific to the CV context make the case complex to understand. Researchers therefore have examined CV practices at three levels: (1) parent firm-; (2) CV unit-; and (3) CV team-level (Narayanan et al., 2009: 61). Similarly, there are three levels of strategy in the context of firms' CV activities: *parent firm-*, *program-*, and *venture team-level* strategy. This thesis defines these three levels of strategy as the *strategy layers of CV*, which will be discussed in Chapter 7 (see Section 7.4.1). In managing corporate venturing, the link between parent firm-level and program-level

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[89] *Joongang Ilbo* (1997) 'Company Alpha launches the ICV-α1 program, a new model for starting venture business'

strategies is important; however, this is one of the under-explored links (Covin and Miles, 2007: 184).

In particular, the ICV-α1 case is a good example representing the *strategy layers of CV*. First, at the *parent firm-level*, the long-term business strategy developed before launching the ICV-α1 was to change the firm itself by the year 2005 as a leading Internet-based IT service company. Here, *parent firm-level* strategy can be regarded as the *direction of strategy* that indicates the *content* of firm's strategy—i.e. Type I direction (see Section 2.2).

Second, at the *program-level*, ICV-α1 was designed with the main strategic objective to *explore new business opportunities* through the assessment and selection of ideas entering the program's idea gathering channel. The *program-level* strategy, however, needs to be guided by the *parent firm-level* strategy by which, like a frame of reference, strategic relevance of corporate venture items (i.e. *venture team-level* strategy) are evaluated and selected. In other words, parent firm-level strategy interacts with program-level strategy in the process of evaluating *venture team-level* strategy and selecting CV teams—i.e. deciding *what to explore*. For instance, the business area of three CV teams initially founded—internet searching, internet-based retailing, and internet site developing—all represent the *parent firm-level* strategy, which was to become a leading *Internet-based* IT company.

The economic crisis in Korea and CV activities at Company Alpha

Just two months after the launch of the ICV-α1 program, Korea faced an *economic crisis*, receiving financial support from the International Monetary Fund (IMF) (*KE#6*). According to Lee et al. (2009: 2), "The era of tremendous growth and stability of the Korean economy … came to an end in late 1997 with the Asian economic crisis". The economic impact of the Korean economic crisis—the worst crisis since the Korean War in the 1950s—was severe as a report from OECD and World Bank highlighted: "GDP contracted by almost 6% in 1998.

Unemployment, which was less than 2.5% in the second quarter of 1997, rose to a peak of 8.6% in February 1999, and foreign exchange reserves fell to less than USD 5 billion in December 1997" (World Bank and OCED, 2000: 25). In addition, the value of the Korean currency dropped significantly; the exchange rate between the Korean Won (KRW) and the US dollar (USD) was 902 won per US dollar at the end of October 1997, but then soared up to 1,836 won per dollar by the end of 1997 (Baek et al., 2004: 274).

Unlike general perceptions that firms decrease their innovation efforts in a period of economic challenge (e.g. economic crisis), however, Company Alpha did not cease or abandon their CV program. Instead, within the ICV-α1's scheme sponsored by CEO#3, three CV teams continually secured their independent status of being CV teams inside the incumbent firm; they could develop products, services (e.g. internet searching service, internet site developing service), and businesses (e.g. developing customers network) throughout 1998. An article in a technology newspaper in 1998 pointed out this situation:

> Despite the fact that they are part of a large firm, some teams are almost not affected by the Korean economic crisis, which draws our attention to this. The firm's many business divisions have failed to secure their budgets; however, these teams were invested in as part of their original plans. Company Alpha is going to nurture its internal venture teams [CV teams] in order to prepare for their future.[90]

In December 1998, just 14 months after the official launch of the ICV-α1 program, a new chief executive (hereafter CEO#4) succeeded CEO#3 (*KE#7*). The change in the top-level leadership was rather an unplanned response to external events (impact outside the firm) because CEO#3 had to move to another position in the Alpha Group. CEO#4, a former head of a business division at Company Alpha, was promoted to the CEO.

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[90] *Electronic Times* (1998) 'Company Alpha's ICV-α1 program in the adversity of the financial crisis'

5.3.3 1999–2000: The peak of the first CV cycle (scaling up and variation)

When CEO#4 was appointed at the end of 1998, more and more people had been leaving the company since early 1998. It was not a situation unique to Company Alpha, because around 20,000 people were estimated to have left the Alpha Group since the Korean economic crisis in 1997.[91] In Company Alpha, the number of total employees began to decrease after 1998 (see Figure 5.1), which was mainly due to the migration to start-up (venture) companies in the late 1990s (Beck, 2000). A newspaper article in December 1999 corroborates the firm's managerial problem related to the *high turnover* of skilled members:

> The company has been proud of being a source of IT specialists in the Korean IT industry; however, now it sees the *exodus* of employees seriously. The more IT ventures were newly established, the more employees were scouted or headhunted. The turnover therefore has substantially increased. On average, the turnover was about 3%, whereas it increased to 4% in 1998. This year, about 300 members have left the company, which is *5% in terms of turnover*. In order to *hold the leaving employees*, the firm is alleged to offer stock options to their employees from next year.[92]

Facing "the *exodus* of employees", the top priority of the firm was changed to *retain talent*. CVC-SM-A, who then worked in the Overseas Sales Group in the Overseas Sales Division, recalled this situation as: "… massive scale of *human resource drains* due to the venture boom in Korea in the late 1990s" (CVC-SM-A, personal interview, 2014). "Rather than employees in redundancy," CVC-SM-A added in the interview, "people with the high level of technological, managerial, and entrepreneurial capabilities were leaving the company." CVC-SM-A confirmed that the retention of talented employees became the main strategic objective of the firm's venturing activities:

> We started the venture investment [program] in 2000 which was finished around 2005. … Looking back [in 2014], in the late 1990s, it was not just 'us' investing in ventures. Back then, there was a strong *venture investment climate* in which large firms

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[91] *Shindonga* (2000) 'A report on the Alpha Group'

[92] *The Kyunghyang Shinmun* (1999) 'A report on Company Alpha'

aggressively invested in start-ups; it was like a *historical flow* in that period. In general, the main goal of venture capitals is gaining profits [i.e. financial objectives]. But, we did *not* start the venture investment to make profits. In our situation, *holding the talented employees* was crucial. In early 2000, we had got a mission from the top to organize a venture investment team. (CVC-SM-A, personal interview, 2014; emphasis added)

In the midst of this strong venture investment climate, the firm accelerated the speed of ICV-α1. Originally, under the ICV-α1 scheme, three CV teams were supposed to be reviewed by the parent firm by the end of 1999 as to their performance, which was the mid-term assessment. However, a decision was taken to spin off two CV teams—one that provided an internet searching service (Venture-α) and the other which provided an internet site developing service—from Company Alpha in late 1999 (*KE#8*).[93, 94] From Company Alpha's perspective, this spinning off was an attempt to present the firm to employees as sufficiently innovative—a way of retaining talent.

New corporate-level business strategy

In March 2000, CEO#4 announced a new *corporate-level* business strategy (*KE#9*). This was the firm's mid-term business strategy to achieve a corporate-level strategy of transforming the firm into "the internet-based IT service company".[95] The strategy included the business strategy to change their business portfolio by: (1) reducing the business portion of system integration (SI) business and (2) increasing the portion of internet and global business. "Under the new business strategy," CEO#4 affirmed in the press release, "we will change our business portfolio, and we [Company Alpha] will be renewed by the end of 2003 with an annual revenue

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[93] *Yonhap News Agency* (1999) 'Company Alpha spins off two internal ventures'

[94] Among three CV teams founded in 1997, a team preparing an e-commerce service was transferred into a business division of Company Alpha instead of spinning it off. Meanwhile, two other CV teams—providing medical software and digital content rights management solution—were founded in 1998 and 1999, respectively.

[95] *Company Alpha* (2000) 'Press Release: Company Alpha transforms into the internet-based IT service company'

of $2.7 billion and an operating income of $330 million."[96] Again, the *parent firm-level* strategy

corresponds to the *direction of strategy* (Type I direction) which indicates the *content* of the

firm's strategy.

Finally, under the firm's updated business strategy, CV activities became a key *strategic vehicle*

as a means to achieve the mid-term business strategy. In order to increase the volume of

Internet and overseas business, the firm decided its *parent firm-level* strategy to scale up its

previous CV activities they had been conducting since 1997—the ICV-α1 program. The decision

was reported: "By investing $18 million in 2000 alone and by investing a total amount of $115

million by 2003, the firm aims to nurture its internal corporate venture teams and to increase

its investment in external ventures".[97]

The creation of the New Venture Division and the ICV-α2

After announcing the new *corporate-level* strategy (*KE#9*), Company Alpha overhauled the

organizational structure based on the new strategy announced by CEO#4. As a result of the

organizational reshuffling in March 2000, the New Venture Division (NVD) was formed as

shown in the organizational chart in 2000 (hereafter *OC#2000*) (see Figure 5.4).

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[96] *Company Alpha* (2000) 'Press Release: Company Alpha transforms into the internet-based IT service company'

[97] *Digital Times* (2000) 'Company Alpha announces the business innovation strategy'
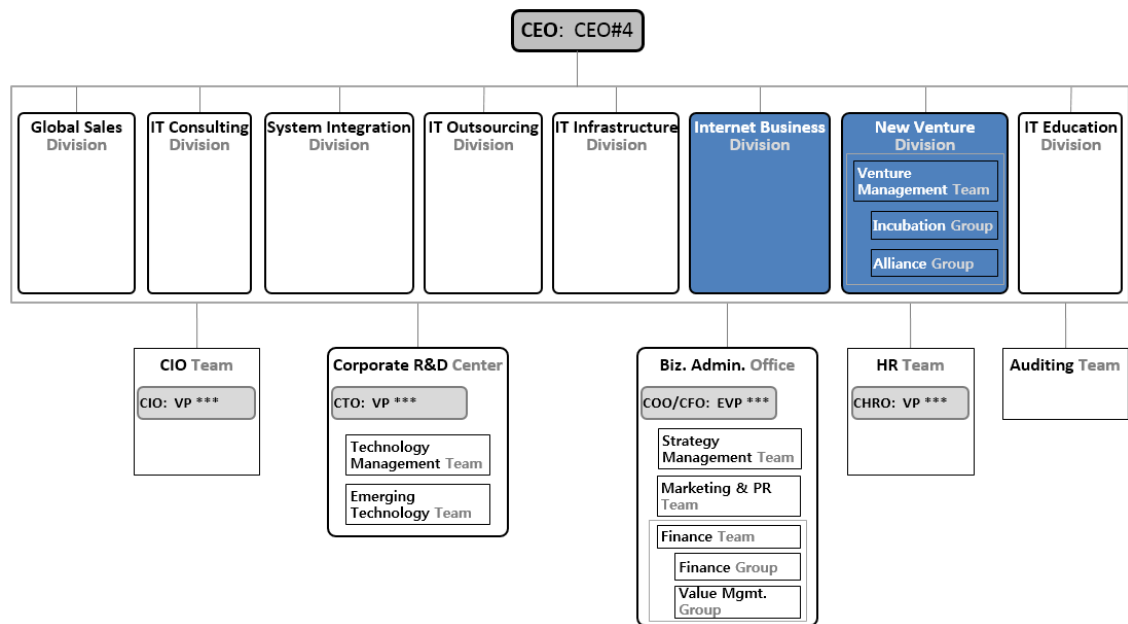
Figure 5.4 Organizational chart of Company Alpha, March 2000
Source: Elaborated by the author based on Company Alpha's business archives and the organizational chart in 2000.
* **CFO**: Chief Financial Officer; **CHRO**: Chief Human Resources Officer; **CIO**: Chief Information Officer; **COO**: Chief Operating Officer; **CTO**: Chief Technology Officer
** Structural units colored in blue represent the newly formed divisions when the new corporate-level strategy was announced in 2000 by CEO#4.

The main role of the NVD was to expand its CV activities financially and to manage the activities more symmetrically. If we look into the internal structure of the NVD, we find the Venture Management Team, which consists of two sub-units: the Incubation Group and the Alliance Group.[98] As to the process of the NVD's formation (e.g. gathering and training people), CVC-SM-A shared her own experiences and observations from an insider's viewpoint:

> In early 2000, there was a mission from the top to organize a venture investment team. An internal recruiting campaign was started to find people for a new team doing venture investment tasks. … Inside the newly formed team, the Venture Management Team, there were two units: the Alliance Group for external investment and the Incubation Group for internal investment. [As a member of the Alliance Group,] I estimated the *valuation* of ventures, and did investment planning, post-investment monitoring, etc. … But the members from different backgrounds didn't have relevant

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[98] After analyzing organizational charts of the company, it was found that every 'division' is made up of 'teams', which then consist of a set of 'groups'. These hierarchical structures and specific terms associated with every single layer in the hierarchy may well establish a unique organizational context, which will be further analyzed and discussed in the following chapters.

[115]

skills, for example, financial investment. So, more people were scouted from VCs and other investment banks, and they trained us, such as the evaluation of venture valuation, the calculation of net present value, and so on. (CVC-SM-A, personal interview, 2014)

The launch of the first CVC program, CVC-α

In the middle of 2000, the head of NVD announced that they were to launch a corporate venturing capital (CVC) program called the 'CVC-α' (*KE#10*). It was Company Alpha's first CVC program, and it can be categorized as the firm's new CV program (CV-I-#4). In the statement, the head of NVD said that they were going to invest in two ventures—mobile healthcare and pharmaceutical start-ups.

In the second half of 2000, Company Alpha's CV programs were all running in operation mode. CEO#4, in an interview with a Korean newspaper, explained:

> In terms of venture investment, we have an internal venturing [ICV-α2] program, and a CVC [CVC-α] program which seeks synergy with potential external venture companies. It feels like we are now living in an 'ice age' of venture investment; however, our company has invested about $22 million this year, which is five times more than last year.[99]

With respect to the objective of CVC-α, the planning document for the CVC-α program shows its main goal was strategic, rather than financial:

> When making investment decisions, our equity investment should be made primarily in our current business areas (system integration and IT outsourcing). … Considering that financial investment is not our special area, gaining financial profits by venture investment is not our top priority. Instead, we need to make profits from our invested partners' business profits.[100]

CVC-SM-A, who at that time worked in the Alliance Group of the New Venture Division,

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[99] *Joongang Ilbo* (2000) 'Interview: The CEO of Company Alpha'

[100] *Company Alpha* (2000) 'The plan for the CVC-α program'

confirmed that the main goal of CVC-α was, as the name of the group indicates, to establish a venture network (i.e. to secure access to business networks) rather than "capital gains" (CVC-SM-A, personal interview, 2013).

5.3.4 2001–2002: The end of the first CV cycle

After the burst of the dot-com bubble in the spring of 2000, the KOSDAQ market collapsed and hit its lowest point in September 2001 (*KE#11*). Mowery and Simcoe (2002), in their analysis of the history of the Internet and computer networking, illustrate this period in the context of the US as below, and Korea was not an exception:

> [In the late 1990s,] … [c]ommercial interest and activity were fueled by the availability of capital from the US venture capital (VC) industry, as well as the strong performance of the US economy. The subsequent "dotbomb" collapse in Internet companies' share prices during 2000–2001 illustrates some of the risks associated with the Schumpeterian "swarming" of US investors and entrepreneurs to the Internet. (Mowery and Simcoe, 2002: 1370)

For Company Alpha, despite growing concerns over the risk of venture investment in this period, the company continued its CV activities in 2001 and also in 2002. For instance, an additional $20 million were invested by the CVC-α in 2001 alone, increasing the total number of invested venture companies up to 35 as of the end of 2001. In the case of the ICV-α2, Company Alpha, the parent firm of CV teams, decided to increase the pace of the spinning-off process. As a result, one CV team was spun off in the first half of 2001, which was followed by the spin-off of four other CV teams in the second half of the same year. The only CV team left internally was soon terminated, or maybe disappeared.

At last, the NVD was disbanded in the autumn of 2001 (*KE#12*), which was less than two years after its establishment. In the following year, the rate of operating profits plummeted to less than 1%, which was the lowest record in the entire history of the firm. In late 2002, CEO#4 was

[117]

replaced by a new chief executive, CEO#5 (KE#13). In the years between 2003 to 2005, activities either internal of or even external to the company are rarely found in newspapers, which is part of what this thesis calls the '*hidden* period' between the two cycles of CV in the history of Company Alpha. This period is analyzed in the next chapter (see Section 6.2).

5.4 Concluding reflection

This chapter has analyzed the sequence of events associated with CV programs conducted by Company Alpha (see Table 5.2). The analysis specifically focused on the series of key events from the establishment of the firm in 1990 (*KE#1*) to the change of chief executive—from CEO#4 to CEO#5—in 2002 (*KE#13*).

The empirical analysis found that there was a particular period of time in the history of Company Alpha. From 1997 to 2002, a set of CV programs were initiated, developed, and hence constituted the firm's corporate venturing (CV) portfolio. The thesis defines this period with the initiation, development, and demise of CV activities inside the firm as *the first CV cycle* at Company Alpha.

Before the beginning of the first CV cycle, an individual-led R&D initiative (the Research Challenge) was operated from 1993 to 1994, which may well be an antecedent of the firm's CV activities. In 1997, the initial CV program (the ICV-α1) designed to *explore* new business opportunities was started. In 2000, the scale of the ICV program was increased (the ICV-α2) and the operation unit that managed CV activities (i.e. the CV unit) was formed on the marketing side of the firm (the NVD). In 2000, again, a new corporate venturing capital (CVC) program (the CVC-α) was added, being incorporated as another part of the firm's CV activities. This finding suggests that Company Alpha's CV activities in 2000, the peak of the first CV cycle, were not so much a set of CV teams but rather a *portfolio* of different programs (the ICV-α2 and the CVC-α programs).

Finally, the data indicate that all of Company Alpha's CV efforts were totally ceased in 2003 after the arrival of a new chief executive, CEO#5, in late 2002 (*KE#13*). This leads us to ask the question whether *KE#13*, the change of a CEO served as a *critical juncture* in Company Alpha's corporate venturing journey. The next chapter therefore begins by looking at what actually happened after the arrival of the new CEO, especially in a *hidden* period between the two CV cycles (2003–2009).

CHAPTER 6

COMPANY ALPHA'S CORPORATE VENTURING PROGRAMS:
THE SECOND CYCLE OF CORPORATE VENTURING (2011–2015)

6.1 Introduction

This chapter continues the analysis of Company Alpha's CV programs, and analyzes the key events ranging from the arrival of CEO#5 in 2002 to the very final event in Table 5.2, the launch of a global CVC program in 2014.

The analysis of these key events demonstrates that the history of Company Alpha from 2003 to 2015 can be divided into two distinct periods. One is from 2011 to 2015 when, in a similar way to what occurred in the *first CV cycle* (1997–2002), a set of CV programs were initiated and subsequently developed, and thus constituted the firm's CV portfolio; these periods are described as the *second CV cycle* of Company Alpha. The other is from 2003 to 2009 when conditions conducive to the beginning of a new CV cycle were formed within the organization, which this thesis defines as the *hidden* period.

By adopting a qualitative, longitudinal approach (see Section 4.2), the research design of this study allows a "within-case comparison" (Eisenhardt and Graebner, 2007) between the first and the second CV cycles at Company Alpha. After comparing these two cycles, this thesis finds a *repeating pattern* occurring within these two cycles. In addition, the within-case comparison illuminates the contextual differences between the two cycles.

In this chapter, Section 6.2 analyzes the events which took place in between the first and the second CV cycles (i.e. during the *hidden* period). Section 6.3 then explains a detailed description of Company Alpha's CV programs focusing on the second CV cycle. Finally, Section 6.4 summarizes patterns emerging from the analysis and discusses the findings.

6.2 Between the two CV cycles—the *hidden* period (2003–2009)

This section continues to analyze the series of key events (see Table 5.2), especially from the arrival of CEO#5 in 2002 (*KE#13*) until just before 2010 (*KE#15*), during which periods almost no CV activities are identified from the media. The analysis of key events and business archival data (minutes of top-level management meetings) reveals that there was a *hidden* period— from 2003 to 2009—in the history of the case firm, which allowed the formation of conditions under which *the second cycle of CV* at Company Alpha could have been initiated after 2010. For the purpose of analysis, the section of the timeline from 2003 to 2015 taken from Figure 5.2 is shown in Figure 6.1.
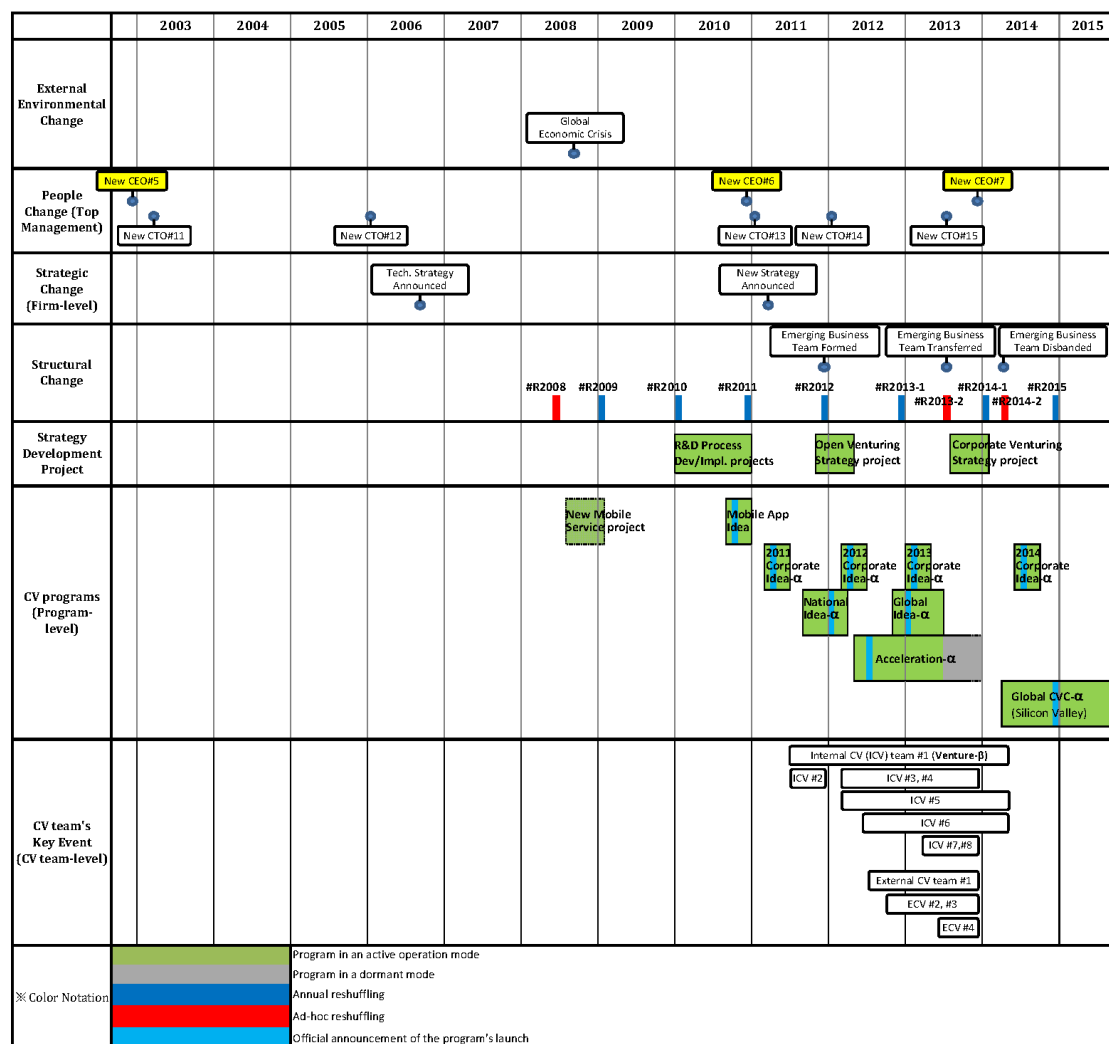
Figure 6.1 Timeline associated with CV programs (2003–2015)
Source: Developed by the author.

[121]

6.2.1 2003–2005: New CEO and the direction of strategy (cost reduction)

The arrival of a new chief executive (CEO#5) and business turnaround

In the second half of 2002, a strategic decision was made to replace the chief executive of Company Alpha, so a chief executive, CEO#5, was appointed in December 2002 (*KE#13*). Although details behind the decision are unclear due to limited accessibility to the data related to the decision, the firm's devastating business performance in 2002 may well have been a major reason for this leadership change.

Starting from 2003, led by CEO#5, Company Alpha's business performance was quickly reverting to normal. A newspaper article in February 2006 reported that when compared to 2002's rate of operating profit which was the lowest in its history, the figure for 2006 soared up to $180 million, achieving a nearly twenty-fold increase in three years.[101]

This rapid business turnaround was mainly due to the fact that corporate-level business strategy was sharply focused on *cost reduction*. The main priority of CEO#5 was to reduce costs and to restore the business back to its previous level of profitability. A number of interviewees who worked for the company during this period of time said that the two to three-year period following the arrival of CEO#5 was a period of *cost reduction*. CEO#5's own remark in a Technology Strategy Committee (TSC) meeting in April 2004, in the middle of this *cost reduction* period, also corroborates this business strategy:

> In every aspect of our work, we always have to think about *cost*, competitiveness, and productivity. We need a climate, or organizational culture if you like, in which when some people meet then they start talking about *cost*, competitiveness, and productivity.[102]

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[101] *Yonhap News Agency* (2006) 'Company Alpha's chief executive, CEO#5'

[102] *Company Alpha* (2004) 'TSC#14 Meeting Minutes'

The beginning of the Technology Strategy Committee (TSC)

During the period when their business performance was being improved (i.e. business turnaround), CEO#5 and other top management's understanding of technology and technology strategy was also improved. Central to this improvement was the work of the 'Technology Strategy Committee (TSC)', which was a monthly meeting with a range of technology items on the agenda with members including CEO#5; C-level executives (e.g. chief technology officer, chief strategy officer); heads of business divisions; heads of teams; and selective directors of groups in relevant business divisions depending on the items on the agenda.[103, 104]

Mandated by CEO#5, a series of TSCs were designed and operated from March 2003 until the end of 2008, by the members of the Technology Strategy Team. The goal of the committee set by CEO#5 was to improve his understanding of technology and technology strategy and also that of other top management team members who were not directly involved with technological issues. At the first Technology Strategy Committee (TSC#1) meeting held in March 2003, CEO#5 explained why he initiated the TSC:

> For people who haven't worked in the IT industry before, new IT technologies pouring in day after day are very hard to understand. At our company, *technology is critically important* for our business. Let's make the Technology Strategy Committee a place freer than any other meetings; let's be more flexible in terms of formality. How about inviting academics for discussion panels and how about organizing a seminar away from the building? This committee should be a place where all members, regardless of their backgrounds and work place, participate for the technology development of our company.[105]

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[103] As to the agenda of TSCs, topics discussed in 2003 that are related to technologies include issues such as bioinformatics, semantic web, human computer interaction technologies, etc.

[104] Multiple levels of managers and the title of their positions can be understood more clearly using the 'multi-layer framework (MLF)' presented in Section 7.3.1.

[105] *Company Alpha* (2003) 'TSC#1 Meeting Minutes'

[123]

Later, in the TSC#3, CEO#5 emphasized the value of the TSC and mandated to expand the scope of participants:

> I want to foster this Technology Strategy Committee. For me, it's strange enough that there hasn't been any activity like this meeting. We need to invite other business executives such as our CFO [chief financial officer] and let them think over technologies, see R&D projects briefings, and study technology trends.[106]

In the TSC#2 held in April 2003, a new corporate-level *technology strategy* was presented with the title, "The direction of execution of Company Alpha's R&D".[107] The presenter was Director of the Technology Strategy Group in the Corporate R&D Center.[108] The presentation highlighted that the *status quo* of the corporate R&D was assessed as being in the *substantial underinvestment* status compared to other global leaders, such as IBM.[109] The director suggested two key implications: first, the Corporate R&D Center should be the firm's *source of competitiveness*; and second, quoting a remark by IBM's head of R&D, he asserted that "*Invention without innovation is unnecessary*", which, of course, is in line with the definition of *innovation* in an academic sense (e.g. Freeman and Soete, 1997; Tidd and Bessant, 2013).

The essence of the newly proposed corporate-level *technology strategy* was twofold. First, the firm would develop a robust *technology strategy* by applying an 'IT roadmap', which is a mid-

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[106] *Company Alpha* (2003) 'TSC#3 Meeting Minutes'

[107] This title is a direct translation of the title in Korean 'R&D 추진 방향 (R&D *chu-jin bang-hyang*)'. Here, '추진 방향 (*chu-jin bang-hyang*)' has been translated as "direction of execution". As many Korean words are composed of Chinese characters, the term 'direction of execution' is actually a combination of the Korean word '방향 (*bang-hyang*)', which is in Chinese '方向 (*fangxiàng*)' meaning 'direction', and another Korean word '추진 (*chu-jin*)', which is in Chinese '推进 (*tuījìn*)' meaning 'to push and proceed'. Combining the two, '추진 방향 (*chu-jin bang-hyang*)' literally means the 'direction in which something is being pushed and then proceeded'.

[108] Later in 2012, this presenter, Director of the Technology Strategy Group, was appointed as a new chief technology officer, CTO#14.

[109] More specifically, research and development expenditure (% of annual revenue) of Company Alpha in 2002 was about 0.5%, whereas IBM invested 5.99% and Accenture 1.8% respectively in the same year (Corporate Alpha, 2002, 'The direction of execution of Company Alpha's R&D').

term R&D blueprint. Second, the firm would reinforce *new business development activities* led by the Corporate R&D Center.

However, the ambitious speech by the director from the Corporate R&D Center drew almost no attention from the committee members filling the meeting room. There were no following up questions and CEO#5 did not support the proposed *technology* strategy. CEO#5 instead emphasized that the main role of R&D and innovation should be to improve the firm's current business. In addition, CEO#5 asserted that the ultimate aim of innovation should be to reduce costs and increase profits. His remark in the TSC#2 reveals the perceived value of R&D and innovation by CEO#5 as of 2003, in which *innovation* was regarded as an *outcome of R&D* that improves a *status quo* of the business:

> I think your benchmarking method needs to be more meticulous. From my viewpoint, the direction of the benchmarked company is to improve and innovate their *current* business, rather than to develop completely new business models. We must see it clear that their direction is approaching to *cost reduction* and increasing profits.[110]

The TSC was initiated by CEO#5's mandate primarily because he wanted to learn technological issues related to the firm's business in hand; however, the committee more and more became a place where high-level managers, regardless of their backgrounds and roles, could discuss the firm's technology strategy. The series of TSCs as a result played a key role in improving CEO#5's and other high-level managers' understanding of technology and technology strategy. In particular, CEO#5's perception on the *role of R&D and innovation* was significantly changed over this period, which is analyzed in what follows.

6.2.2 2005–2007: New corporate-level business strategy: creative destruction for growth

The change of CEO in 2002 was a *critical juncture* in the firm's corporate venturing journey. In

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[110] *Company Alpha* (2003) 'TSC#2 Meeting Minutes'

retrospect, the reign of CEO#5 was a *transition* period between the first and the second CV cycles. Here, the way in which the chief executive perceived the role of R&D and innovation was important in changing the *strategic direction* of the firm which previously was oriented towards *cost reduction*.[111]

CEO#5's changing perception on the role of R&D and innovation

Throughout the three years of the TSC (2003–2005), CEO#5 and other top management's understanding of technology and technology strategy was much improved. And, it is apparent that how CEO#5 perceived the role of *R&D* and *innovation* was totally transformed.

Early in 2003, CEO#5's perspective on R&D and innovation was that *innovation* was nothing more than an outcome of R&D, which improves the current business of the firm (see Section 6.2.1). However, CEO#5 came to see that *innovation* plays a key role in achieving *technology leadership*, which helps the firm to survive and to grow by being different from others, rather than just being satisfied as a *follower* of the leader. The following series of excerpts taken from the TSC minutes of meetings from 2005 to 2007 clearly shows CEO#5's changing approach to the firm's growth.

In June 2005, at the TSC#28, CEO#5 placed great emphasis on the firm's *technology capability* and *technology leadership*, which in his own words:

> When we say 'leading capability', it could be a certain type of strategic capabilities, which can be applied for delivering IT consulting business to customers. For us, however, what also matters is *technological capabilities*, or, in other words, *technology leadership*.[112]

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[111] As discussed in Chapter 7, this is an example of *direction of strategy* (Type I direction) and *direction of strategic change* (Type II direction) (see Section 7.2.1).

[112] *Company Alpha* (2005) 'TSC#28 Meeting Minutes'

In December 2005, at the TSC#34, CEO#5 reflected back on a series of TSCs during the past three years, and raised the issue of whether to stay as a technology *follower* or to become a *frontier*. This shows the sheer difference in his approach to technology strategy when it is compared to that of 2003. At the TSC#34, CEO#5 said:

> There're three company-wide meetings I am chairing now, and the TSC is one of them. I have a grave concern over our technology. Is it impossible for us to show any of our technologies to others saying confidently 'This is a world-class technology'? Should we always stay as a *technology follower*? … I say this to ask all of you to build capabilities to secure a *technology leadership*.[113]

In March 2006, at the TSC#37, CEO#5 talked to the TSC members about what he believes the fundamentals of the firm namely *survival* and *growth*. He described these two as the *two wheels of the firm*:

> There are dual facets of the firms: *survival* and *growth*. So to speak, every firm has *two wheels* called *survival* and *growth*. By *survival*, we are talking about 'present'; whereas by *growth*, we are talking about 'future'. In order to *survive*, we need to have profits, ensure internal stabilities, and focus on the *present* such as current customers. As to *growth*, however, it is about the *future*; for example, new technologies and new R&D, which are related to the *future*.[114]

CEO#5's metaphor of the 'two wheels of the firm' reveals a fundamental premise on the one hand that firms need *profits to survive*, which CEO#5 himself had been emphasizing from his arrival in 2002. But, on the other hand, this metaphor also highlights that firms need to think about *growth for the future*. From 2006, there was a shift in balance from *survival* to *growth*. In May 2006, at the TSC#39, CEO#5 initially shared his concern over the "limits to growth", as indicated in his message:

> Now is the time for us to have the spirit of challenge. Clearly, there are *limits to growth* with only the current portfolio of defense-oriented businesses. Over the last three years,

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[113] *Company Alpha* (2005) 'TSC#34 Meeting Minutes'

[114] *Company Alpha* (2006) 'TSC#37 Meeting Minutes'

[127]

we've designed business processes and fine-tuned the business systems. Now, we need to expand our business areas and to challenge. Even if our firm were to grow linearly with the current business, our revenues in 2010 would be only $4 or $5 billion. We need to develop new business; we need a strategic approach.[115]

Later in August 2006, at the TSC#42, CEO#5 warned about the "limit to growth" again and highlighted that solely placing emphasis on *survival*, which is one of the 'two wheels of the firms', can hinder the *growth* of the firm:

In order to increase internal efficiency, we've been focusing on profits and internal stabilities [from 2002]. We've also improved processes which are now applied to business systems. However, if we are just sticking to *survival* we will face the *limit to growth*.[116]

More importantly, CEO#5 came to recognize that the firm needs a *new way to growth*. In June 2006, at the TSC#40, CEO#5 began emphasizing the value of *creative destruction*:

Don't forget that the baseline of our activities is *creative destruction*. The principle of firms' *survival* relies on making profits, and the profits are the rents coming from *creative destruction*.[117]

Now, the above series of CEO#5's remarks shows that there were changes in his perception on the *role of R&D and innovation*, and the changes in the chief executive's thought processes are articulated in Table 6.1.

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[115] *Company Alpha* (2006) 'TSC#39 Meeting Minutes'

[116] *Company Alpha* (2006) 'TSC#42 Meeting Minutes'

[117] *Company Alpha* (2006) 'TSC#40 Meeting Minutes'

Table 6.1: CEO#5's perception on the role of R&D and innovation

	2003–2005 (Follower's logic)	*2005–2007 (Frontier's logic)*
Fundamentals of firms being emphasized	• ***Survival*** through improvement (of current businesses)	• ***Growth*** through differentiation (by new businesses)
Key premises		- *Survival* and *growth* are the 'two wheels of the firms' - If a firm solely pursues *survival*, it will face a 'limit to growth'
Ways to generate ***profits***	• Profiting from ***cost reduction***	• Profiting from ***differentiation*** * Seeking ***entrepreneurial rent***
Perception of ***Innovation***	• Activities associated with the ***improvement*** of on-going businesses (e.g. product, process) for getting the above profits - "… is targeted toward the reduction of cost and the increase of profit"	• Activities dedicated to the ***creative destruction*** for getting the above profits
Perception of ***R&D***	• R&D for increasing ***efficiencies*** of existing technologies (i.e. better than others) - "… their approach to R&D is more about the improvement and innovation of their existing business"	• R&D for building ***effectiveness*** of new technologies, aiming to become a technology leader (i.e. different from others) - "… technology *leadership* [which is built on the technological capabilities]"

Source: Elaborated by the author based on the analysis of the minutes of TSC meetings from 2003 to 2005.

Using the 'two wheels of the firm' metaphor, the main wheel of Company Alpha began shifting from *survival* to *growth* in 2005 as shown in Table 6.1. Before 2005, for example, CEO#5 emphasized that the way to generate profits was by to generate profit from *cost reduction*. Whereas, from 2006, *growth* became the main wheel and CEO#5 began highlighting profiting from *differentiation*—being different from others by becoming a technology leader. This emphasis was then continued with throughout the following year, changing the follower's logic during 2002 and 2005 to the frontier's logic from 2005 onward.

In particular, Table 6.1 shows CEO#5's changing perception on the *role of R&D and innovation* with relevant quotes. Before 2005, CEO#5 had regarded *innovation* as activities related to the

improvement of on-going business (e.g. product/service and process), but later after 2005 he perceived it as activities dedicated to *creative destruction*. Similarly, *R&D* had been regarded as a way to increase the *efficiencies* of existing technologies; however, later it was perceived as a proactive way of building the *effectiveness* of new technologies, transforming the firm into a technology leader.

6.2.3 2006–2009: An innovator's identification of technology opportunities

In the previous subsections, the analysis of the case suggests that the first key factor influencing changes in the direction of CV is (1) a CEO's changing perception on the role of R&D and innovation, in which the chief executive plays the crucial role as the conductor of "resource orchestration" (Sirmon et al., 2011; Chadwick et al., 2015). Continuing the analysis, this subsection further identifies two more potential key factors: (2) the existence of *innovator(s)* and (3) the emergence of *strategic technology*, or *technologies*. These factors will be analyzed in more detail by linking them to the conceptual framework (see Chapter 8). But prior to this, the historical context and the series of events associated with the other key factors are analyzed here.

A new innovator: The appointment of new chief technology officer (CTO#12)

In January 2006, CEO#5 appointed CTO#12 to be the new head of the Corporate R&D Center—the central R&D department of Company Alpha (*KE#14*). This is one of the critical junctures in Company Alpha's CV history because CTO#12, as a member of the top management team (TMT) in charge of corporate-level technology strategy, was the innovator who identified *technology opportunities* before other firms, and even before other key individuals in the organization. CTO#12 then successfully gathered resources (e.g. human and financial resources), and accumulated them in the Corporate R&D Center—the *technology side* of the firm.

With respect to the appointment of CTO#12 in early 2006, a longitudinal analysis of Company Alpha since the arrival of CTO#5 in late 2002 provides a rich context in which to understand changes inside the organization. The announcement of CTO#12—as a new executive in charge of corporate-level technology strategy—was, as shown in the timeline of the firm (see Figure 5.2), undertaken in line with the firm's established business processes (i.e. organizational rituals), which modify organizational structures and reallocate human resources at least once at the end of the year; this is called 'annual reshuffling' in the Korean business context.

In fact, there had already been a major structural change in 2003 after CEO#5's arrival. Longitudinal data shows that CEO#5 carried out major changes to the organizational structure in the annual reshuffling for 2003 (hereafter *R#2003*), which considerably differs from that of 2000 under the leadership of CEO#4.

As shown in Figure 6.2, the organizational chart as of March 2006 (hereafter *OC#2006*) indicates that there were two distinctive characteristics of the new structure, which was changed in 2003 and had been maintained until at least 2006. First, all CV departments, which previously existed as the NVD and its sub-units (see Figure 5.4), were disbanded. Second, a strategy department with the name of the Strategic Marketing Office (SMO) was formed, which took in charge of corporate-level strategy and the coordination of diverse division-level strategies (e.g. business divisions' strategy). Unlike its previous position in the *OC#2000* in which the Strategy Management Team existed inside the Business Administration Office (BAO) as a team-level (L3) unit (see Figure 5.4), from 2003, the Strategic Marketing Office (SMO) came out to the forefront of the organizational structure as a division-level (L2) unit, which demonstrates the SMO's much increased influence over the firm.

[131]
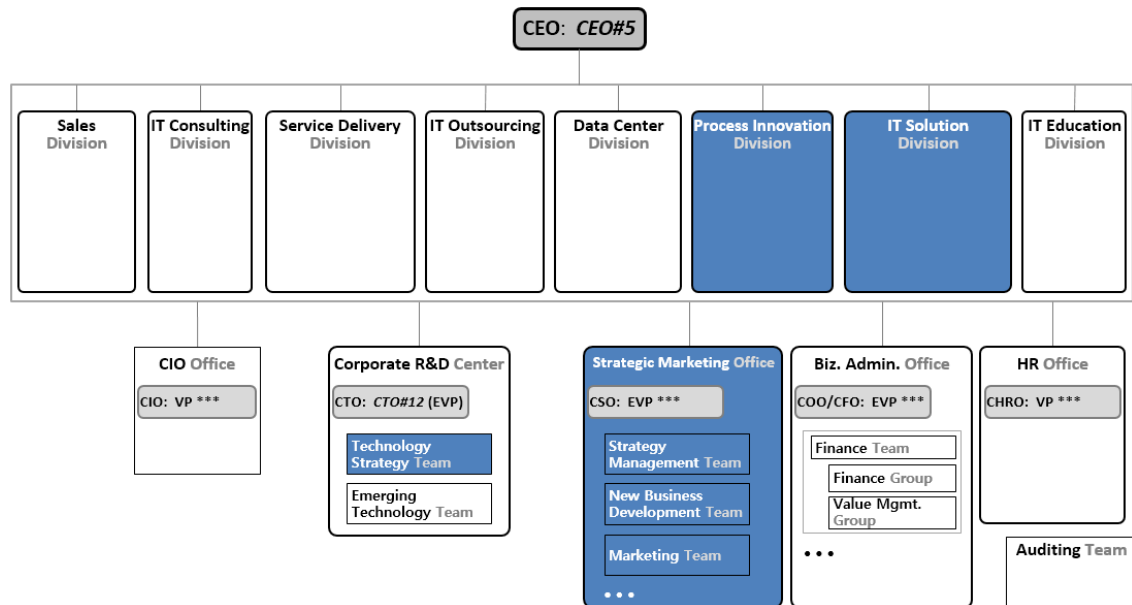
Figure 6.2 Organizational chart of Company Alpha, March 2006
Source: Elaborated by the author based on Company Alpha's business archives and the organizational chart in 2006.
* **CFO**: Chief Financial Officer; **CHRO**: Chief Human Resources Officer; **CIO**: Chief Information Officer; **COO**: Chief Operating Officer; **CSO**: Chief Strategy Officer; **CTO**: Chief Technology Officer
** Structural units in blue color represent newly formed or significantly changed organizational units when compared with the organizational chart in March 2000 (see Figure 5.4).
*** Similarly, the italicized names represent change of the person in the position after the previous organizational chart.

During the first three years (2003–2005), the business strategy was mainly focused on *cost reduction*, which was why CEO#5 emphasized the *role of R&D and innovation* as a vehicle to reduce the cost and increase profits (see Section 6.2.1). According to a Technology Strategy Senior Manager (TS-SM-A), the main role of CTO#11 (2002–2005) was to identify redundant software products (i.e. IT solutions) that overlapped with other products and services, and to consolidate or to discontinue the development of the identified IT solutions (products and services) (TS-SM-A, personal interview, 2014).

By contrast, in 2006, CEO#5 appointed CTO#12 to lead the Corporate R&D Center under the newly changed business strategy. It has already been highlighted in the previous subsection that the strategic direction of the firm was changed toward *creative destruction*, which pursued the *growth* of the firm through profiting from *differentiation*. There was, therefore, a

[132]

marked difference between the new CTO (CTO#12) and his predecessor (CTO#11).

For example, CTO#12 began refining a range of processes related to R&D and commercialization of R&D outcomes, most notably the *technology roadmapping* process and the *new business/service development* process. More specifically, the Corporate R&D Center had been developing the 'IT Roadmap', which is a three-year technology roadmap of the firm, since the summer of 2003. But in 2006, the firm initially announced the 'IT Roadmap' to the public, defining it as "a roadmap for technologies demanding strategic approaches from ICT firms for the next three years".[118]

The content of the IT Roadmap drew much attention from ICT firms across Korea; not only refining internal technology strategy processes, Company Alpha also began to position itself as a technology leader in terms of technology foresight in the ICT sector of the Korean high-tech industry. Indeed, the technology capability of the firm was being strengthened over time particularly from 2006.

The innovator's identification of technology opportunities

Two years later, in 2008, CTO#12 identified the potential value of the combination of specific technologies—*smartphone* and *cloud computing* technologies. Although not listed in the key events table (Table 5.2), this was a crucial moment between the two cycles of CV, which can be described as the *innovator*'s (CTO#12) identification of *technology opportunities*. This finding suggests that the emergence of *strategic technologies* that have the potential for the firm's product or service innovation could be one of the key factors for changes in the direction of CV, which will be discussed in Chapter 8.

In fact, the strategic value of these two technologies was beginning to be identified since 2007.

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[118] *Electronic Times* (2006) 'Company Alpha announces the IT Roadmap'

Under the technology strategy planning process, Company Alpha developed an annual technology trend report, which was followed by the development of the three-year IT roadmap. In 2007, the *Technology Trend for 2008* report was developed by the members of the IT Roadmap (ITR) project. The report published in August 2007 included *smartphone* and *cloud computing* as their strategic technologies for 2008, which was then shared with CEO#5 and other TSC members in the TSC#45 (December 2007).

In an effort to increase the understanding of the concept and discuss the potential value of the newly identified strategic technologies, CTO#12 set the main topic for the TSC#61 (held in May 2008) as *cloud computing* technology.[119] Similarly, the TSC#65 (held in October 2008) was organized focusing on *mobile communication* technology.[120] Table 6.2, for example, shows how the concept of cloud computing was initially defined by the ITR project team in 2007 and how the definition was articulated more clearly by the autumn of 2008.

Table 6.2: Changing definition of cloud computing technology

Date	Definition of cloud computing technology
August 2007	"Computing technologies which connect the Internet in the future through mobile devices and information"[121]
December 2007	"Computing technologies which allow the access to personal computer's information stored in cloud (e.g. server, storage) through mobile device and network"[122]
September 2008	"Computing technologies that allow the way in which IT resources, such as servers, storages, and programs, are used as a service through the internet, rather than purchasing and possessing those resources"[123]

Source: Elaborated by the author based on the business archives.

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[119] The title of the TSC#61 session (May 2008) was "The Understanding of Cloud Computing Technology".

[120] The title of the TSC#65 session (October 2008) was "The Understanding of Mobile Communication Technology".

[121] *Company Alpha* (2007), 'Technology Trend for 2008'

[122] *Company Alpha* (2007), 'Technology Trend for 2008'

[123] *Company Alpha* (2008), 'Technology Trend for 2009'

With respect to the two strategic technologies (*smartphone* and *cloud computing* technologies), CTO#12, in an interview in 2014, explained the reason why he thought back in 2008 that the combination of the two technologies would be their *technology opportunities*:

> At that time [in early 2008], I noticed the value of the 'mobile service'. So-called *smartphones* were released in the market.[124] I worked in the IT industry around thirty years, and from my viewpoint, *smartphones were computers*. The smartphones were *computers* that can ring other people. Company Delta's [which is another subsidiary of the Alpha Group] people though thought that smartphones were *phones* that had functions which were smart. This conceptual difference is huge [in terms of the perspective on the smartphones]: Is it a *phone* that is smart? Or, is it a *computer* that has a function to call? (CTO#12, personal interview, 2014; emphasis added)

CTO#12 added why the way of thinking about 'smartphones as *computers* that can call others' was crucial in perceiving the combination of two technologies as strategic technologies that will bring entirely new *technology opportunities* to the firm:

> Assuming that hundreds of millions of computer devices that have phoning features are distributed to people in the market, mobile services based on the devices will have the 'power of N' [i.e. economy of scale]. The cost of a single mobile service will be cheaper when compared with hundreds of millions of dollars projects that we do; however, considering a number of mobile devices which use mobile services [supported by cloud computing], the size of the revenue will be massive. (CTO#12, personal interview, 2014)

CTO#12, however, had difficulties in convincing other people in the organization that the upcoming technology opportunity mattered. In his own words:

> In 2008, I met a number of key people across the company and explained this change, but no one understood what I was saying [i.e. technology opportunities]. (CTO#12, personal interview, 2014).

In the summer of 2008, CTO#12 was asked for by key members in the board of directors to report about the emerging technologies: *cloud computing* and hardware virtualization

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[124] While Apple's smartphone (iPhone) had been announced and distributed since 2007, it was not officially released on the Korean market until November 2009.

technologies. Within a week, CTO#12 reported to the top-level decision makers of the concept of the technologies and their potential value to the company. In the autumn, CTO#12 managed to gather human and financial resources into the Corporate R&D Center and initiated the New Mobile Service (NMS) project. The aim of the NMS project was to search for novel and ground-breaking (i.e. new-to-the-world) ideas about new mobile services and their business models, especially targeted on leveraging the combination of smart device and cloud computing technologies.[125]

The NMS project can be categorized as a CV program conducted in the hidden period of time between the first and the second CV cycles. However, this was a CTO-led short-term (less than two months) internal project operated within the Corporate R&D Center. Furthermore, this project was not directly related to the development (or evolution) of CV programs in the second CV cycles. Hence, the NMS is not included in the list of ten CV programs (see Table 6.3) which this thesis further examines.

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[125] *Company Alpha* (2008), 'The NMS operation plan'

6.3 The second CV cycle at Company Alpha (2011–2015)

Continuing the longitudinal analysis of Company Alpha's series of key events (see Table 5.2), this section analyzes the key events ranging from the development of corporate-level innovation strategy in 2010 (*KE#16*) to the very last event in Table 5.2, the launch of a global CVC program in 2014 (*KE#29*). The analysis of these key events demonstrates the existence of a distinct period of time—from 2011 to 2015—in the history of Company Alpha when, as in the first cycle, a set of CV programs were initiated, developed, and thus constituted the firm's CV activities, forming what this thesis describes as *the second cycle of CV* at Company Alpha.

6.3.1 2010: New corporate-level innovation strategy and the launch of an individual ideation program

CTO#12's mandate to develop a new corporate-level innovation strategy

With the increasing importance of technology in the context of corporate-level strategy, in late 2009, CEO#5 made an important structural change through the annual reshuffling for 2010 (hereafter *R#2010*). The change was implemented at the beginning of 2010, as the temporal sequence shown in Figure 5.2 (see Section 5.2.2).

The organizational chart as of January 2010 (hereafter *OC#2010*) reveals the important change made by the *R#2010* (see Figure 6.3). The Corporate R&D Center, which previously existed as an independent division-level (L2) unit, became a part of the Technology Division. The structural change made by the *R#2010* was designed to empower the authority of CTO#12 over technological agenda across the firm by aligning relevant human resources under the newly formed overarching division—the Technology Division.[126]

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[126] *Company Alpha* (2010), 'Annual reshuffling plan for 2010'
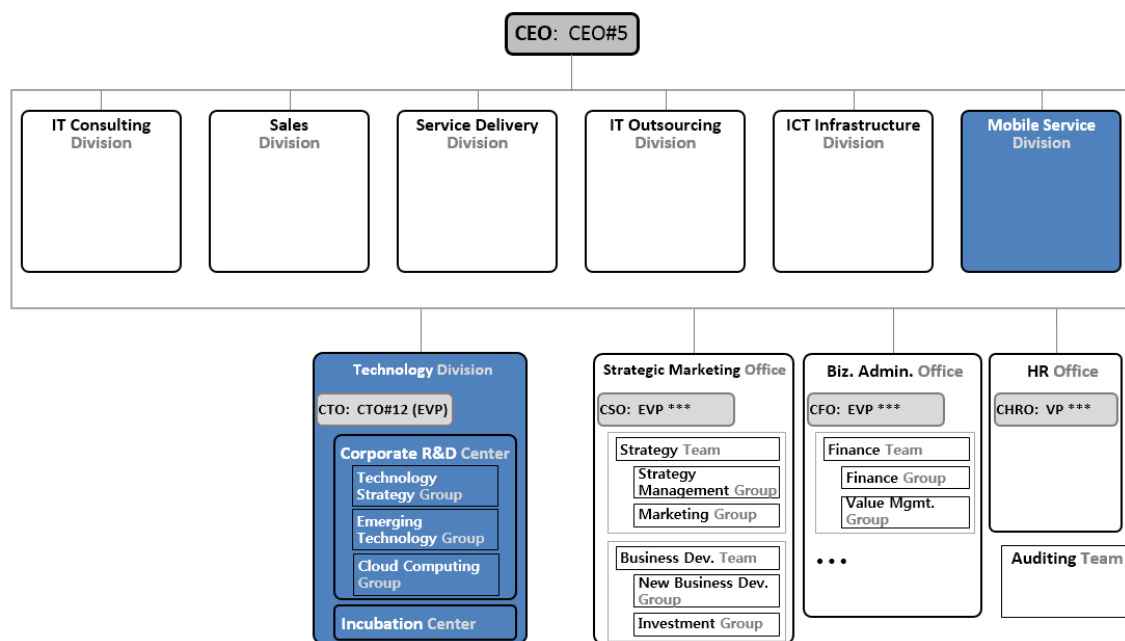
Figure 6.3 Organizational chart of Company Alpha, January 2010
Source: Elaborated by the author based on Company Alpha's business archives and the organizational chart in 2010.
* **CFO**: Chief Financial Officer; **CHRO**: Chief Human Resources Officer; **CSO**: Chief Strategy Officer; **CTO**: Chief Technology Officer
** Structural units in blue color represent newly formed or significantly changed organizational units when compared with the organizational chart in March 2006 (see Figure 6.2).

Following the structural change, CTO#12, in early 2010, mandated the Technology Strategy Group to *rethink* the firm's R&D process associated with R&D and new business development (NBD) activities (*KE#16*). Here, the scope of rethinking covered the entire stages of *innovation process* (e.g. Tidd and Bessant, 2013), ranging from ideation (i.e. *searching* for ideas and *selecting*) to the commercialization of ideas (i.e. *implementing* ideas and *capturing* values). Hence, the task was to develop a new corporate-level innovation strategy that can fundamentally change the way the firm conducted its R&D and new business development.

As to the reason for CTO#12's mandate, one possible explanation is the size of the human resources in the Technology Division, which was increased by *fivefold* within a year (2009– 2010). After the global economic crisis in the winter of 2008, employees who became redundant were redistributed across the company. In 2009, for instance, people who had worked in more client dependent areas, such as IT outsourcing departments and data centers,

were relocated to the Corporate R&D Center. In the middle of 2009, therefore, the proportion of new members increased by relocation amounted to about 12% of the Corporate R&D Center (TS-SM-A, personal interview, 2014). In addition, the Process Innovation Division, which took the main role of improving on-going businesses by increasing their *efficiencies* (see Figure 5.4), was incorporated into the Technology Division by the annual reshuffling for 2010. This structural change increased the size of the Corporate R&D Center by five times with more than one thousand personnel.[127]

However, an interview with CTO#12 reveals his 'real' motive back in 2010 as the mandator of developing a new corporate-level innovation strategy. In the interview, CTO#12 explained the reasons why he asked the Technology Strategy Group, the strategy unit of the Technology Division, to *rethink* the firm's R&D process related to R&D and NBD activities and to develop a new innovation strategy. One reason was the *lack of ideas* that could serve as inputs to R&D and new business development. CTO#12's genuine need for *new* ideas, in his word "a genuine thirst for *ideas*", was affected by his experience of the New Mobile Service (NMS) project—an internal project operated within the Corporate R&D Center between the first and the second CV cycles (see Section 6.2.3). CTO#12 recalled:

> There are two aspects in R&D; one is acquiring *technologies*, and the other is searching for *ideas*. In 2009, what was more important in our situation was the *idea*. If you ask me, the six ideas we had got through the NMS project were fairly good ones; however, all those ideas were not necessarily the best ideas. There is an unending anxiety over the feeling that "We must have missed something [really good ideas]." So, it made me to think that, if we extend the boundary of the team beyond an internal taskforce team, maybe we are able to get ideas that we never had thought of before. (CTO#12, personal interview, 2014; emphasis added)

The other reason was, unlike the possible explanation mentioned above, the *lack of resources*

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[127] *Company Alpha* (2009), 'The NMS operation plan'

especially human resource to search for ideas. The interview with CTO#12 reveals this reason:

> I wanted to elicit *ideas*; the best ideas from academia, global scholars, workshops for research agenda, technology think tanks, and so on. There must be a large number of potential business ideas and technologies out there. … Our fundamental problems were twofold: '*lack of ideas*' and '*lack of resources*' [to search for ideas]. We needed a very innovative way by which we can gather those ideas. Therefore, I told them [the Technology Strategy Group], "Let's develop a strategy of how to gather *ideas* globally." (CTO#12, personal interview, 2014; emphasis added)

In order to overcome the lack of *ideas* and *resources*, the chief of technology strategy directed the Technology Strategy Group to develop a new corporate-level innovation strategy by applying an *open innovation* approach. CTO#12, in the interview, said that taking an open innovation route was not because he was "an emphatic follower of the value of *openness*, *sharing*" (CTO#12, personal interview, 2014). Instead, he said it was rather a response to internal constraints:

> … It was more of a passive decision. Due to the lack of our own human resource, there was no way around but to open [the firm's boundary] to search for new *ideas* and to develop technologies. This required a new way of thinking and a new process. (CTO#12, personal interview, 2014; emphasis added)

The development of innovation strategy by the strategy team

Mandated by CTO#12, the Technology Strategy Group initiated the R&D Process Development (RDPD) project with the aim of developing a new corporate-level innovation strategy (*KE#16*). From the viewpoint of CTO#12, the degree of newness he wanted to see from the new innovation strategy was quite *radical*. According to Technology Strategy Manager (TS-M), the RDPD project was started in January 2010, but gaining an approval from the top (CTO#12) was both time and energy consuming.[128] In the word of TS-M:

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[128] Technology Strategy Manager (TS-M) is one of the middle-level actors and a key informant of this thesis which focuses on the role of actors.

> We reported the strategy for the R&D process innovation to CTO [CTO#12] at least three times. First in May [3rd May 2010] and second in July [22nd July 2010], however, both of them were rejected because he thought that the strategy we proposed was not enough, I mean too *small* [in terms of scale]. He asked us the question "What do you think are the ways for us to gather wholly new ideas from around the world?" (TS-M, personal interview, 2014; emphasis added)

In the last week of July 2010, CTO#12 at the third strategy meeting finally approved the RDPD project's plan, saying "All are good" (TS-M, personal interview, 2014). TS-M further explained the process between the second and the third strategy meetings through which they revised the rejected strategy plans to the plan that had been accepted:

> In the last five days, we did a number of benchmarking by searching for global firms' [innovation] cases that are widely believed to be successful. They included the 'Cisco I-Prize program' by Cisco Systems, the 'Innovation Research Program' by HP, and the 'Extreme Blue program' by IBM, and so on. (TS-M, personal interview, 2014)

The accepted new innovation strategy included three global-level programs related to R&D and new business development activities: (1) the idea competition (IC) program, (2) the firm–university research collaboration program, and (3) the university student internship program. These programs, however, were still paper documents with plans of programs' designs, processes, and required resources (human and financial resources); hence, the Technology Strategy Group initiated the R&D Process Implementation (RDPI) project in the second half of 2010 in order to *implement* the new innovation strategy.

Early implementation of innovation strategy

When the RDPI project was launched in September 2010, a new Technology Strategy Senior Manager (TS-SM-B) joined the project as a new member. Importantly, although not included in the key events table (Table 5.2), the joining of TS-SM-B as a new middle-level manager is found to be another *critical juncture* in Company Alpha's corporate venturing journey. TS-SM-B with an entrepreneurial mind-set, i.e. an entrepreneurial middle manager, significantly

influenced the change of the 'planned' innovation strategy throughout the strategy implementation stages. For example, influenced by TS-SM-B, the balance between 'R&D' and 'new business development' activities was tilted closer to the new business and service development activities, rather than R&D activities for new technologies. TS-M explained the change in the innovation strategy after the joining of TS-SM-B as:

> The university student internship program was originally designed to articulate ideas we already gathered and stored in our 'idea pool' [the database with new business ideas and technologies]. However, he [TS-SM-B] suggested changing the design of the program, and it transformed the internship program as a new way of gathering new business ideas. (TS-M, personal interview, 2014)

In a way, this was a fundamental change in the program's approach from 'solving problems' to 'asking questions'. From late 2010, firm–university joint classes were started in several top-raking universities in Korea, in which students were encouraged to create new business and service ideas during the term time. Selected finalists then were invited as interns during the summer vacation, and they articulated the ideas and business models they proposed in the classrooms with support from the employees of Company Alpha as mentors.

Once the innovation strategy implementation process had begun, some programs designed in the strategy development stage were adopted by the top management. Details of the program being adopted were modified to fit into the specific requirements from the top management. For example, in September 2010, CEO#5 was requested from a close alliance firm to act in a more collaborative way in the process of smartphone manufacturing by providing software-related ideas and features. Immediately, CTO#12 responded to CEO#5 that the Corporate R&D Center had prepared a plan, i.e. 'planned strategy'. He then mandated the Technology Strategy Group to run an ideation program in order to gather ideas for the development of a new innovative mobile application.

In the following month, the RDPI project team in the Technology Strategy Group launched the

Mobile App Idea (MAI) program. The MAI program was composed of three stages. In the first stage, employees were invited to submit their ideas for new mobile applications as whatever they wanted to develop. Next, selected individuals were then received awards and had an opportunity either to develop on their own or to find a development partner within the firm. Finally, they were provided with financial support to register their developed mobile applications in application market platforms (e.g. App Store, Android Markets, etc.).[129]

The MAI was the first CV program in the second cycle of CV (CV-II-#1). And, as the Research Challenge launched in 1993 acted as a *prototype* of CV programs in the first CV cycle (see Section 5.3.1), the MAI also acted as a *prototype* of CV programs in the second CV cycle. In 2011, the MAI fed into the second cycle of CV and evolved into the upcoming CV program, the 2011 Corporate Idea-α program. Both the MAI and the 2011 Corporate Idea-α are CV programs that form the *initiation* stage in the *evolution of CV* at Company Alpha. This will be discussed through the conceptual lens of the thesis—the *direction of CV* (see Section 8.3.1).

6.3.2 2011: Corporate Idea-α, the first CV program in the second CV cycle

The appointment of new chief executive (CEO#6) and new top-level management

Considering the relatively short average tenure of CEOs of large Korean firms, which is estimated to be 2.5 years by a consultancy, CEO#5's more than seven-year tenure was quite long. [130, 131] This may well be explained by the highly successful performance of CEO#5 in

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[129] In addition, the episode of the MAI program shows the interaction between the top management and middle managers, for example, how a parent-firm's strategy affects the program-level strategy of a CV unit. This will be discussed in more detail in Chapter 7.

[130] *Yonhap News Agency* (2016) 'The average tenure of 30 major chaebols is 2.5 years', [online], *Yonhap News Agency*, 9 November, Available from: http://www.yonhapnews.co.kr/bulletin/2016/11/08/0200000000AKR20161108168000003.html [Accessed 20 September 2016]

[131] Meanwhile, Kaplan and Minton (2006) estimated that the average tenure of the CEO of large U.S. companies since 1998 is six years.

turning around the firm's business performance. Between 2002 and 2010, for instance, Company Alpha's revenues grew from $1.37 billion to $3.83 billion (180 per cent increase) and operating income from $9.4 million to $375.5 million (3,700 per cent increase) (see Figure 5.1).

However, in December 2010, a new chief executive, CEO#6, was appointed (*KE#17*). CEO#6 then announced the annual reshuffling for 2011 (hereafter *R#2011*) in the same month, as a result of which a new chief of technology, CTO#13, was appointed. This was part of a chain reaction, which is generally accepted as normal practice in Korean business contexts where a change in CEO is followed by subsequent changes in the positions of other C-level executives (i.e. the composition of the top management team). At Company Alpha, members of the top management team such as Company Alpha's chief financial officer (CFO), chief strategy officer (CSO), and chief human resources officer (CHRO) were changed in this way before the end of 2010.

A new corporate-level business strategy

In the middle of 2011, Company Alpha ran the '2011 Corporate Idea-α' program (*KE#18*), which was a new CV program of the firm (CV-II-#2). This program was what Mortara et al. (2013) call an "internal Idea Competition (IC)", in which employees of the firm are invited to propose new business and service ideas.

In order to understand more clearly the strategic process between the two key events—the appointment of top management including CEO#6 (*KE#17*) and the initiation of the new CV program, the 2011 Corporate Idea-α (*KE#18*)—it is crucial to disentangle *interactions* between different layers of strategy: *parent firm-level* and *program-level* strategies.[132]

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[132] The interaction between different layers of strategy is discussed from a theoretical viewpoint in Section 7.3.1.

In 2011, Company Alpha set its corporate-level *business strategy* to aggressively drive new business development activities. According to a mid- to long-term business strategy report (through 2020), which was developed by a strategy unit in early 2011, the firm's main business areas, such as System Integration (SI) and IT Outsourcing (ITO) businesses (see Table 5.1), were at a stagnant stage; hence, the strategy report reads: "Considering a stagnant business environment, … we need to make annual revenue of $4 billion in 2015 from our new business, which accounts for 40% of total revenue." This excerpt shows the updated corporate's top-level strategy, which was changed after the arrival of CEO#6 and the new top management.

In addition, words from the then chief strategy officer (CSO) in a strategy meeting in March 2011 demonstrate the business context from an insiders' perspective—a stagnant business environment for main business areas—in which new corporate-level business strategies were developed:

> How can we make $10 billion revenue in 2015? Developing a new business takes two to three years; and the conceiving of *new business ideas*, however, is not easy. Last year, the size of the Korean IT industry was $18 billion, in which three key players competed strongly. So, we should go out to the world. What do we then need to have? We need to do *new business* with new products and services, which is providing new IT services using *our* IT solutions. However, what IT solutions do we have? I'm deeply concerned. At first, we need to have *seed ideas*. The ideas then can be scaled up in a top-down approach.[133]

A program-level strategy and the launch of the Corporate Idea-α program

After the business strategy was updated to drive new business development activities, the following strategic decision was made by the top management team to run an internal IC program. The top management believed that, once ideas are gathered, they could scale up the size of business proposed at an idea level, and turn them into the firm's new business items.

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[133] *Company Alpha* (2011) 'Meeting Minutes: New business development strategy planning'

Hence, mandated by the CSO, the Technology Strategy Group (the strategy unit in the Technology Division) in cooperation with the New Business Development Group (the new business unit in the Strategic Marketing Office) began designing the details of the program.[134] In particular, at the program level, the main strategic objective of a new CV program was explicitly articulated to *explore new business opportunities* at an *idea level*, as is found in the planning document for the program.[135]

In designing and operating the 2011 Corporate Idea-α program, the Mobile App Idea (MAI) program operated in 2010 played a role as a *prototype* of the new internal IC program. This shows a *repeating pattern* because a similar change was already observed in the first cycle of CV (see Section 5.3.2), in which the Research Challenge program acted as a *prototype* and was later extended into the ICV-α1 program in 1997.

In April 2011, CEO#6 announced the launch of the 2011 Corporate Idea-α program (*KE#18*), which was the first CV program of the firm in the period of its second CV cycle. Just within a month of this, 1,170 employees, which was about 11% of the total number of employees, proposed 1,357 items of new service ideas. The ideas were then assessed through three stages; and finally, six ideas in total were selected and rewarded in June 2011. In the summer of 2011, two teams (*CV teams*) were formed among the finalists and the employees who proposed the ideas became the manager (*CV manager*) of each CV team. The members of two CV teams were then empowered to develop business plans and prototypes of the proposed services.[136]

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[134] See the *OC#2010* in Figure 6.3.

[135] In other words, the program-level strategy can be described as the strategic direction (*Type I direction*) of the program (see Section 7.2.1).

[136] The business model of one CV team (hereafter Venture-β) was a subscription-based 'social learning platform', which provides a web and mobile service that allows users to set their personal goals, which are then coached and motivated by other people and relevant specialists in the on-line social network. In 2012, according to the Venture Manager of Venture-β, Company Alpha invested $1.8 million into Venture-β, and the CV team had twelve members by the end of 2013, who joined from a range of

Internally, the Technology Strategy Group mainly operating the program was a *de facto CV unit*, which Hill and Birkinshaw (2014: 1900) defined as "a distinct entity controlled by the firm that has responsibility for investing in and developing new business opportunities". [137] But interestingly, it was found that *no one* involved in the design and operation of the program used the term 'corporate venturing' let alone 'CV unit' until the end of 2011.

6.3.3 2012: The peak of the second CV cycle (scaling up and variation)

At Company Alpha, the first cycle of CV (1997–2002) reached its peak in 2000 as identified in the previous chapter, whereas the second cycle of CV (2011–2015) reached its peak in 2012. From the second half of 2011, running and preparing a variety of different CV programs, people within the Technology Strategy Group, the *de facto* CV unit, were beginning to realize that what they were doing was a managerial practice called *corporate venturing* (CV). Meanwhile, at the end of 2011, this group was transferred to the marketing side of the firm by the new chief executive, CEO#6.

CEO#6's perception on the technology opportunities and innovation process

When becoming the new chief executive, CEO#6 perceived that *smartphone* and *cloud computing* technologies—which were identified as *strategic technologies* in 2007 (see Section 6.2.3)—are lucrative *technology opportunities*. The words of CEO#6 from an interview with an economic newspaper clearly demonstrate such a viewpoint:

> As the shift from the *analog* to the *digital* brought new opportunities to the Korean electronics industry, the revolution of 'smart and mobile' will be a leverage for the Korean IT service industry, which have been confined within the Korean local market.

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different organizational units across Company Alpha (VM-B, personal interview, 2014).

[137] In their journal article, Hill and Birkinshaw (2014: 1900) defined the term "CV unit" by citing Block and MacMillan's (1993) classic book on corporate venturing: *Corporate Venturing: Creating New Businesses within the Firm*

The diffusion of *smartphones* along with the growing importance of *cloud computing infrastructures* is opening up a new window of opportunity [i.e. *technology opportunities*]. … The nature of IT service business is to integrate technologies and IT systems in a variety of business areas. Hence, we have to experience a great number of businesses in different areas. … These days, *internal corporate venturing* is quiescent; however, we will make it *active* if there are any chances.[138]

Meanwhile, as to the question of 'how to capture' opportunities that had been identified, CEO#6 underlined the role of the corporate headquarters in scaling up the size of business being developed from ideas—i.e. the *role of* the *marketing side* of the firm in the innovation process. Talking about the firm's commercialization strategy at the TSC held in February 2012, CEO#6 shared his perception on the innovation process:[139]

When evaluating a market and economic value of a business, knowing an exact size of global market is almost impossible. I've never seen a case when a top-down approach is successful, for example, estimating the size of the global market, say, $100 billion, then setting a target market share of 15%, and then planning annual goals. It doesn't work in that way. Instead, a bottom-up approach is important. This is why the real business fields [where our employees meet customers] are so important.[140]

In particular, CEO#6 asserted that the firm needs to have the capabilities to create a new market, both locally and globally, rather than to identify existing markets and acquire their shares. In CEO#6's own words:

We must gather ideas from our business fields, which is about what kind of business opportunities may arise in the next two years. The corporate headquarters then needs to develop capabilities that can *scale up* the size of these businesses both *locally* and *globally*.[141]

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[138] *The Korea Economic Daily* (2011) 'The Korean IT service industry faces a new momentum'

[139] Like his predecessor (see Section 6.3.2), CEO#6 ran the 'Technology Strategy Committee (TSC)', which was operated by the Technology Strategy Team starting from January 2011. Unlike previous monthly TSCs, the New TSC was a quarterly meeting of the top management and heads of business divisions on the issue of business and technology strategy.

[140] *Company Alpha* (2012) 'New TSC#2 Meeting Minutes'

[141] *Ibid*.

The creation of the Emerging Business Team

In September 2011, CEO#6 announced the implementation plan for the mid-term business strategy through 2015. The plan included the operation of a new business development (NBD) scheme, which will be led by a specialized NBD team to be formed, the Emerging Business Team. According to the plan, the main role of the EBT was *searching for new business opportunities* by adopting an open innovation approach.

Following the strategy implementation plan, CEO#6, in late 2011, carried out a large scale structural change through the annual reshuffling for 2012 (hereafter *R#2012*), which CEO#6 himself described as "the biggest structural change ever in the history of Company Alpha".[142]

By the *R#2012*, as shown in the organizational chart as of January 2012 (hereafter *OC#2012*), the Emerging Business Team was newly formed inside the Strategic Marketing Office (*KE#19*) (see Figure 6.4). The Technology Strategy Group (a part of the Technology Strategy Team in the Corporate R&D Center) was then transferred *en masse* to the Emerging Business Team, and within this team, the Innovation Group was formed.

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[142] *Company Alpha* (2011) 'CEO#6's email to the employees'
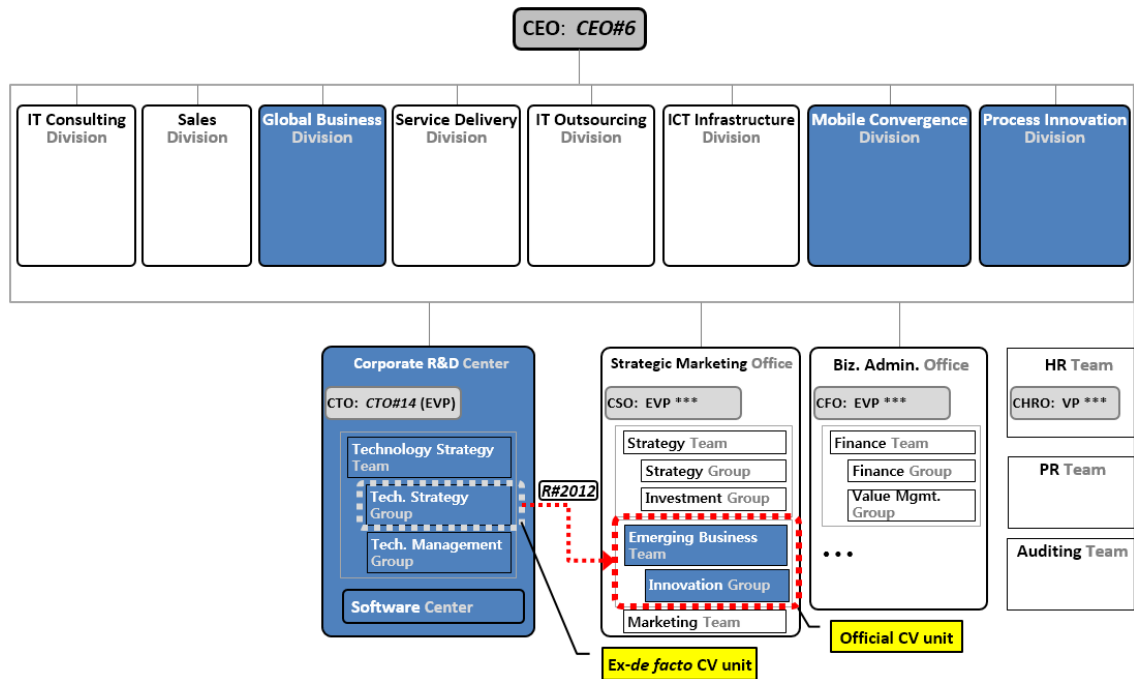
Figure 6.4 Organizational chart of Company Alpha, January 2012
Source: Elaborated by the author based on Company Alpha's business archives and the organizational chart in 2012.
* **CFO**: Chief Financial Officer; **CHRO**: Chief Human Resources Officer; **CSO**: Chief Strategy Officer; **CTO**: Chief Technology Officer
** Structural units in blue color represent newly formed or significantly changed organizational units when compared with the organizational chart in January 2010 (see Figure 6.3).
*** Similarly, the italicized names represent change of the person in the position after the previous organizational chart.

Applying the structural and actor analysis framework (see Section 7.3.1), the *R#2012* empowered the role of the Emerging Business Team. Previously, the *de facto* CV unit was the Technology Strategy Group (*L4* unit). However, by the *R#2012*, the Emerging Business Team (*L3* unit), sitting inside the Strategic Marketing Office (*L2* unit), became the *official* CV unit.

This was not only a change in the organizational hierarchy, but it was also a change of the *locus of innovation* from the *technology side* of the firm (see Section 6.2.3) to the *marketing side* to explore new business opportunities more actively. These changes collectively boosted the strength—the degree of the power across the firm—of the new official CV unit, increasing its authority in designing and operating CV programs. The dynamics of these changes will be discussed in detail in Chapter 7.

Increasing scope and scale of CV programs: The launch of the National Idea-α and the Global Idea-α programs

In 2012, the second CV cycle reached its peak mainly driven by the Emerging Business Team (the *official* CV unit). Maintaining the corporate-level business strategy set out in the first half of 2011, which was to drive new business development, the firm put greater emphasis on the *number* of new business ideas, and hence increased the *scope* and *scale* of CV programs by reproducing a series of CV programs.

Firstly, the *scope* of CV programs was extended to cover both *internal* and *external* IC programs. After the launch of the internal IC program (the '2011 Corporate Idea-α' program), internal programs were operated on an annual basis (the '2012 Corporate Idea-α' and the '2013 Corporate Idea-α' program). But a decision was made to extend the target participants external to the firm. Next, when operating external IC programs, the *scale* of CV programs was also expanded—first to the national level (the 'National Idea-α' program ran in January 2012) and then to the global level (the 'Global Idea-α' program ran in January 2013). Among these series of CV programs, however, the program-level strategy was almost the same: *to explore new business opportunities* at the level of *idea*s.

In the first half of 2012, Company Alpha ran the 'National Idea-α' program (CV-II-#3) (KE#20), which was the national-level new business ideation program, inviting Korean people to submit their ideas for new business, particularly new ICT service ideas. In early 2012, only a month after the program was announced, 1,500 people proposed 3,016 new business ideas in total under the service areas the firm categorized, such as finance, healthcare, logistics, business productivity, and so on. The ideas were then filtered through the processes in first and second assessment stages—the first in January and the second in February. In the spring of 2012, in the third assessment stage, selected finalists presented their ICT service ideas with business models, and the rankings of 12 finalists were decided and rewarded. For the planning and

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operating of the program, the Emerging Business Team (*L3* unit), especially the members of the Innovation Group (*L4* unit) within the team mainly carried out the tasks.

In late 2012, the firm ran the 'Global Idea-α' program (CV-II-#5) until the first half of 2013 (*KE#23*). According to an Innovation Manager (I-M), it was a global-level new business ideation program, a geographically extended version of the National Idea-α (I-M, personal interview, 2014).[143] By the end of March 2013, a total of 3,420 people had proposed 2,749 new business ideas, and 6 finalists were selected and rewarded in the summer of 2013.

Meanwhile, the internal IC programs were operated in parallel with the external IC programs in 2012 and 2013. The 2012 Corporate Idea-α program ran in the spring of 2012 (*KE#21*) gathered 1,417 new service ideas from 1,626 employees; the 2013 Corporate Idea-α program ran in early 2013 (*KE#24*) and also gathered 1,049 ideas from 1,400 employees.

In the midst of increasing the scope and scale of CV programs, executives in the top management team generally agreed to the idea that the programs run by the Emerging Business Team were the strategic vehicle of the firm. However, as to the programs' strategic value, the opinion of the top management was different depending on their main roles. For example, the head of human resources (Chief of Human Resource Officer, CHRO) thought that the programs were a strategic tool to recruit new people, because the programs were becoming effective in promoting corporate brands to the public, making the firm attractive to prospective applicants. It was a rare opportunity as Company Alpha's main customers had been either corporate customers or government organizations. However, the head of technology strategy (Chief of Technology Officer, CTO#13) believed that the programs were mainly an additional source of research items that could be developed and commercialized

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[143] Previously, before the *R#2012*, I-M was a Technology Strategy Manager (TS-M), and the interviews with I-M from the viewpoint of TS-M were quoted in Section 6.3.1.

inside the Corporate R&D Center. Furthermore, the head of business strategy (Chief of Strategy Officer, CSO) desperately saw the programs as a strategic tool to find 'seed ideas' for new business to achieve the mid-term business strategy—by scaling up ideas to new-to-the-firm or new-to-the-world business items. From the words of an Innovation Senior Manager (I-SM-A) in the Innovation Group, top management in this period treated their CV programs as a "one-size-fits-all" type of solution (I-SM-A, personal interview, 2016).[144] It should be noted that the National Idea-α and the Global Idea-α are the scaling-up of CV programs in the *reproduction* stage in the *evolution of CV* at Company Alpha, and this will be discussed in Chapter 8 (see Section 8.3.2).

The launch of the Acceleration-α program

In the middle of the two external IC programs, the 'Acceleration-α' program (CV-II-#4) began its operation from the summer of 2012 (*KE#22*). The Acceleration-α was a Seoul—the capital city of Korea—based program designed to help the finalists of both internal and external IC programs to develop service prototypes they proposed and to upgrade business plans, aiming to level up those teams as start-ups on a global scale.

The Acceleration-α provided teams joining the Acceleration-α Center with business spaces (offices in the center), IT infrastructures (cloud computing infrastructures, such as computing servers, data storages, and networks), business mentoring, legal consultations, and investment opportunities. In 2012 and 2013, the finalists—teams not individuals—of the National Idea-α and the Global Idea-α moved into the Acceleration-α Center. By the end of 2013, four *external CV teams* in total were doing its business based in their offices at the Acceleration-α Center (I-M, personal interview, 2014).

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[144] Previously, before the *R#2012*, I-SM-A was a Technology Strategy Senior Manager (TS-SM-A), and the interviews with I-SM-A from the viewpoint of TS-SM-A were quoted in Section 6.2.3 and 6.3.1.

Considering the definition of corporate venturing (CV) (see Section 2.2), the Acceleration-α was a new CV program, but its primary objective was different from prior programs. Previously, a series of programs were designed to gather new business and service ideas from sources internal and external to the firm (i.e. searching for ideas to identify opportunities). However, interviews with members of the Innovation Group and the analysis of business archival data all suggest that the Acceleration-α was designed to secure vital resources, especially human resources and technologies, to implement ideas already identified by other programs (e.g. Corporate Idea-α, National Idea- α, etc.).

As will be discussed in Section 8.2.3, this change in the program-level strategy was decided through the Open Venturing Strategy (OVS) project, which was a six-month strategy development project. In addition, as we shall see in Section 8.3.3, the emergence of the Acceleration-α program as a part of the *variation* stage in the case firm's *evolution of CV*. This will be discussed by using the conceptual framework (the *direction of CV*) (see Section 8.3.3).

6.3.4 2013–2015: Adaptation in the second CV cycle

Mid-year reshuffling: A new location of the Emerging Business Team

In the summer of 2013, CEO#6 announced a small scale mid-year reshuffling plan for 2013 (hereafter *R#2013-2*).[145] By the *R#2013-2*, as shown in Figure 6.5, the Emerging Business Team, along with the Innovation Group inside, was moved *back* to the Corporate R&D Center. This was a structural change by which the firm's official *CV unit* was moved from the *marketing side* of the firm (see Section 6.3.3) to the *technology side*—the change of the team-level (L3)

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[145] In the second cycle of CV (2011–2015), since 2013, the period of reshuffling became shorter than before, as shown in Figure 5.2. For example, the annual reshufflings in both 2013 and 2014 (*R#2013-1*, *R#2014-2*) were followed by each year's mid-year reshufflings (*R#2013-2*, *R#2014-2*).

organizational unit at the division-level (L2). With respect to the main reason for this change, an Innovation Senior Manager-B (I-SM-B) in the Innovation Group explained:[146]

> All of us [the Emerging Business Team] were moved *down* to the Corporate R&D Center. CSO was concerned about the scale of the business items our team [the Emerging Business Team] had been developing.[147] Inside the R&D Center, there was a technology-driven new business development team created by CTO in late 2012. ... I think these two teams will be merged late this year [in an annual reshuffling for 2014]. … Our top management these days is focusing on business items that would generate revenue 'quickly'. We are even doing business in the construction sector, which we haven't done before. [Before the *R#2013-2*,] A decision has been made that large scale new business is to be developed by the Strategy Planning Office, whereas small-scale items in a bottom-up approach is by the Corporate R&D Center. (I-SM-B, personal interview, 2013; emphasis added)
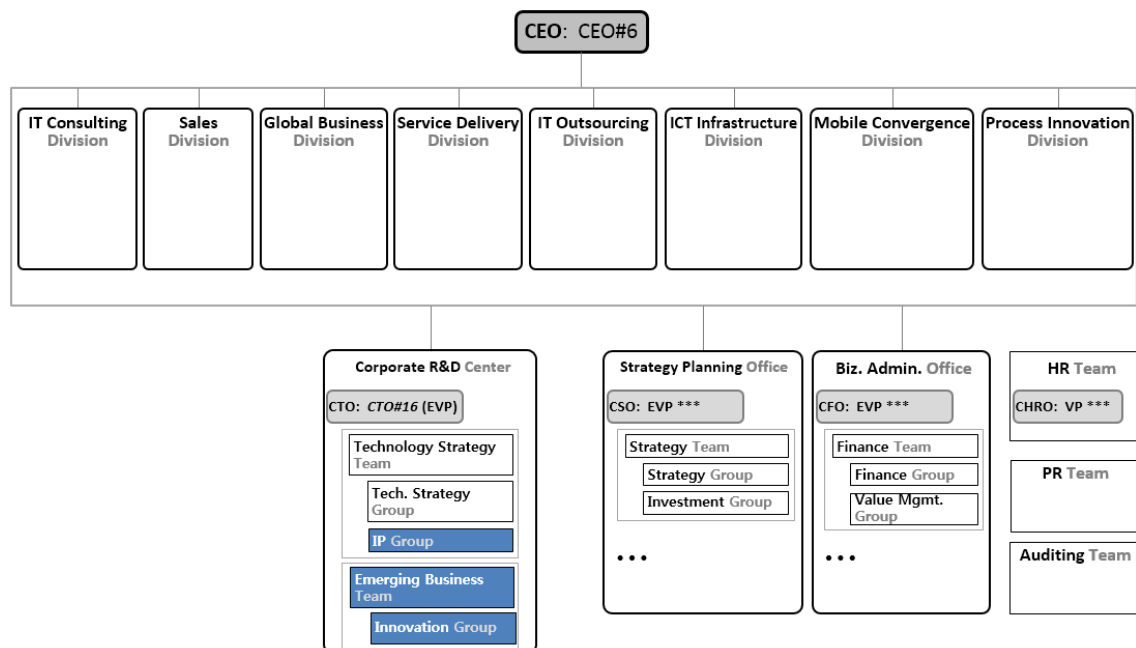
Figure 6.5 Organizational chart of Company Alpha, July 2013
Source: Elaborated by the author based on Company Alpha's business archives and the organizational chart in 2013.
* **CFO**: Chief Financial Officer; **CHRO**: Chief Human Resources Officer; **CSO**: Chief Strategy Officer; **CTO**: Chief Technology Officer
** Structural units in blue color represent newly formed or significantly changed organizational units when compared with the organizational chart in January 2012 (see Figure 6.4).
*** Similarly, the italicized names represent change of the person in the position after the previous

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[146] Before the *R#2012*, I-SM-B was a Technology Strategy Manager (TS-SM-B), and the interviews with I-SM-B from the viewpoint of TS-SM-B were quoted in Section 6.3.1.

[147] The CSO, the head of strategy, was one of the new top management who joined Company Alpha in late 2010 (see Section 6.3.2).

organizational chart.

The update of CV strategy by the Emerging Business Team

After having been relocated to the Corporate R&D Center in July 2013, the Emerging Business

Team had a strategy workshop in August 2013 to review their outcomes and program-level

strategies. I-M summarized the main results of the workshop:

> In the workshop, we shared the skepticism widely spread across the firm over us.
> Reviewing our track records, we found that nearly $20 million have been invested in
> our activities over the last three years; a series of annual Idea-α programs were invested
> in with $1.8–2.8 million. In particular, the external ideation program [i.e. external IC
> program] was the biggest source of the cost; however, we could not answer the value
> of the programs except, say, the *advertising* effect. (I-M, personal interview, 2013;
> emphasis added)

After the relocation of the official CV unit, the members of the Emerging Business Team

encountered difficulties in defining and justifying their role and value to the firm. In 2013, I-

SM-B described the problem they faced:

> Let me tell our concern. Being a service company, we don't have products [i.e. well
> branded IT solutions] and customers. In this situation, I don't know how to do corporate
> venturing. (I-SM-B, personal interview, 2013)

In the diagnosis by I-SM-B, he highlighted that the firm did not have well branded IT solutions,

and it coincided closely with the remarks by a CSO, the head of strategy, in 2011 (see Section

6.3.2). The *lack of IT solutions* in the form of commercial *products* was the firm's *deep-rooted*

problem which was not easily solved.[148]

In the summer of 2013, therefore, the Emerging Business Team initiated the Corporate

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[148] A remark by a top management team member in the TSC#46 (January 2007) shows the firm's *deep-rooted* problem. In the meeting on the issue of new business idea exploration, an EVP criticized the speaker by saying: "I think that your proposal that we need to develop our own IT solutions just shows the fact that you do *not* sufficiently understand the foundation of our business."

Venturing Strategy (CVS) project (see Section 8.2.3). The CVS project was not mandated by the top, but proposed by I-SM-B. The approved plan then became a six-month project with the aim of developing a new program-level strategy.

Before the *R#2013-2*, the primary challenge of the CV unit was to gather new business and service i*deas* that could later be scaled up. Hence, the main objective of CV programs was to *search for ideas* in order to identify new business opportunities*.* Whereas, through the CVS project, the members realized that the more critical challenge they had to deal with was to secure *technologies* to implement ideas already identified through a series of CV programs. The project concluded that the objective of future CV programs should be to *secure vital resources*, especially technologies, in order to utilize already identified business opportunities. The change in the CV program's strategic objective, which resulted from the CVS project, was confirmed by I-SM-B:

> Recently, the updated mid- to long-term business strategy has been announced. Our main business areas have been decided more clearly; several business areas such as IT services in the financial sector have been ruled out. ... With respect to the cloud computing business, we made a decision to *make* the *A technology* internally and therefore have invested over $70 million over last three years.[149] However, I heard from a technology architect, who knows this situation well, that this internal R&D project had better to be terminated now to reduce the sunk cost if. This calls for a new concept of 'corporate venturing'.[150] By doing CV, we can have a relationship with an early-stage start-up and later use its technology in developing our [new ICT] service. (I-SM-B, personal interview, 2013; emphasis added)

In the autumn of 2013, the members of the CVS project presented the updated CV strategy to

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[149] The specific name of the technology is disguised.

[150] In the pilot interview in the summer of 2013, I-SM-B explicitly used the term 'CV', which he and other members of the CV unit did not use until the end of 2011. This change in the interviewee is an important observation as this thesis suggests that the CV cycle of a firm is a set of CV programs evolved along a pathway, which may be unique to the firm. In addition, the thesis highlights that some of innovation programs at Company Alpha were realized as CV in hindsight, rather than deliberately planned with the title of 'corporate venturing'.

CEO#6. The new CV strategy included the design of a new CV program, of which the primary strategic objective was to utilize already identified business opportunities by quickly securing access to vital resources, especially emerging technologies. I-SM-B, the project manager of the CVS project, explained the details of the project:

> In September 2013, we presented the initial plan to CEO [CEO#6] and he agreed to the plan: to set up a venture fund and to start CVC activities based in Silicon Valley from 2014. Starting from October, our project team conducted interviews with almost all heads of business departments to identify their technology needs. Based on around 30 interviews, we compiled a list of technologies we needed. (I-SM-B, personal interview, 2014)

However, the official launch of the new CVC program was postponed after the arrival of a new CEO (CEO#7) in late 2013.

The arrival of new chief executive (CEO#7) and the disbandment of the Emerging Business Team

In December 2013, the Alpha Group appointed a new chief executive (hereafter CEO#7) (*KE#26*). A Business Strategy Senior Manager (BS-SM) said that changing the top management was inevitable. The attempt to increase revenue volume from overseas markets generated financial losses during the tenure of CEO#6 (BS-SM, personal interview, 2016).

The new CEO, CEO#7, at the beginning emphasized the importance of *technologies* and *capabilities*. For example, at the first corporate-level business strategy meeting in December 2013, CEO#7 highlighted the role of *capabilities*: "As a service company, we can survive only if we have our *core capabilities*, which are invisible by their very nature."[151]

In the following month, at the first business strategy review meeting in January 2014, CEO#7

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[151] *Company Alpha* (2013) 'Meeting Minutes: Global strategy meeting'

emphasized changing the *strategic direction* of their business, using the term the "inflection point" (BS-SM, personal interview, 2016). BS-SM explained the meeting as:

> He [CEO#7] always stressed out the "inflection point" by which he emphasized the idea that we should change our main business from SI [System Integration] to new businesses centered on our IT solutions. Rather than just doing labor-intensive and low value-added businesses, he asserted that we need to do ICT service business based on our IT solutions. (BS-SM, personal interview, 2016)

From CEO#7's message, the need for having *IT solutions as products* that can be incorporated into new services was, again, the firm's *deep-rooted problem*. It was exactly what the CSO, who left the firm in late 2011, already pointed out back in March 2011 (see Section 6.3.2).

In early 2014, CEO#7 organized a series of strategy workshops to review the new business development strategy; members included heads of R&D, strategy, and finance. As the result of the workshops, CEO#7 decided that any new business development activities would be conducted in a top-down manner (I-SM-B, personal interview, 2014).

Whereas, CEO#7 decided that the key role of the Corporate R&D Center was to focus on securing technologies necessary for the development of the firm's IT solutions. "The new CEO [CEO#7] saw," I-SM-B said, "that the firm did not have *technologies*." As a consequence, software engineers and researchers who had been spread across the firm were gathered into the central R&D unit—the Corporate R&D Center—resulting in a fivefold increase in the size of the R&D unit with over five hundred employees (I-SM-B, personal interview, 2014).

In April 2014, CEO#7 announced the mid-year reshuffling plan for 2014 (hereafter *R#2014-2*), by which the Emerging Business Team was disbanded (*KE#27*)—the end of its two and a half years' operation since the team was formed in late 2011 (*KE#19*). By the *R#2014-2*, some members of the Emerging Business Team, including I-SM-B, were reallocated to the Technology Strategy Team. It was CEO#7's decision to lower the central R&D unit's

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responsibility for new business development, but to strengthen capabilities for acquiring technologies required for the firm (I-SM-B, personal interview, 2014). Meanwhile, the Innovation Group in the Emerging Business Team was moved to the Business Planning Office— the new name of the Strategic Marketing Office. They continued the annual internal IC program, the '2014 Corporate Idea-α' program; however, at the end of 2014, the Innovation Group was finally disbanded (*KE#28*) by the annual reshuffling plan for 2015.

The launch of the Global CVC program

Starting from late 2014, the global-level CVC program based at Silicon Valley, the 'Global CVC-α' program (CV-II-#6), began its official operation (*KE#29*). The program's initial plan was approved back in late 2013; however, it took another one and a half years to refine the plan and its rationale, and for it to be accepted by the new chief executive, CEO#7 (I-SM-B, personal interview, 2015).

Since being relocated to the Corporate R&D Center, I-SM-B tried to convince CEO#6 to get the approval of the plan for a CVC program. In 2013, the R&D arm in the United States was already in operation, which was responsible for identifying key technology trends for adding value to the ICT solutions of Company Alpha. In 2014, after moving into the R&D arm on the other side of the Pacific Ocean, I-SM-B and his team continued preparing the proposal for a CVC program. A Corporate Venturing Capital Senior Manager (CVC-SM-B) explained the role of the newly found CVC team in Silicon Valley:

> [The role of our team is] … to bridge the technology roadmap team in Korea [inside the Corporate R&D Center] and the R&D arm here [in the US]. The importance of the *technology roadmap* was increased substantially, mainly because our new CEO [CEO#7] greatly emphasized the importance of *technologies* and *technological capabilities* of the firm. (CVC-SM-B, personal interview, 2014; emphasis added)

CVC-SM-B, in the following interview, further explained the activities his team members were

doing:

> The technology roadmap [TRM] has the list of technologies to be acquired from outside of the firm [marked with 'buy' or 'collaborate' options]. As to the technology items we identified, we are communicating with managers in the Technology Strategy Team at the headquarters. Whereas, as to the technology trend we are monitoring, we are talking with the project manager of the IT Roadmap project. (CVC-SM-B, personal interview, 2014)

In late 2014, CEO#7 finally accepted the plan to launch a CVC program. The Global CVC-α program was the venture capital run by Company Alpha with a fund size of $30 million. By investing in external ventures, especially in their early stages, the program's strategic objective was to secure technologies that could add value to business departments. The focused areas of investment were associated with technologies such as 'mobility', 'cloud computing', 'data analytics', and 'securities', which were discovered by the CVS project.

In 2015 alone, Company Alpha established more than five strategic partnerships with external ventures, and a couple of venture investment deals were under the process of review (The details of which are not specifically described here because of the confidentiality of the partnerships).[152] The Global CVC-α explains the final stage in the *evolution of CV* at Company Alpha as it forms the *adaptation* stage in its evolutionary change. This will be discussed in detail in Chapter 8 using the *direction of CV* framework (see Section 8.3.4).

6.4 Concluding reflection

Based on the definition of CV, the empirical analysis has found ten CV programs that were developed, terminated, and then re-started in Company Alpha's CV history.[153] These programs

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[152] In the first half of 2016, the firm announced two CVC investment deals to the public.

[153] As mentioned in Section 6.2.3, there were other innovation activities which could be categorized as CV programs; however, those activities that are either one-off events (e.g. the Venture Idea Competition in 2001) or not directly related to the development of CV programs in the first and second CV cycles (e.g. the New Mobile Service project in 2008) are not included in the list of ten CV programs in Table 6.3.

were operated as special programs in the first and the second CV cycles. Table 6.3 summarizes

the ten CV programs identified from the analysis in Chapter 5 and 6, and the result shows that

four CV programs were carried out in the first CV cycle and six CV programs in the second cycle.

Table 6.3: Ten CV programs of Company Alpha (1990–2015)

First Cycle of CV (1997–2002)				*Second Cycle of CV (2011–2015)*			
Sub-section	**Year**	**CV programs** or other key events	**Description**	**Sub-section**	**Year**	**CV programs** or other key events	**Description**
5.3.1	1993	***Research Challenge*** [I-1]	Individual-level autonomous R&D initiative (*KE#3*)	**6.3.1**	2010	***Mobile App Idea*** [II-1]	Individual-level ideation program (more of an event)
5.3.2	1997	***ICV-α1*** [I-2]	Team-level internal IC (*KE#5*); First CV program	**6.3.2**	2011	***Corporate Idea-α*** [II-2]	Individual-level internal IC* (*KE#18*)
5.3.3	2000	New Venture Division (NVD) formed	Major structural change (*KE#9*)	**6.3.3**	2011	Emerging Business Team (EBT) formed	Major structural change (*KE#19*)
		ICV-α2 [I-3]	Team-level internal IC (*KE#10*)		2012	***National Idea-α*** [II-3]	Individual-level external IC (*KE#20*)
		CVC-α [I-4]	External venture investment program (*KE#10*)			***Acceleration-α*** [II-4]	Idea commerciali-zation
					2013	***Global Idea-α*** [II-5]	Team-level external IC (*KE#23*)
5.3.4	2001	NVD disbanded	Following the disbandment of the NVD (*KE#12*), all CV programs were terminated in late 2002.	**6.3.4**	2014	EBT disbanded	The disbandment of the EBT (*KE#27*)
						Global CVC-α [II-6]	External venture investment program (*KE#29*)

Source: Developed by the author.
* IC: Idea Competition (e.g. Mortara et al., 2013)

In Table 6.3, all CV programs correspond to the unit of analysis of the research. Here, by

comparing and contrasting programs between the two CV cycles, the CV programs in two

different time periods of time provide us the way in which the single firm case study is modified

into a comparative case study. With respect to the research design, this analytical approach is relevant to what George and Bennett (2005: 81) suggested: "[C]ontrolled comparison can be achieved by dividing a single longitudinal case into two—the "before" case and an "after" case that follows a discontinuous change in an important variable."

The empirical analysis suggests that, there was a special organizational unit within Company Alpha, which played a significant role as a CV unit, although its name and position within the firm was changed over time. In addition, it has been found that there was a group of managerial actors, who took a dominant role in developing and implementing the firm's CV activities. People inside the CV unit may well be venture managers' managers, whose role was, as reviewed in Chapter 3, importantly emphasized by von Hippel (1977; 1973) in the very outset of the study of internal corporate venturing (ICV), which, however, have not advanced enough. The next chapter therefore discusses the role of these special *managerial actors* and their place within the firm in more detail. This is important because the *actors* of innovation activity serve as a dimension in conceptualizing the notion of *direction* in the context of firms' CV activities.

From a retrospective perspective, the unfolding portfolio of CV activities (or programs) led to the formation of the corporate venturing (CV) architecture of Company Alpha. Being able to look at discrete activities from a holistic viewpoint may well be the merit of the longitudinal approach to the study. Changes in the strategic objectives of CV programs are discussed in more detail in Chapter 7. It will be discussed that primary strategic objectives of CV programs help refine the end point of the *direction of CV*, developing the analytical framework (see Figure 3.3) into a more solid conceptual framework about the direction in innovation settings.

CHAPTER 7
CHANGING DIRECTION OF CORPORATE VENTURING

7.1 Introduction

This chapter analyzes the process of the repeat of CV activities at Company Alpha using the idea of *changing direction of CV*. The analysis focuses on the firm's CV programs and their main actors, and it aims to address the first research question: How are *corporate venturing* activities developed, terminated, and then re-started at the level of the firm? (see Section 1.3.1)

In Chapter 3, the thesis developed an analytical framework about the *direction of* CV. Rather than only considering the *content* of the firm's strategy, as was common in traditional strategy literature as discussed in Chapter 2, this thesis additionally focuses on *managerial actors* across different levels, especially on middle level managers who play a dominant role in managing a range of CV activities. In addition, this study considers different levels of strategies, especially program-level strategy, i.e. the primary goal, or aim, of CV programs. As a result, an analytical framework about the *direction of CV* was developed by combining a focus on both the main *managerial actors* who conduct CV activities, and on the primary *strategic objective* that the CV program pursues and is designed to achieve (see Section 3.4.2).

The thesis now uses the analytical framework to develop an understanding of the process of CV activities repeated over time within the firm. In Chapter 5 and 6, the thesis examined how a range of CV programs at Company Alpha emerged, developed, discontinued (or terminated), and re-initiated during the period from 1990 to 2015. This chapter examines the case through the analytical framework (which is a new framing of direction) to elaborate its sub-dimensions and find its empirical support. By ensuring the validity and usefulness of it as a tool for examining the empirical phenomenon of interest, this framework can be developed into a conceptual framework, which helps understand *CV cyclicality* at the level of the firm.

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7.2 The direction of Corporate Venturing (CV)

7.2.1 'Direction of strategy' versus 'Direction of strategic change'

In Chapter 3, based on the review of the organizational change and strategy literature, it was found that the notion of *direction* in strategy settings has been mainly discussed in two themes: (1) *direction of strategy* (Type I) and (2) *direction of strategic change* (Type II) (see Section 3.2.3). Results of the empirical analysis support this finding. As shown in Table 7.1, changes in corporate-level strategy and in business strategy to achieve corporate-level strategy have been identified through the analysis. As will be discussed here, this allows us to corroborate the two types of direction using Company Alpha's case study.

Table 7.1: Changes in corporate-level strategy and business strategy of Company Alpha

Period	*Corporate-level strategy*	*CEO (Tenure)*	*Business strategy*	*Relevant quotes*
1990–1993	IT *outsourcing* company	CEO#1, CEO#2	(Not clearly identified)	-
1993–2010	Global IT *service* company (Service includes IT System Integration, development, and maintenance)	CEO#3 Sep. 1993–		**<Corporate-level strategy>** - ""Company Alpha is an IT service company which develops, operates, and maintains IT systems," CEO#3 explained. … We will be a total IT *service* company by 2000, with an annual revenue of $1.3 billion"[154] - "In the spring of 1997, the firm decided its corporate-level strategy as "becoming a global top ten IT *service* company by the year 2005""[155] (5.3.2)*
		CEO#4 Dec. 1998–	• Strengthening new internet business and global business (2000–2002)	**<Corporate-level strategy>** - Company Alpha announced its vision to transform the firm into "the internet-based IT *service* company"[156] (5.3.3)

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[154] *Joongang Ilbo* (1994) 'CEO#3, the chief executive of Company Alpha'

[155] *Company Alpha* (1997) 'Press Release: Company Alpha's vision for 2005'

[156] *Company Alpha* (2000) 'Press Release: Company Alpha transforms into the internet-based IT service company'

			\<Business strategy\> - "… (1) reducing the business portion of system integration (SI) business, and (2) increasing the portion of internet and global business"[157] (5.3.3)
		CEO#5 Dec. 2002–	• Cost reduction (2003–2005) • Strengthening new business and global business (2005–2010)	**\<Corporate-level strategy\>** - "Our vision is to be the global top ten IT *service* company by 2010."[158] (5.2.1) **\<Business strategy (before 2005)\>** - "… direction is approaching to *cost reduction* and increasing profits."[159] (6.2.1) - "… we always have to think about *cost*"[160] (6.2.1) **\<Business strategy (after 2005)\>** - "… we need to develop new business; we need a strategic approach."[161] (6.2.2)
2010–	Global IT *solution* company	**CEO#6** Dec. 2010–	• Restructuring business portfolio centered on IT solution business (2011–2013)	**\<Corporate-level strategy\>** - Our vision for 2020 is the "intelligent IT *solution* company"[162] **\<Business strategy\>** - "[CSO said,] We need to do *new business* with new products and services, which is providing new IT services using *our* IT *solutions*."[163] (6.3.2)
		CEO#7 Dec. 2013–	• Restructuring business portfolio centered on IT solution business (2014–)	**\<Business strategy\>** - "[CEO#7 emphasized] we need to do ICT service business based on our IT *solutions*."[164] (6.3.4)

Source: Developed by the author based on the analyses in Chapter 5 and Chapter 6.

* The number in parenthesis denotes the relevant subsection's number from which the quote is taken.

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[157] *Ibid.*

[158] *Company Alpha* (2005) 'CEO#5's email to the employees'

[159] *Company Alpha* (2003) 'TSC#2 Meeting Minutes'

[160] *Company Alpha* (2004) 'TSC#14 Meeting Minutes'

[161] *Company Alpha* (2006) 'TSC#39 Meeting Minutes'

[162] *Company Alpha* (2010) 'CEO#5's email to the employees'

[163] *Company Alpha* (2011) 'Meeting Minutes: New business development strategy planning'

[164] BS-SM (personal interview, 1 April 2016)

Direction of strategy (Type I)

The first notion of *direction* in strategy settings observed from the case is directly associated with the *content* of strategy. As discussed in Chapter 3, *direction of strategy* is the term that highlights the content of the firm's strategy, which is defined, adopted, and pursued in order to achieve their sustainable competitive advantages (see Section 3.2.3). In large established firms, direction of strategy is crucially important because it acts as a frame of reference for a range of strategic decisions across the firm.

Table 7.1 is one of the key results from the case analysis, where the list of *corporate-level strategies* and *business strategies* at Company Alpha are displayed. This provides examples of *Type I direction*. For example, CEO#5, in 2005, set out the firm's corporate-level strategy "to be the global top ten IT service company", and to achieve this, set the business strategy as 'strengthening new business and global business'. This was shared across the firm through a variety of communication channels (e.g. business events, emails, company broadcasting, etc.) (see Section 6.2.2). Considering its focus on strategy *content*, the business strategy in 2005 was clearly a *direction of strategy*. This suggests that all other corporate-level and business strategies in Table 7.1 can be regarded as *direction of strategy*. For example, in 2000, CEO#4 set the business strategy to 'strengthening new internet business and global business' (see Section 5.3.3). And from 2003 to 2005, which was early three years of CEO#5's tenure, the business strategy was 'cost reduction' (see Section 6.2.1). These are examples of a *direction of strategy*, or Type I direction, at Company Alpha.

Direction of strategic change (Type II)

Next, the second notion of *direction* supported by the case is *direction of strategic change* (Type II direction). Unlike Type I direction, which is primarily focused on the *content* of strategy, Type II direction is mainly concerned with *changes* in the content of strategies. In particular,

these changes occurred in both the corporate and business levels.

First, at the business-level strategy, Table 7.1 shows that there was a distinctive change in *business* strategies between the tenures of CEO#5 and CEO#6, and this is an example of Type II direction. In 2011, in the first year of CEO#6's tenure, the *direction of strategy* (Type I direction) was changed to 'restructuring business portfolio centered on IT solution business', which was significantly different from the previous direction under the leadership of his predecessor, CEO#5 (strengthening new business and global business). This change of *strategic direction* is in accordance with the notion of the *direction of strategic change* (Type II direction).

Drawing on Intel's case, Burgelman (2002b) divided the history of the firm into three epochs: Intel (1) the 'memory company' (1968–1985); (2) the 'microprocessor company' (1985–1998); and (3) the 'internet building-block company' (1998–). Here, each title of the epoch can be viewed as the corporate-level strategy in each period. As the CEO of Intel in the second epoch, Grove directed the content of Intel's strategy—the *direction of strategy* (Type I direction)— mainly towards Intel the 'microprocessor company' using the *strategy vector* approach; it was "superbly suited for exploiting the rich opportunities in the PC market segment of the microprocessor industry" (Burgelman, 2002a: 336). However, what is also important is to scrutinize *strategic direction* and to consider the change of *strategic direction*—the *direction of strategic change* (Type II)—not to be trapped in "coevolutionary lock-in" (Burgelman, 2002a).

In the case of Company Alpha, the history of the firm can be divided into three distinctive periods: Company Alpha (1) the 'IT outsourcing company' (1990–1993); (2) the 'IT service company' (1993–2010); and (3) the 'IT solution company' (2010–) (see Table 7.1). Similar to Intel's case, the title of each period corresponds to the firm's *corporate-level* strategy, which is supported by the relevant quotes in Table 7.1.

In 2011, at the beginning of CEO#6's tenure, the *direction of strategy* was significantly changed,

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focusing on transforming the firm into the IT solution company. This new *strategic direction* was enforced by his successor CEO#7, which CEO#7 himself highlighted as the change of *strategic direction* (Type II) by using the term "inflection point" (see Section 6.3.4). Prior to 2011, as confirmed by BS-SM, the firm's strategic direction was oriented toward being an IT *service* company, largely dependent on labor-intensive system integration (SI) business; however, CEO#6 and the successor CEO#7 tried more and more to change the *direction of strategy* toward the new corporate-level strategy, IT *solution* company (BS-SM, personal interview, 2016). In this case, the tension between Type I and Type II direction can be described as *enforcing* corporate strategy into the same direction versus *shifting* it to a new direction. Here, managing such tensions is, in Burgelman's (2002a) words, a means to avoid "coevolutionary lock-in".

7.2.2 A new framing of direction: Direction of CV

Apart from Type I and Type II directions that have been mainly considered in the strategy literature, this thesis suggests that the *direction of CV* can be defined as an internal consistency, within the firm conducting CV activities, between the firm's structure (with actors residing in the structure) and its strategy (see Section 3.4). This is an alternative way of thinking about 'direction' from an internal firm perspective. Specifically, this thesis attempts to develop a conceptual framework about the *direction of CV*. This is a new framing of direction in innovation settings, which is generated by combining both *who* in the organization innovates (main *managerial actors* who conduct CV activities) and *why* (the primary *strategic objective* pursued by the CV program) (see Section 3.4.2). Importantly, findings in the thesis demonstrate that this new framing of direction helps explain Company Alpha's CV activities repeated over time.

Before conducting an empirical analysis, this potential conceptual framework existed as a

typology of direction, which emerged from the theoretical review of strategy and innovation literature. Candidates for specific sub-dimensions which together can constitute the axes of the typology were still contested, requiring empirical support. Therefore, this framework was applied as an analytical framework for the case study analyzed in Chapter 5 and 6. Results from the "within-case analysis" (Eisenhardt, 1989; Eisenhardt and Graebner, 2007) of the case firm's empirical data support the validity of this re-conceptualization of direction. Through multiple rounds of analysis, which are interactions between empirical analysis and theoretical reflection, the analytical framework was developed into the conceptual framework (see Figure 7.1).
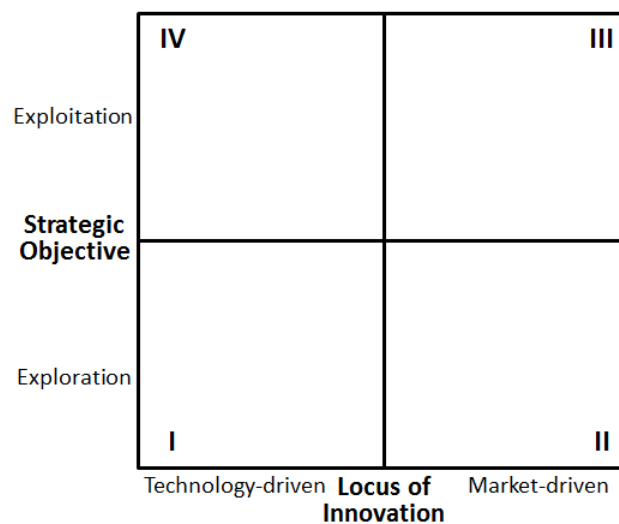
Figure 7.1 The direction of corporate venturing (CV)
Source: Developed by the author.

Figure 7.1 shows the *direction of CV*, which is, as discussed in Chapter 3, the combination of two dimensions: (1) the main *managerial actors* of CV activities and (2) the primary *strategic objective* of a CV program (see Section 3.4.2). By mapping each dimension to the axis, the *direction of CV* is generated by the intersection of two axes: *locus of innovation* (a starting point) and *strategic objective* (an end point). These two axes reflect the answer to two key questions about managing CV as an innovation practice: *Who* in the organization undertakes CV activities? And what are the aims of CV programs?

The results of the empirical analysis suggest that the two axes (dimensions) in Figure 7.1 can be effectively refined by adding sub-dimensions. The first dimension, *locus of innovation*, is divided into (1) *technology-driven* and (2) *market-driven*. Next, the second dimension, *strategic objective*, is divided into (1) *exploration* and (2) *exploitation*.

Using the conceptual framework, the series of CV programs in the first and the second CV cycles at Company Alpha (see Table 6.3) are analyzed as shown in Figure 7.2. Through the lens of the *direction of CV*, the figure illustrates how CV programs have been developed, terminated (or adapted), and then re-started at the level of the firm during the period from the early 1990s to 2015, and this is an important finding in the thesis.
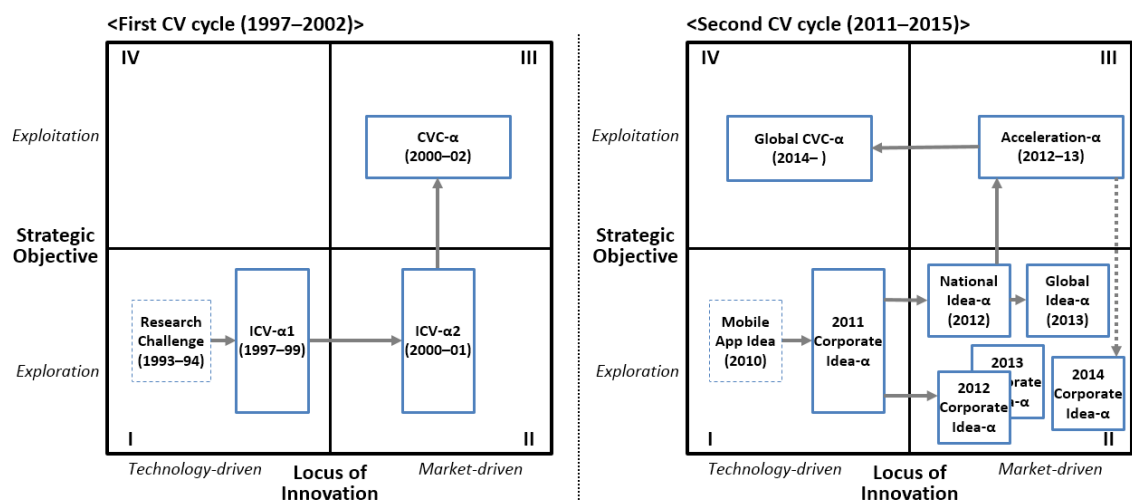
Figure 7.2 Changing direction of CV in the first and the second CV cycles at Company Alpha
Source: Developed by the author.

The juxtaposition of changes in the direction of CV in two different periods of time allows us a cross-time analysis of the two CV cycles (to compare and contrast these CV cycles). This helps us understand the dynamics in the cyclical nature of CV activities at the level of the firm, which will be discussed in Chapter 8. But before, this chapter continues by discussing changes in the *locus of innovation* (the starting point of direction) (in Section 7.3), and changes in the *strategic objective* of a CV program (the end point of direction) (in Section 7.4).

7.3 Locus of innovation: the starting point of the direction of CV

The starting point of the *direction of CV* focuses attention on the *locus of innovation* that exists within the firm; this means where in the firm innovation is generated. Findings from the case analysis suggest that, inside the firm, there is a distinct group of individual actors within specific structural units who undertake a dominant role in managing a series of CV activities. In this thesis, *locus of innovation* refers to a distinct group of individual actors who reside in specific structural units within the firm and dominantly manages a range of CV activities (e.g. CV programs, CV teams, etc.). Using a vector analogy from physics, *locus of innovation* can be described as a starting point of a vector, as it is the origin of a CV activity where forces are exerted on, activating the activity.

Eric von Hippel (1988), in *The Sources of Innovation*, explored the 'functional source of innovation' by examining 'benefits' which firms and individuals derive from product, service, and process innovation at the industry level. Depending on the functional source of innovation (e.g. from using, manufacturing, and supplying), these players are categorized into users, manufactures, and suppliers (Von Hippel, 1988: 3). However, *locus of innovation* suggested in this thesis should be distinguished from von Hippel's approach, as *locus of innovation* focuses on the question about *who* in the organization innovates (i.e. main actors at the level of the firm). Specifically, *locus of innovation* focuses on roles and characteristics of *managerial actors* in the innovation process by looking at which *managerial actors* at what part of the organization conduct the key role in the process of innovation. Actors at the *locus of innovation* within the firm manage the firm's innovation activities such as CV, whereby setting environments conducive to innovation and helping ideas, being streamed from sources of innovation, be enacted.

This section examines the empirical case of Company Alpha, which is the exemplar of the firm

that repeated CV activities over time in Korean CV history (see Section 1.3.1). A pattern which emerges from the data demonstrates that the firm's *locus of innovation* has moved over time between two major sides inside the firm. Specifically, the main managerial actors (and the structural units they reside in) of CV activities swung between the technology and the marketing sides of the firm. In what follows, this section discusses multiple levels of structures and actors by considering the *depth* of resource orchestration (see Section 3.4.1), and analyzes the pattern found from the changes in the *locus of innovation*.[165]

7.3.1 Multiple levels of structures and actors and the *depth* of resource orchestration

Firms are often assumed as a unitary agent with economic and strategic motives, which is, in Grant's (1996) term, described as "a singular decision taker". Taking into consideration of real business settings, however, this unified view of organization needs to be modified. Looking Company Alpha as a micro-level innovating system, the firm is then viewed as layers of organizational units at different hierarchical levels. Here, *hierarchies* are "layers of sequential authority" which are introduced to enable coordination and foster cooperation (Reitzig and Maciejovsky, 2015: 1979).

The modified viewpoint leads us to see the firm as a set of organizational units, each of which performs specialized functions that are *horizontally* divided along the firm's value chain (Porter, 1985) (e.g. logistics, marketing and sales, and service, etc.). In the context of large established firms, however, organizational units are also *vertically* divided, revealing hierarchical

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[165] Borrowing Burgelman's (1980) term, the case firm is the very example of "an innovating system", which has often been treated as a black box. Traditionally, the 'systems of innovation' concept is "one of the most important concepts to emerge from SPIS" (Martin, 2012: 1233) especially at a *macro-level* such as the 'national innovation system' (e.g. Freeman, 1987; Lundvall, 1992; Nelson, 1993). Nevertheless, it is essential to pay attention to the systems of innovation at a *micro-level*, as is emphasized by Pavitt (2005) as the way to be further explored by innovation scholars.

structures and lines of business communications. Therefore, to examine the main actors of CV activities within the firm, taking account of multiple levels of managers is important.

A multi-layer framework (MLF) for structural and actor analysis

There is a major consensus that multiple levels of managerial hierarchy can be grouped into three levels (top, middle, and operational) (e.g. Floyd and Lane, 2000). However, multiple levels of organizational units and managers inside the firm can be articulated by examining a series of organizational charts that change over time. Organizational charts are effective tools with which to examine the firm's organizational structure including horizontal and vertical divisions.

Chapter 5 and 6 presented Company Alpha' organizational charts at five critical junctures which are closely associated with major changes in the firm's CV activities, especially CV programs. Findings suggest that there are vertical hierarchies, or layers, in the organizational structure, and they can be explained by what this thesis calls a 'multi-layer framework (MLF)' for structural and actor analysis (see Figure 7.3).[166] The *MLF* is composed of five layers (from *L1* to *L5*) of organizational units along with the key managerial actors at each layer. For example, Figure 7.3 shows the *MLF* applied to part of Company Alpha's organizational chart in 2012 (*OC#2012*; see 6.3.3).

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[166] The five organizational charts at critical junctures analyzed in the thesis are: *OC#2000* (Fig. 5.4), *OC#2006* (Fig. 6.2), *OC#2010* (Fig. 6.3), *OC#2012* (Fig. 6.4), and *OC#2013* (Fig. 6.5).
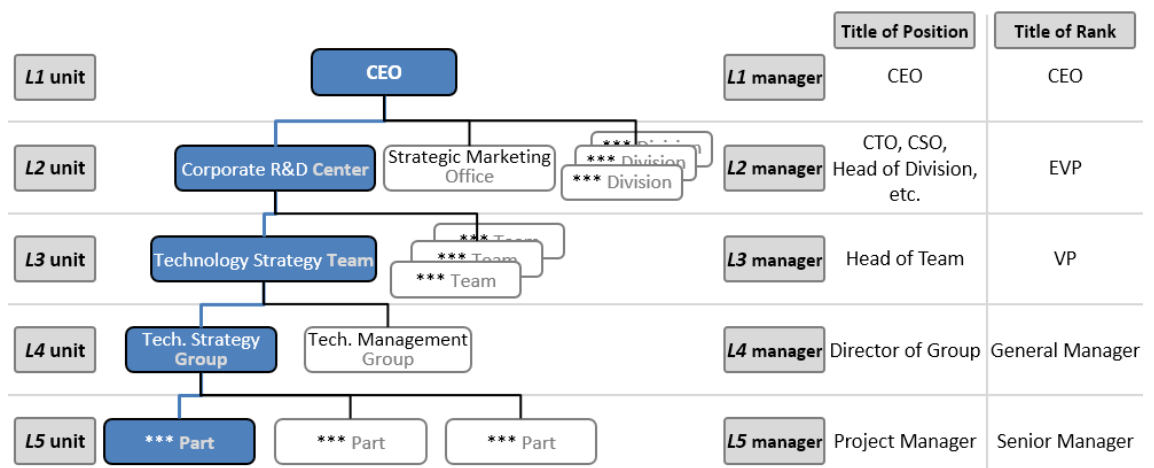
Figure 7.3 A multi-layer framework (MLF) for structural and actor analysis (applied to OC#2012)
Source: Developed by the author.

The *MLF* unpacks the internal structure of a large firm into five layers of organizational units and shows the main actor(s) at each layer—titles of positions and titles of ranks. First, *L1* is the top-level unit in the organizational structure, in which the chief executive of the firm is singularly positioned as the representative of the top-level management. With respect to *L1* managers, five chief executives of Company Alpha (from CEO#3 to CEO#7) were identified and analyzed in the empirical chapters (see Table 5.2 and Figure 5.2).

Next, *L2* is the division-level unit because all business divisions of the firm can be clustered into this level; some other units ending with 'Office' or 'Center' are located at this level, too. *L2* managers include C-level executives—such as the chief technology officer (CTO) and the chief strategy officer (CSO)—and 'heads of business divisions', all of whose ranks are executive vice president (EVP) in general.

Third, *L3* is the team-level unit, which is organized mainly based on major business functions (e.g. Business Strategy Team, Technology Strategy Team, Finance Team, Emerging Business Team, and Venture Management Team, etc.). A typical *L3* manager is in the position of 'head of team', who is a vice president (VP) in general; but sometimes, a general manager (GM), who is one rank lower than VP, takes the head of team position.

Similarly, *L4* stands for group-level units and *L5* for part-level units. Here, *L4* units (i.e. Groups) are built around sub-functions of the *L3* unit (i.e. Team) under which they are located. For example, in *OC#2012*, both the Technology Strategy Group and the Technology Management Group were located under the Technology Strategy Team (see Figure 6.4). In terms of managerial actors, the *L4* managers' position is 'director of group', whose rank is usually general manager (GM).

Finally, despite the fact that *L5* is not usually displayed in organizational charts, *L5* units are important, because although they are the lowest level in the organizational structure, substantial tasks and operations are conducted by groups of actors in *L5* units led by *L5* managers. These middle-level managers are generally senior manager (SM) in terms of their rank, and they lead either a project, or a program, with a 'project manager' position. The importance of *L5* managers are highlighted by researchers as the role of *middle managers*.

Depth of resource orchestration

Drawing on *resource orchestration* (RO) theory, multiple levels, or hierarchy, of managerial actors (i.e. managers) within the firm can be analyzed as an empirical case of the *depth of RO* (Sirmon et al., 2011). As discussed in Section 3.4, RO focuses explicitly on managerial *actors* and their resource-related actions. Although firms already have a strategy, RO suggests that its result and performance may well depend on actors who implement those strategies:

> [Inside firms,] multiple levels of managers coexist, with each level contributing, in different ways, to the achievement of a competitive advantage. As such, the *structuring*, *bundling*, and *leveraging* subprocesses of resource orchestration likely differ by managerial level. (Sirmon et al., 2011: 1404)

In particular, the *depth* of RO is suggested as a prospective future research area that can update resource-based theory (for more on this see e.g. Barney et al., 2011; Sirmon et al., 2011; Chadwick et al., 2015). Here, the word 'depth' rightly underlines a distinctive characteristic of

the large firm being stratified into layers of units with managers at different levels. However, the role of multiple levels of actors—who enable the combination of resources in a new way—is less discussed so far. As Sirmon et al. (2011: 1403) pointed out: "To date, research on the role of managerial action in realizing competitive advantages either has assumed the actor to be the general manager (i.e., chief executive) or has not specified the manager's level".

When examining the depth of RO within the firm, the multi-layer framework (MLF) sheds light on the hierarchies or vertical divisions within large established firms; at least this is seen to be the case in the context of large Korean business firms. Importantly, the analysis through the MLF helps us examine interactions across different layers of organizational units and different levels of actors within the structure. From the observation of changes within Company Alpha, especially focusing on changes at the *L2* layer (division-level units), the following subsections analyze the main types of the locus of innovation (Section 7.3.2) and its changes (Section 7.3.3).

7.3.2 Two loci of innovation inside the firm: *Technology-driven* vs. *Market-driven*

From the analysis of multiple levels of organizational units and actors (i.e. by looking into the *depth* of research orchestration), it is found that there is a distinct group of individual actors who reside in specific structural units within the firm and dominantly manages a range of CV activities (e.g. CV programs, CV teams, etc.). The thesis refers to the combination of these actors and the organizational units in which they reside, collectively as *locus of innovation* (LoI).

Specifically, *locus of innovation* does not only mean a group of structural units; it means a combination of *structural units* and *individuals* within the structure, which as a result form a group of actors embedded in a common structural context. Rather than solely relying on either structural arguments or factors only related to human actors, to consider both organizational units and individual actors together through *locus of innovation* provides more explanatory power. It is because the *internal environments* of Company Alpha—an innovating system in

[177]

which managerial actors perform their business tasks—are different at each locus of innovation, as if the speed and direction of wind differs in different places.

Technology-driven vs. Market-driven locus of innovation

The analysis of Company Alpha's 26 years of data, which include organizational structures, business archives, and interviews, demonstrates that there are two main sides within the *locus of innovation* inside the firm (i.e. the innovating system). These two sides can be grouped into the *technology side* and the *marketing side* of Company Alpha, each of which is referred to in the thesis as the *technology-driven* and the *market-driven locus of innovation*, respectively. All ten CV programs of the firm (see Table 6.3) were designed and operated mainly by one of the two sides.

The two *loci of innovation* inside the firm can be displayed as in Figure 7.4, which uses the *OC#2012* (see 6.3.3) as an exemplary case. The figure shows that there are two distinctive division-level (*L2*) units that can act as a *locus of innovation*—one in charge of corporate-level technology strategy (the Corporate R&D Center) and the other in charge of business strategy focusing on markets and competitors (the Strategic Marketing Office). The existence of the two potential *L2* units suggests the possibility of mutual competition between the two to become the main actor that drives the firm's innovation activities (i.e. the *locus of innovation*).
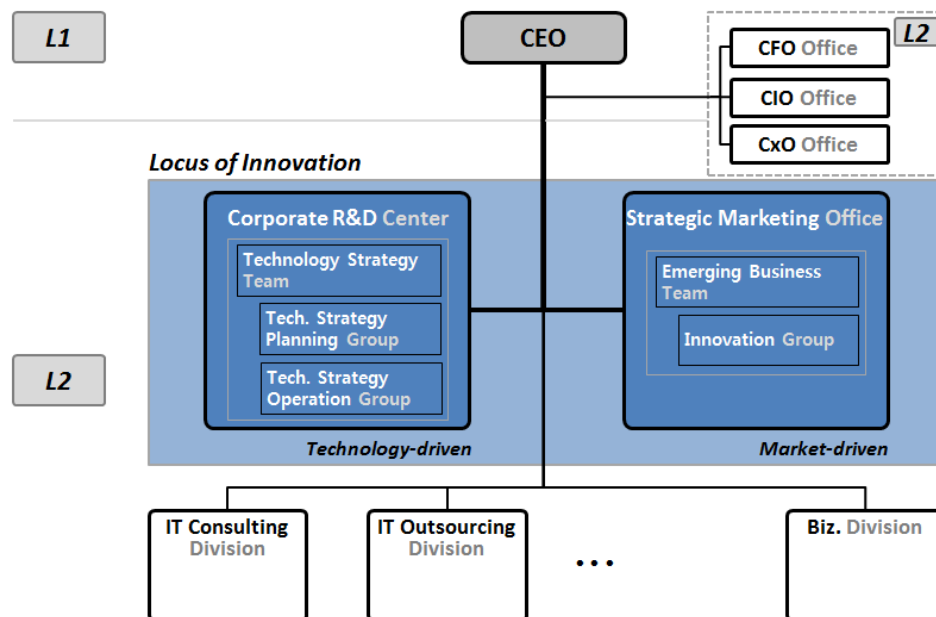
Figure 7.4 Two potential *loci of innovation* at Company Alpha (Technology-driven vs. Market-driven)
Source: Developed by the author.

Figure 7.4 serves as a good example to show the internal structure of the *locus of innovation* at Company Alpha. It also suggests that the five layers of the MAF (see Section 7.3.1) can be applied as an analytical tool to examine organizational structures (i.e. organizational charts). For example, inside the *L2* unit (see Figure 7.4), the Corporate R&D Center is led by a CTO (in this case, CTO#14; *L2* manager), in which the Technology Strategy Team led by the head of the team (a VP; *L3* manager) is located. Inside the Technology Strategy Team, there is the Technology Strategy Group managed by the director of the group (a GM; *L4* manager). Middle managers (e.g. managers and senior managers; *L5* managers), whose distinctive roles have been highlighted in the literature (e.g. Kanter, 1985; Floyd and Wooldridge, 1992; Hornsby et al., 2009), perform their business activities within the group.

Features of locus of innovation: (1) Mutual competition

Two features of the *locus of innovation* have been found from the analysis of the data. The first is *mutual competition* between the two potential loci of innovation. For example, in developing

[179]

CV programs, the two sides competed against each other to be the main innovator inside the firm, fully sponsored by the top management, especially CEO. With regard to the competition between these two sides—the *technology-driven* and the *market-driven*—to become the main innovator inside the firm (i.e. the *locus of innovation*), a CTO who had worked at Company Alpha from the early 1990s said in the interview:

> Of course, the competition for who will drive new business development exists between the two sides [the *technology side* and the *marketing side* of the firm]. Although each side's perspectives are different, they commonly believe that the firm needs to do something *new* to ensure its *business continuity*. The technology side wants to lead the firm from a technological viewpoint, whereas the marketing side wants to lead from a market viewpoint. Hence the competition between the two is obvious; it wouldn't be a company if there wasn't such competition. ... The attribute of organization is *competition*. It's not only the competition in the market, but there's internal competition as well. A typical internal competition is that of the technology side versus the marketing side. A person in charge of technology does his/her best from the viewpoint of the technology side, and it's the same in the case of a person in charge of marketing. What's important is, from a CEO's position, to strike the balance between the two sides. (CTO#12, personal interview, 2014; emphasis added)

The competition between the *technology* and the *marketing* side as to the innovation activities, especially to seize the initiative for new business development activities, is also supported from the interview with a middle manager (*L5* manager) in the Technology Strategy Team:

> R&D and marketing departments have their own new business development process. In the winter of 2009, we had a strategy meeting to integrate the two processes into a firm-level standard business process. But, it ended up after two hours of fierce debates over who will lead the new business development initiative. In the meeting, we actually used the term *technology-driven* and *market-driven*, and we discussed which type would be the best process for our company, i.e., between technology-driven and market-driven new business development. We, however, didn't arrive at a conclusion. (TS-SM-A, personal interview, 2014; emphasis added)

Features of locus of innovation: (2) Different logic

The second feature found from the analysis is that each locus of innovation has *different logic*.

[180]

The logic was underlying the actors' assumptions when they were planning and operating a series of CV programs. A manager who worked in both the two *loci of innovation* described that totally different logic was pervasive in the two sides of the firm, as if they were 'two different *thought worlds* using *different languages*'. In the manager's own words:

> In late 2011, my colleagues and I were moved from the Corporate R&D Center to the Strategic Marketing Office. Then, we experienced a disconnection from the R&D. Our *language was totally changed*; we didn't even use the word 'technology' in our daily talks. … Our way of thinking was changed as well. Rather than thinking about how to find new *technologies*, we were then singularly concerned about how to gather new business *ideas* and how to scale them up in order to develop new IT service business.[167] … In addition, we talked a lot about the size of the *market* for new business ideas proposed. In the Corporate Idea-α [internal IC in 2011], ideas' market size was not a top priority. The item of the winner wouldn't have been selected, if the market size had been our top priority. However, [after we were moved to the marketing side] it became more and more important, first in the National Idea-α [external IC in 2012] and then in the Global Idea-α [external IC in 2013]. When evaluating ideas in the Global Idea-α, for example, proposals were immediately filtered out if its potential market size was less than, say, billion dollars. (I-M, personal interview, 2013; emphasis added)

Table 7.2 summarizes the characteristics of the two loci of innovation, which are articulated by comparing and contrasting interviews with key individuals from the both sides of the locus of innovation (not only business archives). This finding demonstrates the two distinctively different *internal environments* and the logic within the two sides of a micro-level innovating system. When similar CV programs are conducted by the firm, it is often the case that no meaningful difference can be observed by outer observers for lack of knowledge about the internal context of the firm. However, the content in Table 7.2 provides contextual information about the two main actors of CV activities. It helps us develop a better understanding of the firm's behavior associated with its CV programs repeated over time.

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[167] The necessity for the development of 'service type' new IT business is directly associated with the CSO's viewpoint of Company Alpha in 2011 (see Section 6.3.2)

Table 7.2: Characteristics of the two loci of innovation (with relevant quotations)

	Technology-driven	*Market-driven*
Top level actor in charge (*L2* manager)	• **Chief Technology Officer (CTO)** - e.g. CTO#12 who identified technology opportunities in 2008 (see Section 6.2.3)	• **Chief Strategy Officer (CSO)** - e.g. CSO who were concerned about the potential market size in 2011 (see Section 6.3.2)
Top level structural unit (*L2* unit)	• Division-level unit (*L2*) led by *L2* manager in charge of technology strategy (e.g. Corporate R&D Center)	• Division-level unit (*L2*) led by *L2* manager in charge of business strategy (e.g. Strategic Marketing Office)
Perspective and assumptions	• Looking the world mainly from the perspective associated with *technologies* - Actors have a good understanding of technology • *Technological opportunities* are believed to be most important and thus prioritized - Tries to capture changes in technology (i.e. technological change) to seize the technological opportunities • *Acquiring technologies* and utilizing the acquired technologies are important - R&D activities are emphasized - "What technologies will be necessary and for what reasons; how we can acquire those technologies."[168]	• Looking the world mainly from the perspective associated with *markets* - Actors have a good understanding of markets (i.e. customers and competitors) • *Market opportunities* are believed to be most important - Tries to capture changes in customers and competitors (i.e. market change) - "In case of Samsung, for example, they transformed the firm from the *analogue* to the *digital* generation and became a leading firm in the digital home appliance sector from the mid-1990s. Back then, they were not a leading digital company. In this transition period, looking at behaviors of the leader such as Sony was crucially important. From the viewpoint of leading high-tech firms, however, they thought that they could change the game by technologies. … Similarly, we [Company Alpha] in the 1990s also looked at competitors first, trying to understand their behaviors, rather than starting from technology."[169] • Achieving *revenue goals* and *market shares* are important - Customers' needs and market size/share are emphasized - "Our language was totally changed

[168] CTO#12 (personal interview, 7 October 2014)

[169] *Ibid.*

[182]

		[after moving into the marketing unit]; we didn't even use the word 'technology' in our daily talks. … Technologies are important; however, we started from the number."[170]
Main strategy	• *Technology* strategy - "Technology strategy is the plan for how to acquire technologies and how to use them."[171]	• *Business* strategy
Major strategic activities	• *Technology Intelligence* (TI) activities • Technology strategy planning - e.g. technology roadmap development	• *Market Intelligence* (MI) activities • Business strategy planning - e.g. mid- to long-term business strategy planning (see Section 6.3.4)
Key questions	• Based on *technological opportunities* identified, how to develop *new business* (new products, IT services)?	• In order to achieve business strategies (e.g. revenue goals), how to develop *new business* (new products, IT services)? - "We need to have $10 billion revenue in 2015, and one third of it should be from new businesses."[172]

Source: Developed by the author based on the analyses in Chapter 5 and Chapter 6.

7.3.3 Changing locus of Innovation (the starting point of direction)

Changes in the locus of Innovation

Changes in the *locus of innovation* are identified through the analysis of five organizational charts at critical junctures (see Appendix G), which are associated with a range of key events in Company Alpha's CV activities. As shown in Figure 7.5, the changing pattern indicates that the *locus of innovation* at Company Alpha swung between the technology side (i.e. *technology-driven*) and the marketing side (i.e. *market-driven*) within the firm.

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[170] I-M (personal interview, 28 October 2013)

[171] TS-SM-A (personal interview, 15 October 2014)

[172] *Company Alpha* (2011) 'Meeting Minutes: New business development strategy planning'
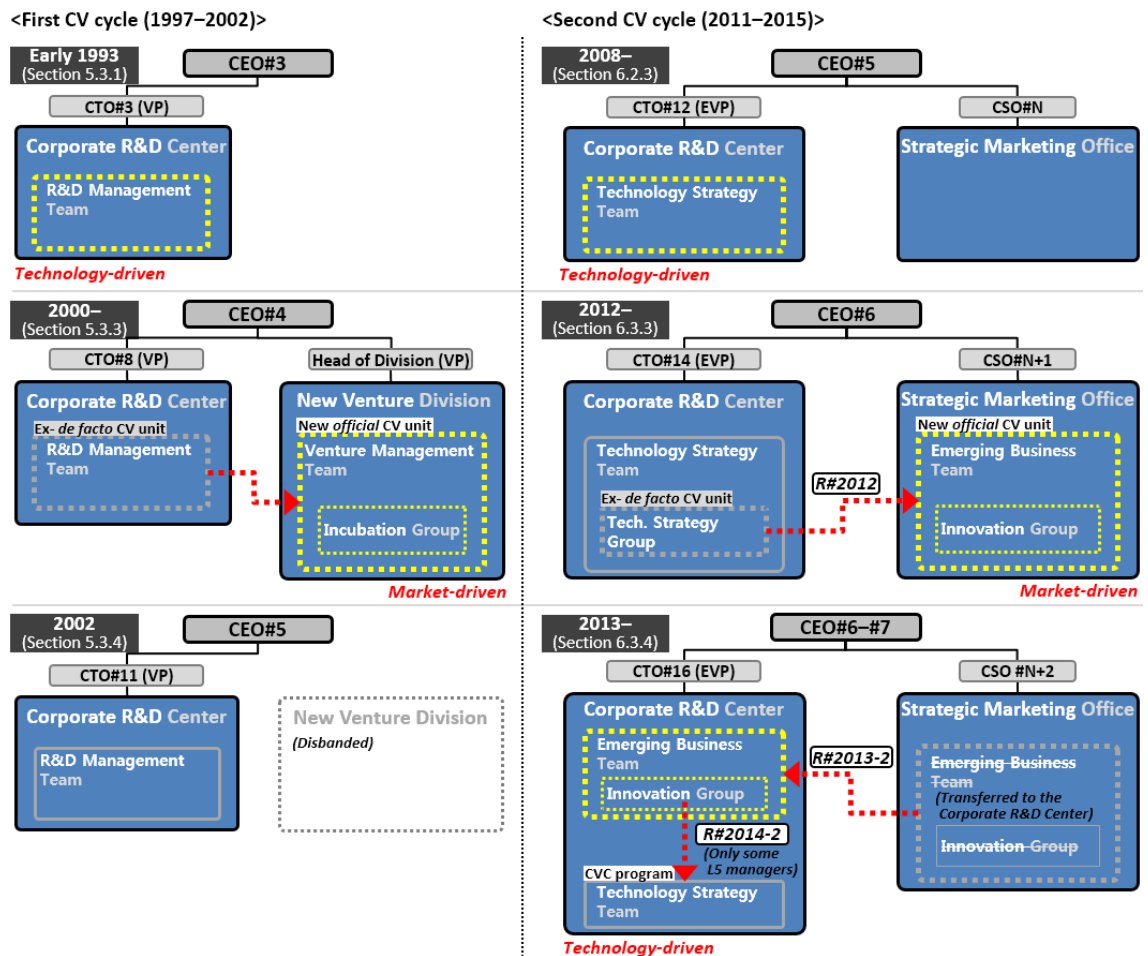
Figure 7.5 Changing locus of innovation of Company Alpha in the two CV cycles
Source: Developed by the author based on the analyses in Chapter 5 and Chapter 6.

Figure 7.5 demonstrates that the *locus of innovation* changed over time both in the first and the second CV cycles in a similar way. In both cycles, the locus was activated at the technology side and moved to the other part—the marketing side of the firm. In the first CV cycle, the *locus of innovation* being moved was deactivated; whereas, in the second cycle, it was moved back to the technology side, where the *locus of innovation* was originally activated from.

The changing pattern displayed in Figure 7.5 draws our attention as this pattern relates to the main *managerial actors* (and the structural units they reside in) in the process of the repeat of CV activities. As to the *direction of CV*, the *locus of innovation* constitutes its starting point (i.e. the origin of direction), and the finding suggests that the origin of direction changes between the two loci of innovation: *Technology-driven* and *Market-driven.*

[184]

Theoretical interpretation from the resource orchestration perspective

As explained in Section 3.4.2, the *depth* (multiple levels of structures and actors) and *breadth* (multiple levels of strategies) of RO (Sirmon et al., 2011) provide theoretical backgrounds to the dimensions of the conceptual framework (the *direction of CV*) developed in the thesis. Furthermore, findings from the empirical analysis also feed into the development of these underexplored, but prospective research agenda of RO theory: the *depth* and *breadth* of RO.

As reviewed in Chapter 3, managers' resource orchestration actions are composed of "the comprehensive process of *structuring*, *bundling*, and *leveraging* the firm's resources with the purpose of creating value" (Sirmon et al., 2011: 1392; emphasis added). Here, the *depth* of RO suggests that managers' resource-related actions (*structuring*, *bundling*, and *leveraging*) can be differ by managerial levels in the organizational hierarchy. Researchers have begun focusing on the role of top management team such as "top management resource orchestration" (Chadwick et al., 2015). However, different roles of multiple levels of managers need to be further understood considering the *depth* of RO. Specifically, changing *locus of innovation* identified in the thesis can be positioned as an empirical case of the *depth* of RO.

Looking at Figure 7.5, the change of the *locus of innovation* in the first cycle of CV (1997–2002) and the second CV cycle (2011–2015) at Company Alpha show a similar pattern. In the second CV cycle, for example, the technology side started acting as a locus of innovation (*technology-driven*) in the autumn of 2008, which was then shifted to the marketing side in late 2011 (*market-driven*). After one and a half years, the locus was moved back to the technology side (*technology-driven*). This changing pattern, combined with the empirical analysis in Chapter 6, provides three major empirical insights as to the *depth* of RO.

First, *resource orchestration* actions are initiated by the top management mainly by resource *structuring*. The data show that every change of the *locus of innovation* was initiated by the

top management's resource *structuring* actions. Each of the chief executives (CEO#5, CEO#6, and CEO#7), who is the *L1* manager according to the *MLF* (see Figure 7.3), carried out resource *structuring* by means of *annual reshuffling*, which is structural changes accompanied by human resource changes implemented at least once a year.

Some may argue that a locus of innovation can emerge in a bottom-up manner; however, even the emergence of a new locus of innovation was preceded by resource *structuring* by the top management. For example, in January 2006, CEO#5 did the annual reshuffling for 2006 (hereafter *R#2006*) under the newly changed business strategy oriented towards profiting from *differentiation* (see Section 6.2.3). By the *R#2006*, CTO#12 was appointed as a new head of the Corporate R&D Center (*L2* unit) in charge of corporate-level technology strategy (*KE#14*), who later in 2008 carried out a strategic role in turning the R&D unit into the new locus of innovation within the firm.

Second, the change of the *locus of innovation* within the firm is often a result of top management's (CEO) resource *structuring* action. When conducting resource *structuring*, the top management changes the *locus of innovation* between the *technology* and the *marketing* sides of the firm. As discussed in the previous section, there is mutual competition between the two sides (see Section 7.3.2), and the pervasive logic on each side is completely different against the other (see Table 7.2). Hence, CEOs, as a conductor of resource orchestration, changed the position of the firm's locus of innovation when necessary.

For example, in late 2011, a new chief executive CEO#6 changed the locus of innovation from the technology side to the marketing side. CEO#6 emphasized the role of the firm's headquarters in scaling up the size of business identified from technology opportunities, which he believed to be the *role of* the *marketing side* of the firm in innovation processes (see Section 6.3.3). Therefore, CEO#6 formed the Emerging Business Team (*L3* unit) within the Strategic

Marketing Office (*L2* unit) by the *R#2012* (resource *structuring*) and accumulated human resources to the marketing side (the Emerging Business Team) (*KE#19*). Consequently, managers involved in the 2011 Corporate Idea-α—a CV program as an individual-level internal IC (see Table 6.3)—were relocated to the market side (*market-driven*) in an attempt to scale up CV activities. In mid-2013, however, the location of the Emerging Business Team was changed back to the Corporate R&D Center by the *R#2013-2* (*KE#25*), which was also CEO#6's resource *structuring* action (see Section 6.3.4). The technology side continued to act as a *technology-driven* locus of innovation by launching the Global CVC-α program (*KE#29*)—an external venture investment program (see Table 6.3).

Third, after the top-level management's resource *structuring* action, subsequent actions are delegated to the lower level managers (*L2–L5* manager). Company Alpha's case supports the idea that RO actions are delegated to the different levels of managers, who then conduct resource *structuring* and *bundling* actions. This corroborates a claim by Sirmon et al. (2011: 1405) that "top management is more likely to delegate authority to middle managers to direct the necessary structuring, bundling, and leveraging actions".

In 2008, for example, CTO#12 (*L2* manager) who identified technology opportunities actively conducted resource *structuring* actions, turning the technology side of the firm—the Corporate R&D Center (*L2* unit)—into the new locus of innovation within the firm (see Section 6.2.3). CTO#12 convinced CEO#5 and successfully *accumulated* resources that were previously distributed across the firm, such as business analysts, software engineers, and marketing professionals also with financial budgets. Next, in late 2008, CTO#12 conducted resource *bundling* actions. He himself as a project manager, CTO#12 led the New Mobile Service (NMS) project, which was the new business development project aimed at exploring new mobile service ideas (see Section 6.2.3).

While the previous example shows the way in which a *L2* manager (CTO#12) conducted RO actions (resource *structuring* and *bundling*) delegated to him, the analysis also found that how middle managers, especially *L5* managers conducted RO actions delegated, or empowered to them. The role of middle-level managers within the locus of innovation has ben discussed in the traditional CV literature with the topic of CV units (see Section 2.5.2). From the RO perspecive, CV units are composed of venture managers' managers (middle-level managers) who undertake RO actions for combining resources in a new way. Importantly, the research found that they deliberately planned and operated a range of *CV programs*.

7.4 Strategic objective: the end point of the direction of CV

The end point of the *direction of CV* focuses attention on the main aims of CV programs. In this thesis, the *direction of CV* is described as being oriented towards the primary objective of a CV program, which is termed *strategic objective* (see Section 3.4.2). Using the vector analogy, again, the *strategic objective* can be regarded as the end point of a vector toward which the direction of CV is oriented.

From the analysis of the ten CV programs conducted by Company Alpha (see Table 6.3), an emerging empirical pattern demonstrates that the primary *strategic objective* of CV programs changed shifted during the innovation process between *exploration* and *exploitation*—one of the fundamental theories in strategy, innovation, and organizational learning literature (March, 1991; Koza and Lewin, 1998; Rothaermel and Deeds, 2004). In what follows, this section discusses multiple levels of strategies by considering the *breadth* of resource orchestration (see Section 3.4.1), and analyzes the pattern found from the changes in the *strategic objective* of CV programs.

7.4.1 Multiple levels of strategies and the '*breadth* of resource orchestration'

Not only structure and actors, firms' strategies also are not a unitary plan. Instead, a firm's strategy is in its composition multiple layers of strategies, each of which has its own plans and goals. These multi-level characteristics of firms' strategy were already emphasized in early studies in the field of strategic management research (e.g. Hofer and Schendel, 1978, Schendel and Hofer, 1979; Hambrick, 1980). Here, understanding of interaction among different levels of strategies by looking at "interlevel strategic linkages" (Hambrick, 1980: 568) is important.

With this more realistic viewpoint of strategy, this thesis now examines the primary *strategic objective* of CV programs. When examining strategies at the level of the program, it is crucial to take account of the multiple levels of a firm's strategy. By considering *strategic layers*, we can disentangle different levels of strategies when a range of CV programs are conducted, or implemented by actors within the locus of innovation.

Strategy layers of Corporate Venturing

In the strategic management literature, multiple levels of strategy have been conventionally grouped into three levels: *corporate-, business-,* and *functional-level* strategies. This is termed as 'strategic layers' (e.g. Hofer and Schendel, 1978, Schendel and Hofer, 1979; Hambrick, 1980). However, in analyzing multiple levels of strategy in the context of corporate venturing, an alternative classification of strategic layers could be more useful.

As discussed in Section 2.5.2, Narayanan et al. (2009) identified that CV activities have been examined at three levels of analysis: the *parent firm-*; the *CV unit-*; and the *CV team-level*. Building on this classification, this thesis proposes that multiple levels of CV strategy can be more clearly articulated using 'strategic layers of CV', which are divided into (1) the *parent firm-*, (2) the *program-*, and (3) the *venture team-level* strategies. Table 7.3 highlights the

comparison between conventional strategic layers and the strategic layers of CV.

Table 7.3: Strategic layers (conventional) vs. Strategic layers of CV

Strategic layers (conventional)	*Strategic layers of CV*	*Relevant structures*
• **Corporate-level strategy** - Can be divided into corporate-level *business* strategy and *technology* strategy - "… decisions about what businesses to compete in" (Boeker, 1997: 213) - "... deals with the ways in which a corporation manages a set of businesses together" (Bowman and Helfat, 2001: 1) • **Business-level strategy** - "… deals with the ways in which ... an individual business unit of a larger firm competes within a particular industry or market" (Bowman and Helfat, 2001: 1)	• **Parent firm-level strategy** - In the context of corporate venturing, all three levels of strategies (corporate-, business-, and functional-level strategies) in the conventional strategic layers pertain to the parent firm-level strategy	**Parent company** (e.g. Company Alpha)
• **Functional-level strategy**	• *Program-level* **strategy** - Considering CV programs as a strategic vehicle for special functions, program-level strategy is part of functional-level strategy in the conventional classification of strategic layers	**CV unit** (e.g. The Emerging Business Team; see Section 6.3.3)
-	• **Venture team-level strategy**	**CV team** (see Section 5.3.2)

Source: Developed by the author.

The juxtaposition of the two *strategic layers* in Table 7.3 shows strategic settings which may be unique in the context of CV. First, the parent firm's corporate-level and business-level strategies in the traditional strategy sense are, from the viewpoint of CV, parent firm-level strategy. A CV team may later be spun off from the parent firm, which will have its own corporate- and business-level strategies. Second, the program-level strategy of CV is a subset of the parent firm's functional-level strategy. CV programs can be adopted by the firm as a

strategic vehicle for special functions such as new business development. The decision 'to initiate a new CV program' could be a corporate-level strategy; however, how to conduct a newly initiated CV program is a functional-level strategic issue of the parent firm.

Next, these *strategic layers* show possible ways through which different levels of strategies can interact with each other. In conventional *strategic layers* (the first column in Table 7.3), business-level strategies of the firm may or may not interact with corporate-level strategies. Similarly, in *strategic layers of CV* (the second column in Table 7.3), program-level strategies can interact with parent firm-level strategies and also with venture team-level strategies. Here, interlevel strategic linkages between parent firm-level and program-level strategies is an important link which needs to be closely examined (Covin and Miles, 2007: 184). Specifically, program-level strategies can be influenced by parent firm-level strategies when deciding CV programs' strategic objective; evaluating new business ideas gathered by programs; and selecting ideas which then will be nurtured as new CV teams.

Breadth of resource orchestration

Drawing on *resource orchestration* (RO) theory, multiple levels of strategies across the firm can be analyzed as an empirical case of the *breadth of RO* (Sirmon et al., 2011). As reviewed in Section 3.4, RO explicitly focuses on the implementation of strategy rather than strategy formulation (Sirmon et al., 2011: 1409). Even though firms have *the* strategies perfectly formulated already, its result and performance will depend on how those strategies are implemented. Therefore, rather than just looking at the characteristics resources firms have, RO focuses on the process through which the firm's resources are combined.

The *breadth* of RO relates to multiple levels of strategies where RO logics can be effectively applied (Sirmon et al., 2011). Here, the word 'breadth' represents the extent within the strategic layers which is affected by RO actions. For example, depending on the scope of the

breadth of RO, firms' product diversification strategy can be analyzed either at the corporate-level strategy or at the business-level strategy. As discussed in Section 2.5.1, this thesis examines the strategy at the level of the *CV program*. From the RO perspective, as noted in Section 3.4.2, middle-level managers design and operate a range of CV programs by conducting resource-related actions—*structuring*, *bundling*, and *leveraging*. However, for an effective implementation of CV strategies, the *breadth* of RO suggests that their resource orchestration actions need to be guided by an overarching strategy (i.e. program-level strategy), which may not be those of corporate- or business-level strategies.

When examining the program-level strategy of CV activities, *strategic layers of CV* (see Table 7.3) helps discern multiple levels of strategies in CV settings and understand interaction across different levels of strategies. The following subsections analyze the primary *strategic objective* of CV programs (Section 7.4.2) and its changes (Section 7.4.3).

7.4.2 Strategic objectives of CV (program-level strategy): *Exploration* **vs.** *Exploitation*

During the period from 1990 to 2015, Company Alpha performed a range of distinctive CV activities in the first and the second cycles of CV (see Table 6.3). Notably, these CV activities were conducted in special forms called *programs*, which is the unit of analysis in the thesis. In corporate contexts, *programs* are the very resource-related managerial activities into which financial resources (i.e. budgets), human resources, and a variety of other resources are legitimately accumulated.

From the analysis of multiple levels of strategies of Company Alpha's CV programs (i.e. by considering the *breadth* of resource orchestration), it is found that each CV program has a primary objective (or goal, aim) which the CV program pursues and is designed to achieve. As will be discussed, the data show that such objectives were already planned by middle-level managers before the launch of every CV program. Seen through the *strategic layers of CV* (see

Table 7.3), these objectives pertain to *program-level* strategies which this thesis refers to as the *strategic objective* of CV programs.

Exploration vs. Exploitation

The analysis of Company Alpha's 26 years of data demonstrates that there are two primary *strategic objective* of CV programs: *exploration* and *exploitation*. The theory of *exploration* and *exploitation* (March, 1991; Koza and Lewin, 1998; Rothaermel and Deeds, 2004) has been applied to the CV research (e.g. Schildt et al., 2005; Hill and Birkinshaw, 2008); however, the review of the literature suggests that the theory still needs to be further linked to the empirical case, especially focusing on the strategy at the level of the CV program.

At Company Alpha, every CV program was conducted with its main strategic objective. To launch a new CV program, its rational—such as links between *parent firm-* and *program-level* strategies and the feasibility of implementation plans—had to be reviewed by top-level management and obtained approval depending on the financial scale and strategic importance of a CV program. Only approved plans were able to secure resources to initiate the planned CV program. I-SM-A, who was the program manager of the National Idea-α, explained how he felt when the program's plan was accepted and financial resources were allocated:

> "I woke up to find the 'wallet' fully loaded with cash [i.e. financial resources to implement the program]; until then, however, it [the program] had been only a 'plan'" (I-SM-A, personal interview, 2016).

Once the plan was accepted, CV programs were conducted aiming to achieve each program's main *strategic objective*, as if the *direction of the CV* was oriented towards the objective as an end point of the directional vector. Due to the richness of primary data (e.g. business archives and interviews) which remain and were accessible when the research was conducted, six types

of CV programs in the second CV cycle (see Figure 7.6) are closely analyzed in the following.[173]
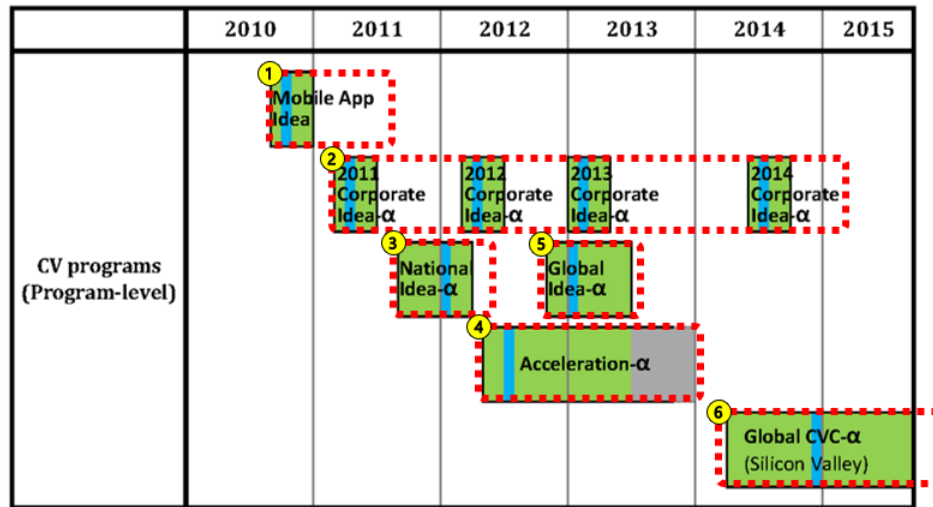
Figure 7.6 Six types of CV programs in the second CV cycle at Company Alpha
Source: Developed by the author.

CV programs for exploration

One of the primary *strategic objectives* of CV programs is *exploration*, which means to *identify* new business opportunities by searching for new ideas (business, service, etc.) from a variety of sources internal and external to the firm. At Company Alpha, several CV programs were adopted as a means to search for new business opportunities, and the programs' outcomes clearly show the exploratory nature of these programs' objectives.

From 2010 to 2014, as displayed in Figure 7.7, the number of *new business and service ideas* gathered through the four CV programs—Mobile App Idea, Corporate Idea-α (from 2011 to 2014), National Idea-α, and Global Idea-α—was dramatically increased. In aggregated number of ideas, ideas' number increased from 364 in 2010 to 10,206 in 2014, which was a *twenty-eight-fold increase* in four years. It started with the Mobile App Idea in 2010, which was an individual-level ideation program that gathered 364 ideas internally (see Section 6.3.1). From 2011, a series of individual-level internal ICs, the Corporate Idea-α was annually held until 2014,

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[173] Figure 7.6 is part of Figure 5.2, the 26-year timeline of Company Alpha associated with CV programs.

adding to the ideas pool over one thousand new ideas every year (see Section 6.3.2)—except

the final year when only 254 ideas were gathered. In particular, the 2011 Corporate Idea-α was

the first CV program in the second CV cycle by which 1,357 new business ideas were gathered

within a month. Starting from 2012, the source of ideas was expanded first to the national level

(the National Idea-α) and then on to the global level (the Global Idea-α), which gathered 3,016

and 2,749 new business ideas respectively (see Section 6.3.3).
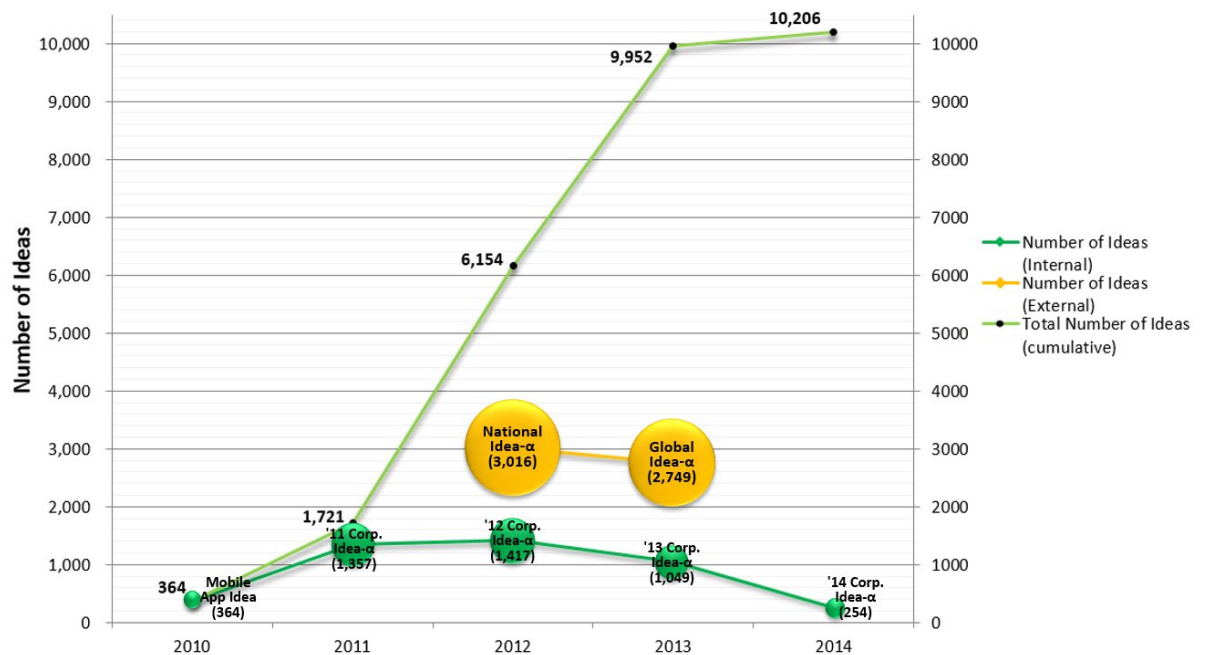
Figure 7.7 CV programs for exploration and increasing number of new business and service ideas (2010–2014)
Source: Elaborated by the author.

CV programs for exploitation

Next, the other major *strategic objective* of CV programs is *exploitation*, which means to *utilize*

identified business opportunities (e.g. new business ideas) by securing access to vital resources

(technologies, business networks, etc.). At Company Alpha, business opportunities were

identified mostly in the form of ideas; however, due to the novelty of gathered ideas, either

new-to-the-firm or even new-to-the-world, technologies that could enable the ideas were

needed to be internally developed (i.e. *make*); jointly developed (i.e. *collaboration*); or secured

[195]

in other ways (i.e. *buying* licenses). At Company Alpha, therefore, new types of programs emerged as a means to seize business opportunities already identified.

After 2011, as the number of new business and service ideas was rapidly growing by conducting the four programs with the strategic objective of *exploration*, new types of programs with completely different *strategic objective* were launched. The Acceleration-α was started in 2012, and it was followed by the Global CVC-α in 2014 (see Figure 7.8).
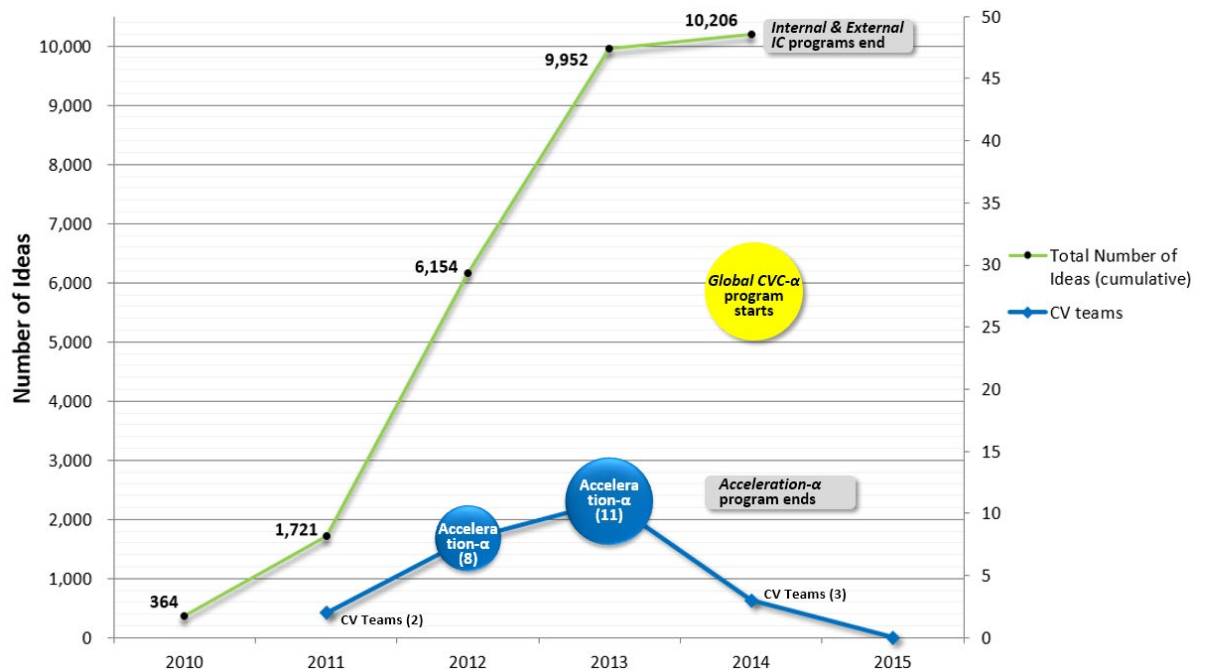
Figure 7.8 The emergence of new types of CV programs for *exploitation* (2011–2015)
Source: Elaborated by the author.

In 2011, only two ideas out of 1,721 new business and service ideas being gathered were selected to form CV teams. It marked the official start of CV activities, which was the start of the second CV cycle. However, only one team (Venture-β) out of the two CV teams survived as of the end of 2011 (see Section 6.3.2). [174] One of the major challenges was the lack of managerial resources in the CV unit that can support new venture managers and their CV

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[174] Venture-β was explained in Section 6.3.2. The other CV team ceased its activity at the end of 2011 due to a conflict of its business model between an existing business model of the Venture Manager's original team (TS-SM-A, personal interview, 2014).

teams. This called for more systematic approaches to help implement new business and service ideas already identified, in which to *secure vital resources* (human resources and technologies) was the key (I-SM-A, personal interview, 2016).

In this regard, the Acceleration-α program was designed and launched to support CV teams— established either from internal ICs (e.g. Corporate Idea-α) or external ICs (e.g. National Idea-α, Global Idea-α)—so that they can refine proposed ideas more clearly and develop technologies which can implement ideas that remained at conceptual levels. This shows that the main strategic objective of the acceleration program was to utilize already identified business opportunities (e.g. new business ideas) by securing human resources and technologies (see Section 6.3.3). Starting from 2014, the Global CVC-α program was started by the Corporate R&D Center with a similar strategic objective. As a result of the Global CVC-α, the firm invested in external ventures to acquire technologies necessary for its business divisions for their new product (IT solutions) development (see Section 6.3.4).

7.4.3 Changing strategic objective (the end point of direction)

Changes in the strategic objective of CV programs

Changes in the *strategic objective* of CV programs is identified through the analysis of ten CV programs (see Table 6.3) by applying the strategic layers of CV framework (see Table 7.3). As discussed in Section 7.4.2, the pattern emerges from the data in the second CV cycle (2011–2015) indicate that the primary *strategic objective* of CV programs changed between *exploration* and *exploitation*.

In Figure 7.6, early CV programs in the second CV cycle (e.g. Mobile App Idea, Corporate Idea-α (from 2011 to 2014), National Idea-α, and Global Idea-α) were designed and operated to search for novel and innovative ideas, which can be developed as the firm's new business items

for its business growth in the future. The analysis suggests that the primary objective of those CV programs was to *explore* new business opportunities. However, the firm later launched new types of CV programs (e.g. Acceleration-α, Global CVC-α) to utilize (i.e. to *exploit*) identified business opportunities, focusing on to secure vital resources (e.g. emerging technologies, business networks). A massive number of ideas were gathered through CV programs, and to seize the identified opportunities became critical. A similar pattern occurred in the first CV cycle (1997–2002). As illustrated in Figure 7.2, the primary *strategic objective* of CV programs in the first CV cycle changed from *exploration* before 2000 to *exploitation* in the early 2010. This repeating pattern occurring within the first and the second CV cycle of the firm demonstrates changes in the *strategic objective* of CV programs from *exploration* (i.e. to *identify* new business opportunities) to *exploitation* (i.e. to *utilize* identified business opportunities).

As noted in Section 3.4.2, the distinction of *exploration* and *exploitation* applied in this thesis may not be entirely consistent with March's (1991) two modes of learning activity: "the *exploration* of new possibilities and the *exploitation* of old certainties" (March, 1991: 71; emphasis added). However, as Almahendra and Ambos (2015) point out, the application of the tension between the exploration and exploitation "have deviated substantially from the scope of organizational learning as originally proposed by March (1991) … Scholars have developed set of definitions, new conceptualisations, and varied applications in rejuvenating the concept" (Almahendra and Ambos, 2015: 1).

From the analysis of the repeat of CV activities at Company Alpha, it is found that there is a changing pattern in CV activities' strategy at the program level: The primary *strategic objective* of CV programs changed between to *identify* new business opportunities (i.e. *exploration*) and to *utilize* identified opportunities (i.e. *exploitation*). This program-level strategy constitutes the end point of *the direction of CV*, and its change can be captured by a distinction between

exploration and *exploitation*. Specifically, it relates to the transition between *exploration* and *exploitation* in the innovation process at the level of the program (a program can include a diverse portfolio of projects, or CV teams).

Theoretical interpretation from the resource orchestration perspective

The *breadth* (multiple levels of strategies) of RO provides a way in which the changing *strategic objective* of CV programs can be theoretically positioned in the CV literature.[175] From the RO perspective, RO actions are often initiated by the top management by their resource *structuring*, which may include changes in the locus of innovation (see Section 7.3.3). After the top management's resource *structuring* action, following resource-related processes are, in general, *delegated* to middle-level managers. Company Alpha's case shows that middle-level managers within the CV unit conducted delegated RO actions—*structuring*, *bundling*, and *leveraging*—mainly by designing and operating a range of CV programs.

The *breadth* of RO highlights multiple levels of strategies across the firm where RO logics can be effectively applied (see Section 3.4.2). For an effective implementation of CV strategies, the *breadth* of RO suggests that middle-level managers' RO actions *themselves* need to be guided by an overarching strategy (i.e. program-level strategy), and it may not be the same as corporate- or business-level strategies. The two primary strategic objectives of CV programs found from Company Alpha's case inform two potential overarching strategies for RO actions. This finding suggests that RO actions (*structuring*, *bundling*, and *leveraging*) for *exploration* and those actions for *exploitation* can be adopted for combining resources to achieve sustainable competitive advantage (for the firm's survival and growth). These program-level strategies pertain to the answer to the question: "What should be the main objective for the resource

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[175] Resource orchestration theory and its link to changing locus of innovation were discussed in Section 7.3.3.

combination activities?".

7.5 Conclusion

This chapter has empirically examined the *direction of CV*, and a set of findings opens a 'door' through which we can access an *alternative* way of thinking about directional concepts and arguments in strategy and innovation literature.[176] This thesis therefore defines the *direction of CV* as the combination of *who* in the organization innovates (i.e. *locus of innovation*) and *why* (i.e. the primary goal, aim, or *strategic objective* of a CV program).

The *direction of CV* is a conceptual framework which provides a typology of 'direction' when the firm performs a series of CV programs (see Figure 7.2). Findings from this chapter suggest that the typology has greater explanatory power to understand organizational and strategic change. It informs people, even outside the firm (i.e. external observers), of changing internal consistencies of strategy, structure, and managerial actors residing within the structure, which are hardly observable unless from inside firms (e.g. untold motives behind CV programs, etc.).

The conceptual framework helps us understand how the firm combines resources in new ways while changing its direction of CV. In the following chapter, factors influencing the change of direction will be discussed. In addition, the next chapter discusses an evolutionary pathway of CV (i.e. the evolution of CV) along which the firm conduct a series of CV programs over time.

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[176] The concept of 'doors' as an analogy for a pathway to an alternative way of thinking or new meaning is inspired by Vine's (thesis forthcoming) work, in which she used "doors" as an analogous term to describe a failure to instantiate new shared meaning in a complex business setting.

CHAPTER 8
FACTORS INFLUENCING CHANGES IN THE 'DIRECTION OF CV' AND THE EVOLUTION OF CORPORATE VENTURING

8.1 Introduction

Having conceptualized the *direction of CV* and identified its changing patterns in the two distinctive periods of time (i.e. two cycles of CV) at Company Alpha, this chapter now turns to the second research question: How can different understandings of *direction* help managers and academics understand and explain Company Alpha's corporate venturing activities and how they repeat over time? (see Section 1.3.3)

From Chapter 5 to 7, Company Alpha's twenty-six years history of CV (from 1990 to 2015) with its ten CV programs was analyzed, and a pattern of change in the direction of CV was found. Given that *direction* is associated with *change* rather than a static and fixed state, exploring factors that influence change of direction helps explain the dynamics of the *direction of CV*.

In this chapter, Section 8.2 discusses three main *factors* that influenced changes in the *direction of CV*. Building on the newly developed conceptual framework (the *direction of CV*), Section 8.3 explores how changes in the re-conceptualized direction can explain the process of the repeat of CV activities at Company Alpha, which is repeated evolutionary CV cycles aimed at new resource combination.

8.2 Factors influencing the change of the 'direction of CV'

The three factors that influence changes in the *direction of CV* are set out here. The first is how the chief executive sees the role of R&D and innovation, and this is related to a top-level managerial actor (CEO, the *L1* manager) who is a *conductor* of *resource orchestration*. The second is the emergence of a technology, or technologies, that have the potential to create

new business and technological opportunities (*strategic technologies*). At Company Alpha, this factor was particularly associated with another top-level managerial actor (CTO, a *L2* manager) who recognized the value of the *strategic technologies*. The third is the strategic freedom of middle-level managerial actors (*L5* managers) who designed plans for CV programs in detail and operated the programs while interacting with top-level managers. This section looks into these three factors and discusses how those factors influenced the changes in the *direction of CV*.

8.2.1 CEO's perception on the role of R&D and innovation

The first factor that influences the changes in the *direction of CV* is a CEO's *perception* on the role of *R&D* and *innovation*. It captures how a chief executive sees the role of R&D and how he or she defines innovation and the role of R&D in the firm's innovation process. This viewpoint coming from the CEO is crucial as they are the final decision maker in the top management team. As Gompers and Lerner (1998: 9) pointed out, "In many cases, new senior management teams terminated programs, seeing them as expendable "pet projects" of their predecessors." And, Company Alpha's case is illustrative of these authors' observation.

Drawing on *resource orchestration* (RO) theory (e.g. Sirmon et al., 2011; Chadwick et al., 2015) Chapter 7 discussed how multiple organizational levels and managerial actors interacted with each other (see Section 7.3.1). In this analysis, the multi-layer framework (MLF) (see Figure 7.3) was used to articulate the *depth* of RO. In the *MLF*, the CEO is the *L1* manager who leads the top-level management and plays a crucial role by conducting resource orchestration mainly through resource *structuring* actions.

At Company Alpha, and in the broader Korean business context, CEOs' main resource structuring actions are performed by the means of *annual reshuffling* (see Section 7.3.3). As a result of annual reshuffling, for example, structural and human resource changes occur within

the firm. During this change, the CEO's views on innovation and on the role of *R&D* are crucial. This perception varied by CEOs (e.g. CEO#5, CEO#6, CEO#7) and sometimes changed during a single CEO's tenure, as was found in the case of CEO#5. Figure 8.1 illustrates the influence of CEOs, which will be discussed as follows.
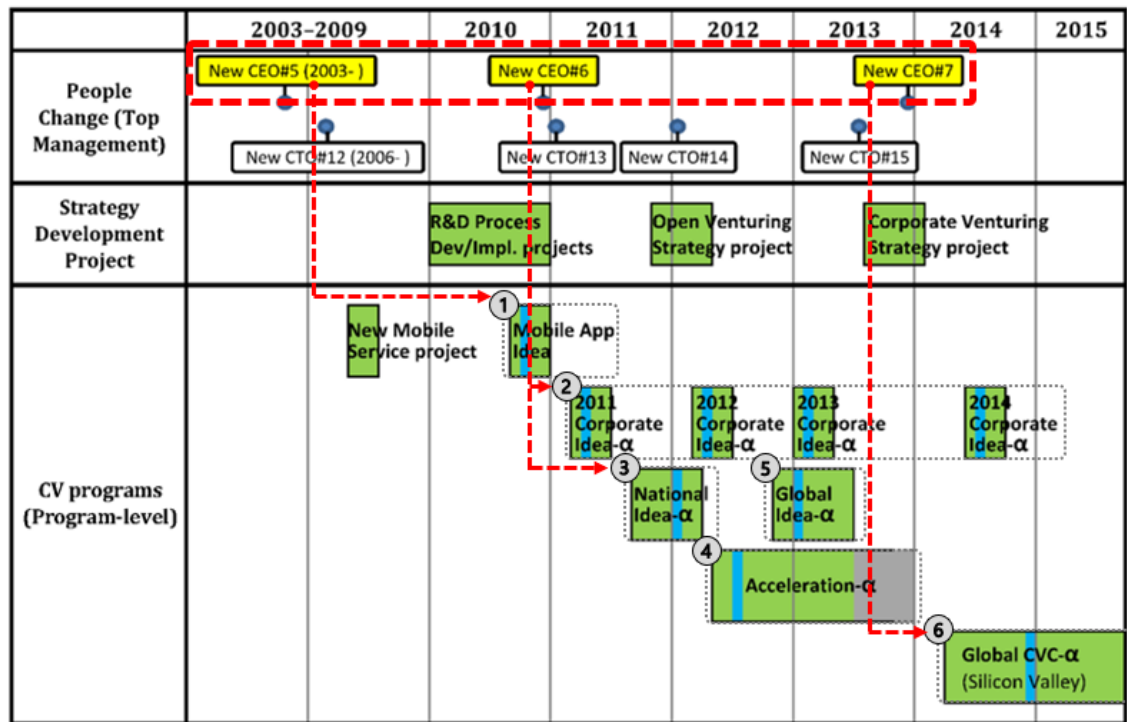
Figure 8.1 CEOs' (L1 manager) influence on CV programs
Source: Developed by the author.

Perception changing in a single CEO: CEO#5 (L1 manager)

CEO#5 was appointed at the end of 2002 (*KE#13*) when the firm faced unprecedented financial risks. *R&D* was mainly seen as a way to improve the *status quo* of the business, and he focused on *process* and *incremental* innovation. This may be the reason why CEO#5 responded to the new corporate-level technology strategy briefing at the TSC#2 (April 2003) by saying that the main role of R&D and innovation is to be a driver of "*cost reduction* and *increasing profits*" (see Section 6.2.1).[177] The CEO's approach to *innovation* and the overarching business strategy was

dramatically changed in 2006, which reflects a change in the *direction of strategy* from late 2005 (see Table 7.1). CEO#5 emphasized innovation as the source of *creative destruction* and said the role of *R&D* is to achieve what he called "*technology leadership*" (see Section 6.2.2).[178]

CEO#5's changing perception influenced the change of *locus of innovation*. In January 2006, CEO#5 announced the *annual reshuffling* for 2006 (*R#2006*) and appointed CTO#12 as a new chief of technology (*KE#14*) in an attempt to empower the technology side of the firm.[179] These changes set the conditions under which the Corporate R&D Center became the *technology-driven* locus of innovation in the *initiation* period of the second CV cycle, which will be discussed in Section 8.3.1. CEO#5's remarks in the TSC#38 (April 2006) demonstrate his changed perception and the thoughts behind the *R#2006*:

> We can't entirely focus on short-term R&D items; instead, from a mid- to long-term viewpoint, we need to do some research and to prepare for what we are going to do, say, after five years. I think we need to start a financial investment on technologies that may arrive [at the market] in five years. So far, our R&D department has been, well, an outsider in our company as it was not a profit-making unit. From 2006, however, as our company becomes much more stable and strong, the role and responsibilities of the R&D should be reconsidered.[180]

Perception associated with business experiences: CEO#6 (L1 manager)

The succeeding chief executive, CEO#6, was appointed at the end of 2010 (*KE#17*), and he had a different viewpoint on the role of R&D and innovation (see Section 6.3.3). Although CEO#6 believed that *innovation* is the driver of business growth, he firmly believed that the source of innovation is the business place where the employees are interacting with customers. This reflects CEO#6's marketing background, which can be observed at the TSC#38 in 2006 where

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[178] *Company Alpha* (2005) 'TSC#28 Meeting Minutes'

[179] These series of events were discussed from a theoretical viewpoint in Section 7.3.3.

[180] *Company Alpha* (2006) 'TSC#38 Meeting Minutes'

he stated: "As I said so many times, the source of business ideas is our employees doing business in the market". [181] In the New TSC he organized after becoming CEO, CEO#6 emphasized his viewpoint again:

> We must gather ideas from our business fields, from customers in the market, which [the ideas] are about what kind of business opportunities may arise in the next two years.[182]

In addition, CEO#6 asserted the importance of the innovation process helping to *scale up* the size of business (e.g. revenues, number of customers):

> The corporate headquarters then needs to develop capabilities that can *scale up* the size of these businesses both *locally* and *globally*.[183]

This viewpoint of CEO#6 influenced the change of the *locus of innovation* in 2011, and hence the change in the *direction of CV*. In late 2011, CEO#6 announced the *R#2012* and conducted a new resource *structuring* action, which is an annual reshuffling that accumulated resources for CV activities on the market side of the firm.[184] This changed the *locus of innovation* to *market-driven* and heralded the *reproduction* period of the second CV cycle (see Section 8.3.2).

Perception associated with industry experiences: CEO#7 (L1 manager)

CEO#7 joined Company Alpha at the end of 2013 (*KE#26*). He had worked in hi-tech manufacturing firms for his entire career. As a new chief executive, CEO#7 applied what he called "a formula for the successful business" which he learned from his previous experiences in the manufacturing industry (BS-SM, personal interview, 2014). However, other C-level executives were concerned that managerial approaches that had worked in manufacturing

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[181] *Ibid.*

[182] *Company Alpha* (2012) 'New TSC#2 Meeting Minutes'

[183] *Ibid.*

[184] These series of events were discussed from a theoretical viewpoint in Section 7.3.3.

industries might not be successfully applied in the IT service industry, as different industries may well have a different underlying business logic (Ex-business executive, personal interview, 2014).

CEO#7's first diagnosis of the firm he had just joined was that it had "no viable technologies and products in the firm" (I-SM-B, personal interview, 2014). As already mentioned, the lack of IT solutions in the form of standardized commercial products was the firm's *deep-rooted* problem (see Section 6.3.2 and 6.3.4). Hence, CEO#7 enforced the *direction of strategic change* (Type II direction) to transform the firm into an 'IT solution company' (see Section 7.2.1). As BS-SM said, CEO#7 stressed that the firm needs to become a *product-based* IT solution company:

> … he emphasized the idea that we should change our main business from SI [System Integration] to new businesses centered on our *IT solutions* [i.e. products]. Rather than just doing labor-intensive and low value-added businesses, he asserted that we need to do *ICT service business based on our IT solutions*. (BS-SM, personal interview, 2016; emphasis added)

Consequently, the technology and technological capability of the firm was increasingly emphasized and, as I-SM-B revealed in interview, this was followed by an update of the corporate-level technology strategy, which was synthesized in the firm's *technology roadmap*. I-SM-B added, "From 2014, the new CEO mandated that the *technology roadmap* should be the baseline under every decision" (I-SM-B, personal interview, 2014).

This viewpoint of CEO#7 affected the change of the *locus of innovation*. In 2014 alone, the size of the Corporate R&D Center had increased fivefold due to CEO#7's resource *structuring* that accumulated resources on the technology side. As we shall see in Section 8.3.4, this change of the *locus of innovation* back to the *technology-driven* triggered the *adaptation* period in the second CV cycle.

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8.2.2 The identification of *strategic technologies*

The second factor that influences the changes in the *direction of CV* is the identification of *strategic technologies*, where the values of the technologies are identified by the firm's internal actor, or actors. *Strategic technologies* are technologies that have substantial potential to generate new technological and business opportunities for the firm.[185] By opening a new 'window of opportunities', *strategic technologies* can have a significant impact on the firm that identified the potential value of the technologies.

Scholars have discussed how new technologies can be tightly intertwined with business strategy. Perhaps one of the most well-known concepts is Christensen's concept of "disruptive technologies" (e.g. Bower and Christensen, 1995; Christensen, 1997), which highlights the decisive role of relatively less developed technologies in *disrupting* the established standards and assumptions of existing businesses.

Whether a technology is strategic to a firm or not, is not just a matter of, for example, 'maturity'—i.e. whether it is existing or "emerging technologies" (e.g. Rotolo et al., 2015). It is rather an identification, or recognition of the value of technologies by actors within the firm, that they may well have a significant impact on the firm. In other words, strategic technologies do not have to be disruptive; but, some disruptive technologies can be *strategic technologies* to the firm, if their strategic importance is identified by internal actors.

Chapter 5 and 6 found that Company Alpha's first and second CV cycles were begun after the identification of *strategic technologies*: *Internet* technology in the first cycle, and *smartphone* and *cloud computing* in the second. This heralded the beginning of a new CV cycle. Looking at

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[185] *Strategic technology* is defined by Gartner, an IT consultancy, as the technology "with the potential for significant impact on the enterprise in the next three years [which have an impact with] a high potential for disruption to IT or the business, the need for a major dollar investment, or the risk of being late to adopt" (Gartner, 2011).

the changing direction of CV, each CV cycle was initiated by exploratory CV programs from within the *technology-driven* locus of innovation (see Figure E.2 in Appendix E). Once the technologies were identified, the firm actively started new innovation activities to *explore* new business opportunities by searching for new ideas (business, service, etc.): the ICV-α1 (1997) in the first cycle and the Mobile App Idea (2010) in the second.

'Internet technology' in the first CV cycle

Is the *Internet* a technology? Drawing on Lipsey et al.'s (1998) criteria for deciding whether a technology is a "general purpose technology (GPT)" (Bresnahan and Trajtenberg, 1995), Mowery and Simcoe (2002: 1369) suggest that the *Internet* and the World Wide Web collectively forms a GPT. This is defined as "an innovation with the potential to transform the dissemination of information in a global economy that relies ever more heavily on knowledge."

Today, *Internet* technology is well established but still highly innovative. However, in the mid-1990s, it was just at the point of moving from being an emerging technology to begin a process where it would be rapidly commercialized and open up new technological and commercial opportunities. The *Internet* has developed into its current state through a series of inventions and innovations that go back to the early 1960s. In August 1995, its commercial use was fueled by the initial public offering of Netscape, and was widely diffused in the late 1990s by key players such as Cisco, Dell, and Yahoo (*Ibid.*).

In Korea, for example, a newspaper article in 1997 described the competition among major Korean business groups triggered by *Internet* technology as:

> More and more Korean large business enterprises are either strengthening on-line service or announcing that they are to start new on-line businesses. It is because a new cyber space called the *Internet* is emerging as a lucrative business area in the upcoming

21st century.[186]

At Company Alpha, it is less clear whether the Research Challenge that was started in 1993 in the Corporate R&D center (*KE#3*) was a response to the technology opportunities that the Internet technology had brought. However, one of the ideas identified through this program, and later developed in the ICV-α1, was related to *internet searching* technologies. This was the technological basis of Venture-α—the most successful CV team for both the firm and the nation (see Section 5.3.1).

On the other hand, it is much clearer that in 1997 the ICV-α1 was started in the Corporate R&D center (*KE#5*) to focus on exploring technology opportunities brought about by the new Internet technology. Company Alpha undertook other strategic moves such as establishing branches in the US, which the firm explained was "to explore new business opportunities in the Internet area in advance".[187] But inside the firm, they launched the ICV-α1, and the business models of all the three selected CV teams were based on Internet technology: internet searching, internet-based retailing (e-commerce), and website developing technologies (see Section 5.3.2).

(1) 'Smartphone' and (2) 'cloud computing' technologies in the second CV cycle

In the second CV cycle, the formation of the *direction of CV* and the subsequent change in the direction were preceded by the emergence of strategic technologies that were different from the one that drove the first CV cycle: *smartphone* and *cloud computing*. These technologies gained their strategic importance within the firm especially between late 2006 and 2009.

The first strategic technology *smartphone* is a type of mobile handsets with installed Operating

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[186] *Maeil Business Newspaper* (1997) 'Korean major large firms competing against the Internet', *Maeil Business Newspaper*, 8 April, (Naver News Library)

[187] *Maeil Business Newspaper* (1997) 'Company Alpha establishes branches in the US'

Systems (OSs) and connections to the Internet via mobile communication technologies, enabling them to act as internet connected 'mobile computers'. In this thesis, *smartphone* technology refers to the range of multi-component and multi-technology integrated and embedded in the 'smart' handset.

The word 'smartphone' was used as early as 1997 by Ericsson to highlight the distinctive product feature of GS88. Since the 1990s, *smartphone* was established among leading handset manufacturers such as Nokia, Motorola, and Ericsson with the idea it would "combine telephony, computing, and personalization features" into a portable device (Cecere et al., 2015: 165). However, modern *smartphone* technology emerged in the mid-2000s through the successful commercialization of a series of innovative products (Cecere et al., 2015).

The emergence of smartphones began with the release of 'Blackberry' by Research In Motion (RIM) at the end of 2006; it was then followed by Apple's first release of the 'iPhone' in the US market in June 2007 (Merchant, 2017). [188] In June 2009, Samsung released its 'Galaxy' smartphone to compete against prior innovators. Changes of the global market share in the mobile handset industry indicate the rise of new entrants and the demise of some incumbent leaders during this period (see Figure 8.2).

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[188] Apple's iPhone was first released on the Korean market in November 2009.
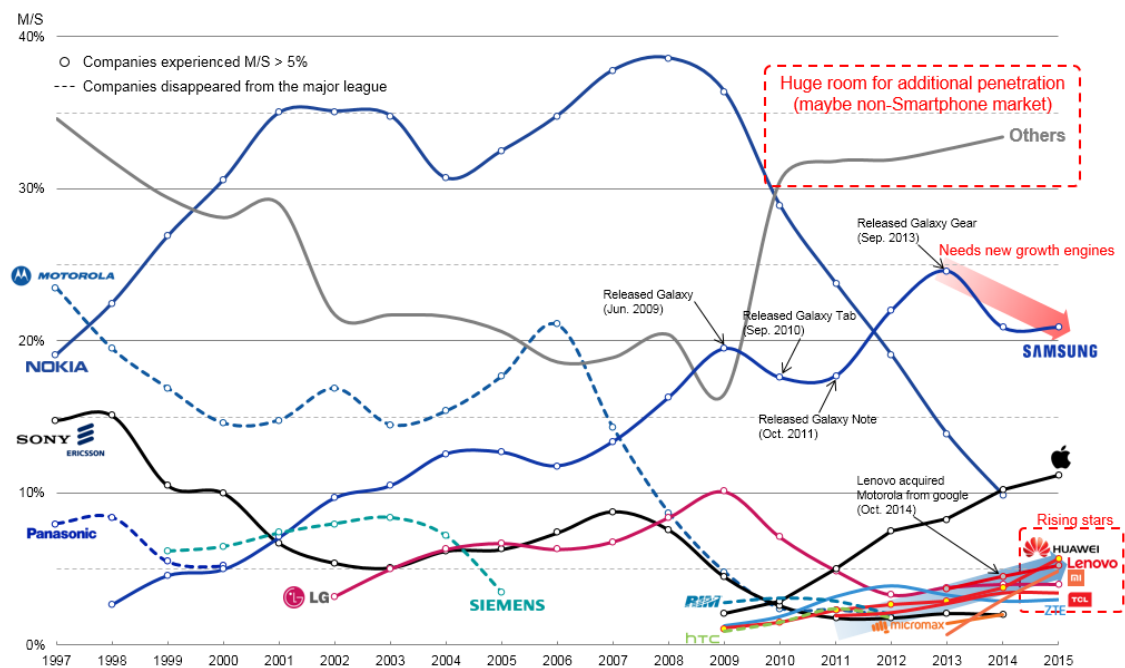
Figure 8.2 Global market share of mobile phone sales by vendors (1997–2015)
Source: Elaborated based on the data obtained from Statista (http://www.statista.com/statistics/ 271574/global-market-share-held-by-mobile-phone-manufacturers-since-2009/) and IDC (https:// www.idc.com/getdoc.jsp?containerId=prUS40980416).[189]

Mobile handset technologies have co-evolved with mobile communication technologies (see Table 8.1). Even before the emergence of smartphones, the features provided by mobile phones enhanced "from simple voice-centric to various data-centric services such as text messaging, music downloading, mobile Internet browsing and video calling" (Park, 2016: 67). In this period, Mobile Network Operators (MNOs) increased their influence over device manufacturers (e.g. on decisions about product specification) by taking advantage of their position as sole mobile network access providers (Whang, 2009). At the same time, some handset manufacturers deliberately collaborated with MNOs (i.e. inter-firm collaboration) in order to compete against the technology leaders in the mobile handset market (Park, 2016).

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[189] The author acknowledges that this graph was compiled and provided by Kang, a business analyst.

Table 8.1: The evolution of mobile communication and mobile handset technologies

Generation	1G (late 1970s–)	2G (1992–)	3G (2000–)	4G (2010–)
Technology	AMPS, FDMA	GSM, TDMA/FDMA, GPRS, EDGE	UMTS, WCDMA, EVDO Rev. A, HSDPA	LTE, LTE-A
Embedded services	Voice call	Voice call, Text message, WAP-enabled or operator-specific Internet service (2.5G)	Voice/video call, Multimedia message, Camera, mp3 music, Full-browsing Internet	Voice/video call, Digital Video Broadcasting, HD TV content, Mobile TV
Handset form factor	Bar	Bar, Flip	Bar, Flip, Slider, Touchscreen	Touchscreen, Phablet
Phone type	Basic phone	Basic phone, Feature phone (2.5G)	Feature phone, Smartphone	Smartphone

Source: Modified by the author based on Park (2016: 77), Alsharif and Nordin (2017: 620).[190]

The emergence of *smartphone* technology at a relatively late stage in 3G had potential to provide new technology opportunities to IT service companies, which had previously not been key players in the mobile handset industry. [191] However, the identification of such opportunities was not obvious.

At least in Korea, Company Alpha discovered new technology opportunities associated with smartphone technology earlier than many other firms in the ICT service industry. They, especially CTO#12, identified this opportunity in 2007 and launched a special project, the NMS, in mid-2008 to search for *new-to-the-world* mobile service ideas (see Section 6.2.3). Importantly, the rationale underlying the recognition of the value of the new technology opportunities was not solely based on smartphones; it was a new *combination* of *smartphone* and *cloud computing* technologies. A conceptual diagram taken from a 2008 technical report

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[190] The evolution of mobile communication technologies is well summarized in Park's (2016) doctoral thesis at SPRU in Chapter 4.

[191] According to Park (2016), key actors before the emergence of smartphone technology are (1) handset manufacturers, baseband chip suppliers, and MNOs.

shows how people on the technology side of the firm perceived the combination of these strategic technologies (see Figure 8.3).
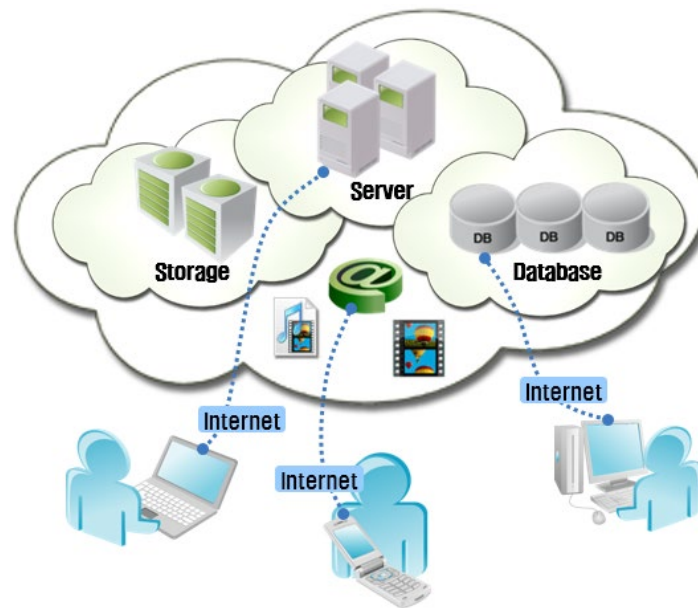
Figure 8.3 A conceptual diagram of cloud computing
Source: Adapted from 'Cloud computing technology briefing', by Company Alpha (2008)

The second strategic technology *cloud computing* was defined by researchers in the RAD Lab at UC Berkeley in 2009 as: "both the applications delivered as services over the Internet and the hardware and systems software in the datacenters that provide those services" (Armbrust et al., 2009: 1). [192] In 2008, the key players leading the application of cloud computing technology were Amazon Web Service (AWS) which provided cloud-based computing and storage services (e.g. Amazon Elastic Compute Cloud (EC2) and Simple Storage Service (S3)) and Apple through its personal data synchronizing cloud service (e.g. MobileMe).

At Company Alpha, CTO#12 recognized that *smartphone* and *cloud computing* technologies would collectively bring them new opportunities because mobile handsets that had been

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[192] In their technical report, Armbrust et al. (2009: 1) clarified terms associated with cloud computing: "The services themselves [are] *Software as a Service (SaaS)*. The datacenter hardware and software is … a *Cloud*. When a Cloud is made available in a pay-as-you-go manner to the general public, [it is] a *Public Cloud*; the service being sold *is Utility Computing*. … [And,] the term *Private Cloud* [is] internal datacenters of a business or other organization, not made available to the general public."

[213]

confined within relatively limited computing resources were being transformed into more sophisticated hardware. As discussed in Section 6.2.3, *smartphones* combined with *cloud computing* infrastructure (e.g. computing machines and data storage via high-speed high-bandwidth mobile communication technologies) were *mobile computers* (CTO#12, personal interview, 2014). In 2008, the head of the Technology Strategy Team described this specific combination as "Mobile as a front-end; cloud as a back-end".[193, 194] However, Company Alpha's people *outside* the Corporate R&D Center did not yet understand its full potential opportunities (TS-SM-A, personal interview, 2014).

Interactions on the value of strategic technologies led by CTO#12 (L2 manager)

After the annual reshuffling for 2006 (*R#2006*), which was CEO#5's resource *structuring* action, CTO#12, the newly assigned chief of technology, identified the value of strategic technologies—*smartphones* and *cloud computing*—to the firm as early as 2007 (see 6.2.3). CEO#12 then endeavored to gather scarce resources across the firm (e.g. financial and human resources). To do so, convincing CEO#5 was the top priority, and gaining support from the top management team and other heads of divisions was also crucial. Years later, CTO#12 in an interview with the researcher explained his motive behind such an endeavor:

> My key question was about the future of our company. Our identity was basically a 'System Integration (SI)' business company, which actually didn't really have a lucrative future. What should we have done, then? An alternative route I thought was the *service business*. SI might be a service business; however, what it does is providing manpower, a one-dimensional *labor-intensive* service. We needed to change to provide IT service through software, say, like mobile services through smartphones. (CTO#12, personal interview, 2014; emphasis added)

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[193] Head of the Technology Strategy Team (2008) 'Email to researchers'

[194] The position in the organization of the head of the Technology Strategy Team can be identified in the organizational chart *OC#2006* (see Figure G.2 in Appendix G).

Having successfully gathered the resources, entrepreneurial efforts by CTO#12 transformed the technology side of the firm into the *technology-driven* locus of innovation. Figure 8.4 illustrates the influence of the second factor—the identification of strategic technology by internal actors—on changing the direction of CV. In this case, CTO#12 launched the NMS project in mid-2008 to search for *new-to-the-world* mobile service ideas (see Section 6.2.3). At the end of 2010, the Mobile App Idea program was launched, which was the beginning of the second CV cycle.
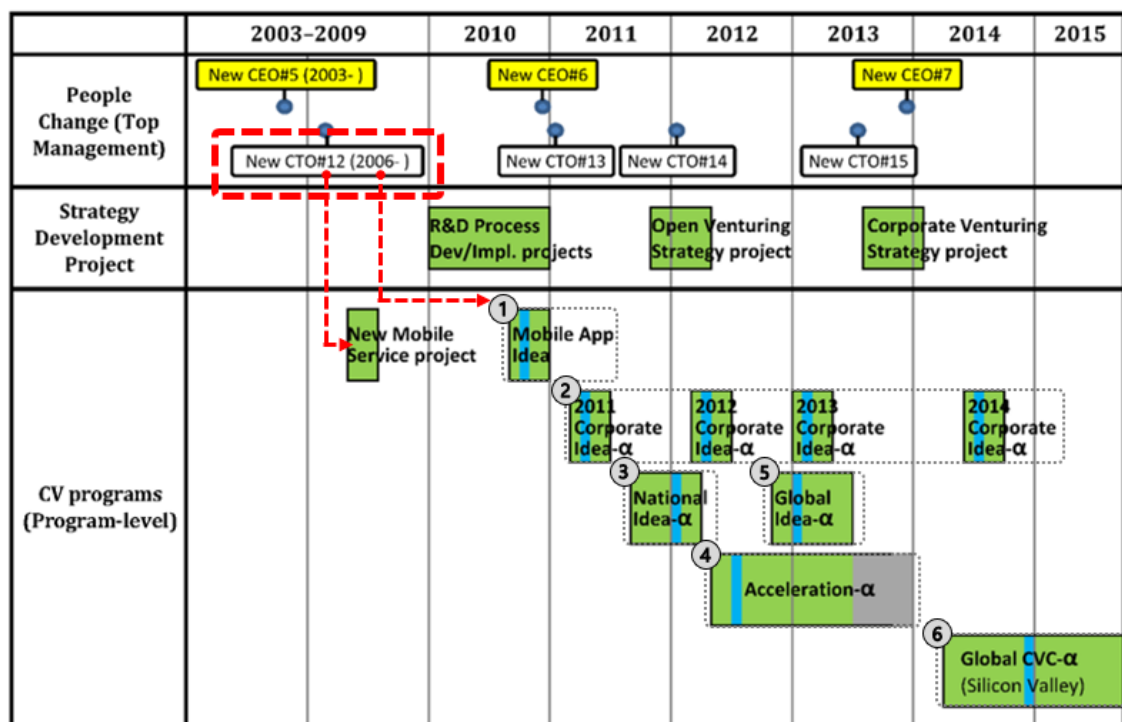
Figure 8.4 CTO's (L2 manager) influence on CV programs
Source: Developed by the author.

Here, three managerial practices were important, by which CTO#12 increased the awareness of *strategic technologies* and the understanding of its potential value by internal actors including CEO#5. The first was the *technology strategy development process* through which hierarchical and linear interaction (L2 to L5 level) occurred within the Corporate R&D Center (see Figure 8.5). CTO#12, in 2006, renewed the corporate-level technology strategy development process (see Section 6.2.3). Under the process, the Corporate R&D Center

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conducted *technology trend* research, producing an annual technology trend report. It was then followed by *technology roadmapping*—the development of the firm's three-year IT roadmap.
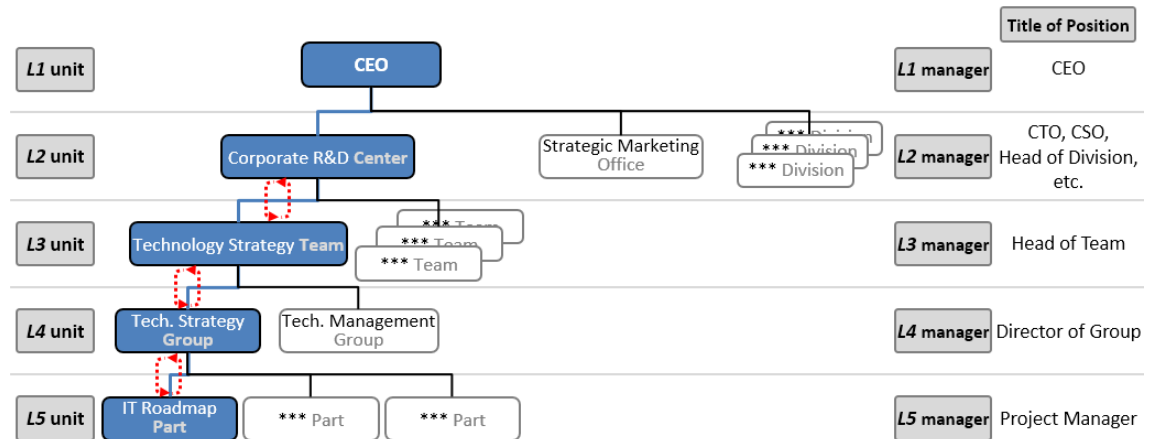
Figure 8.5 Interactions within the Corporate R&D Center (from *L2* to *L5* unit) for the corporate-level technology strategy development
Source: Developed by the author.

Through hierarchical and linear interaction from the L2 to the L5 unit (see Figure 8.5), the Corporate R&D Center developed the technology strategy. The annual technology trend report published in the autumn of 2007 highlighted *smartphone* and *cloud computing* as the firm's strategic technologies for 2008. For people outside the firm, Company Alpha's technology trend reports announced to the public was widely used as a report on technology foresight.[195] Internally, however, the results of *technology trend* research were fed into the *technology roadmapping* process. Members of the IT Roadmap Part (*L5* unit) then discerned a wide variety of technologies that are strategic to the firm, and developed a three to five years' technology strategy (i.e. technology roadmap) to secure those technologies. CTO#12 interacted with the

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[195] *Externally*, Company Alpha utilized the 'technology trend' report in order to promote their technology leadership in the Korean ICT industry. In 2010, for example, about 50 journalists and technology analysts from Korean media companies attended the press conference organized by Company Alpha to report the firm's technology trend forecast (TS-SM-A, personal interview, 2014).

IT Roadmap Part through the report lines shown in Figure 8.5. CTO#12 explained this process:

> Through our *technology trend* research, we tried to identify technologies that were expected to have a significant impact on our business in the near future, say, three to five years. We then developed plans to secure those technologies and developed technology roadmaps, which was followed by [internal] R&D projects. (CTO#12, personal interview, 2014)[196]

The second was the *corporate-level technology strategy meeting*—Technology Strategy Committee (TSC)—through which 'strategic technologies' and the 'technology strategy' developed around them were shared. The TSC helped CTO#12 interact closely with CEO#5. It also activated lateral interactions with L2 managers across the firm (see Figure 8.6).
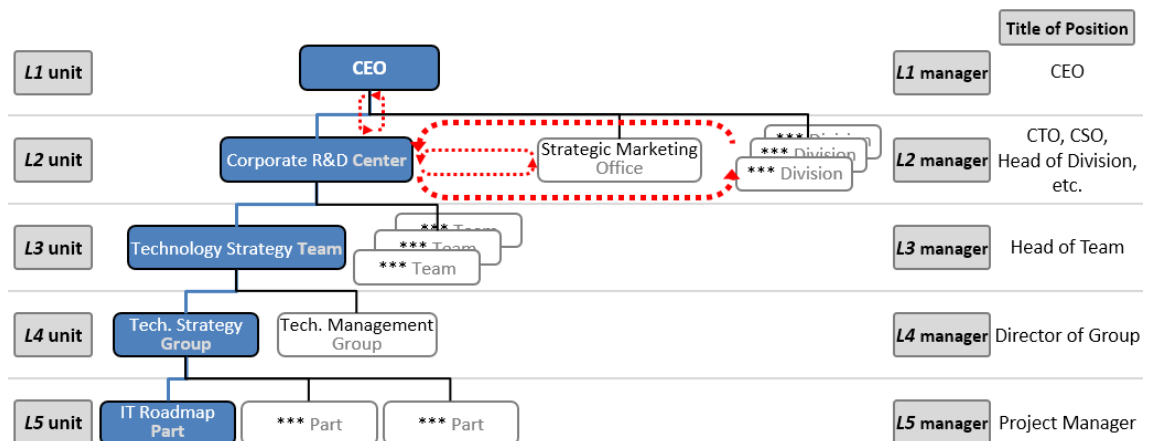
Figure 8.6 Interactions between CTO and CEO and between CTO and *L2* managers in corporate-level strategy meetings
Source: Developed by the author.

Chapter 6 discussed that a series of TSC—first from 2003 to 2008 (chaired by CEO#5) and the New TSC from 2012 (chaired by CEO#6)—improved key individuals' understanding of *strategic technologies* and the firm's technology strategies (see Section 6.2.2 and 6.3.3). Although the TSC was originally initiated by CEO#5 for his own needs, the meeting turned out to be a place

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[196] This interview shows one of the fundamental issues in *technology strategy*, because, as Ford (1988) highlighted, technology strategy "consists of policies, plans and procedures for *acquiring* knowledge and ability, *managing* that knowledge and ability within the company and *exploiting* them for profit" (Ford, 1988: 85; emphasis in the original).

where key individuals at different levels met together and updated their knowledge of technologies which had strategic importance to the firm.

For example, the result of technology trend research in 2007 was shared in the TSC#45 (December 2007). In addition, technological knowledge and the business potential of *smartphone* and *cloud computing* (the firm's strategic technologies for 2008) were shared in the TSC—the TSC#61 (May 2008) discussed *cloud computing* technology, and the TSC#65 (October 2008) focused on *mobile communication* technology.[197, 198]

The third was the *corporate-level business strategy meeting* (Annual Strategy Committee), during which CEO#12 attempted to reconcile the firm's business strategy and technology strategy. The meeting environment at the Annual Strategy Committee (ASC) was conducive to the CTO's interaction with the CEO and also lateral interaction with the other L2 managers across the firm, as the members of the meeting included CEO#5, the top management team, and a number of heads of divisions (about 150 people in total). At the '2009 Annual Strategy Committee', CTO#12 presented the impact of the combination of *smartphone* and *cloud computing* technologies. Emphasizing the business impact of the 'mobile service' and 'cloud computing service', which are based on the strategic technologies, CTO#12 asserted to the audience:

> In the next three years, we [people in the Corporate R&D Center] will find business opportunities for our future in these strategic areas in a proactive way.[199]

This is an episode that illustrates how CTO#12, as a key actor who identified the significance of strategic technologies, tried to transform the technology side of the firm, the Corporate

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[197] The title of the TSC#61 session (May 2008) was "The Understanding of Cloud Computing Technology".

[198] The title of the TSC#65 session (October 2008) was "The Understanding of Mobile Communication Technology".

[199] *Company Alpha* (2013) 'Meeting Minutes: Annual strategy session for 2009'

[218]

R&D Center, into the firm's *locus of innovation*. As we shall see in Section 8.3.4, CTO#12's efforts and his interaction with CEO#5 turned the Corporate R&D Center into the *locus of innovation*, and the *initiation* period in the second CV cycle was started.

8.2.3 Strategic freedom of middle-level managers

The third factor influencing changes in the *direction of CV* is *strategic freedom of middle-level managers*, which enabled some managers within the CV unit to organize strategy development projects and to be involved in the projects. The impact of the strategy development projects was influential in changing the program-level strategies of the firm's on-going CV programs.

The unfolding CV activities associated with CV programs reveals that significant changes in the portfolio of CV programs were preceded by two strategy development projects. As shown in Figure 8.7, the Acceleration-α was launched in the summer of 2012 (*KE#14*) after finishing the Open Venturing Strategy (OVS) project; and the Global CVC-α began operation at the end of 2014 (*KE#29*) as a result of the Corporate Venturing Strategy (CVS) project.
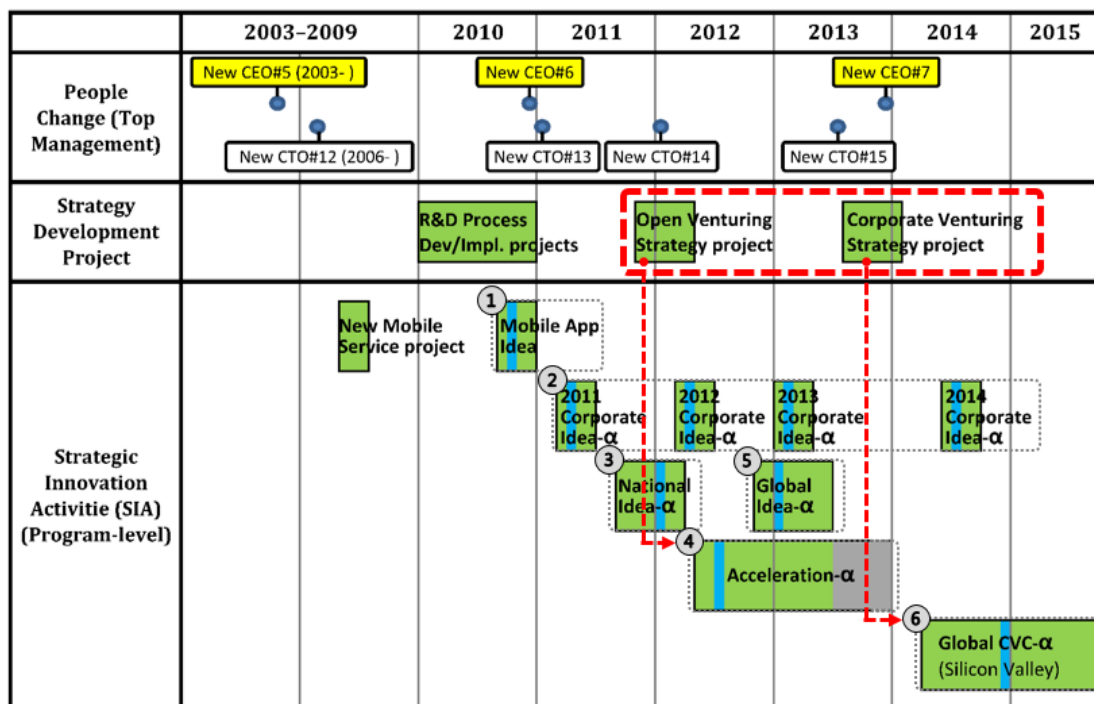
Figure 8.7 Middle managers' (L5 manager) influence on CV programs
Source: Developed by the author.

[219]

The two projects—the OVS and the CVS projects—were not mandated either from the top or from senior managers in the hierarchy. Instead, the projects were proposed by middle-level managers in the official CV unit—the Emerging Business Team. Some middle managers (*L5* managers), after delegating their administrative and operational tasks to other members, initiated a strategy development project in which they reviewed the on-going CV program(s), and refined strategic objectives of the program(s). Unlike general interaction, which is linear through the organizational hierarchy, the interactions among actors in these projects were more bottom up (from L5 level), and the project members interacted with each of the different units (from L4 to L1 unit) more directly (see Figure 8.8).
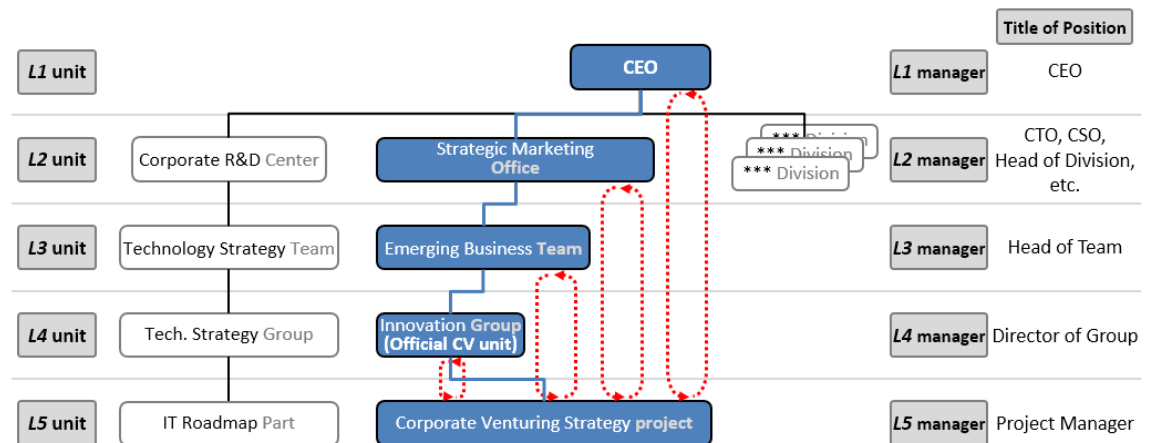
Figure 8.8 Interactions in the Corporate Venturing Strategic project
Source: Developed by the author.

The changes in CV programs influenced by the third factor will be discussed in a broader narrative of the *evolution of CV at Company Alpha* in Section 8.3. The remaining part in this section analyzes the details of each project.

The Open Venturing Strategy (OVS) project led by middle managers (L5 managers)

First, the OVS project was a six-month strategy development project initiated by a *L5* manager. In the winter of 2011, middle-level managers and some professors at Korean business schools joined the project, and they reviewed the firm's CV related programs that had been operated

since 2010. The main challenge they agreed was the increasing number of new business ideas explored through the programs, and the need to exploit opportunities being captured by enormous numbers of ideas (see Section 7.4.2). The project manager of the OVS project stated: "we came to realize that the *implementation* of ideas is much more important than the ideas themselves" (I-SM-B, personal interview, 2015).

In 2012, the project concluded that more a systematic approach had to be applied to realize identified business opportunities, by which the CV unit can support internal and external CV teams and help them to develop business plans and the new IT services and products they proposed. The project manager presented the needs to his senior managers (*L2* to *L4* managers) and to CEO#6, and the Acceleration-α was launched in the mid-2012 (*KE#14*). In the evolution of CV at Company Alpha, the OVS project played a key role in the *variation* stage, and this will be discussed in Section 8.3.3.

The Corporate Venturing Strategy (CVS) project led by middle managers (L5 managers)

Second, the CVS project was a six-month strategy development project initiated by *L5* managers. In the summer of 2013, three middle-level managers joined and started the CVS project to review the outcomes of their CV programs and to develop strategic objectives for, if any, a new program. In 2003, after an ad-hoc mid-year reshuffling (*R#2013-2*), the location of the CV unit (the Emerging Business Team) was shifted to the Corporate R&D Center (see Section 6.3.4); the support for the innovation program from the top management team including CEO#6 was rapidly decreased. The second CV cycle would have been terminated, if the CV unit had not *adapted* their CV programs by changing the main strategic objective of the program.

The project manager of the CVS project stated that the main reason for considering a new program-level strategy was because "the time for harvest [by previous programs] was too long"

[221]

(I-SM-B, personal interview, 2013). In 2003, the CV unit had been *exploring* new business opportunities by searching for ideas through programs for *exploration* (e.g. Corporate Idea-α). As selected ideas and required technologies were more clearly defined, they were also utilizing vital resources (e.g. technologies and human resources) to implement ideas through a program for *exploitation* (e.g. Acceleration-α) (see Section 7.4.2). However, due to a lack of viable new business outcomes, the members of the CV unit had difficulties in justifying their values to the firm (see Section 6.3.4).

The project arrived at a conclusion that a new CV program should be an *exploitative* program in order to secure specific technologies already defined in the technology roadmap. They proposed a plan "to set up a venture fund and to start CVC activities based in Silicon Valley" (I-SM-B, personal interview, 2014), which was approved by CEO#6 in 2013, and also by CEO#7 in late 2013. At the end of 2014, the firm officially launched the Global CVC-α (*KE#29*). In the evolution of CV at Company Alpha, the CVS project was crucial in the *adaptation* stage, which will be discussed in Section 8.3.4 in more detail.

8.3 Changing 'direction of CV' and the evolution of CV

Based on the analysis of a series of CV programs by using the *direction of CV* framework, this research reveals the *evolution of corporate venturing* at the case study firm (see Figure 8.9), which helps explain CV cyclicality at a firm level. From 1990 to 2015, the firm performed ten CV programs (see Table 6.3), and there is a repeating pattern occurring within the first (1997–2002) and the second CV cycle (2011–2015), where each cycle is composed of evolutionary stages: *initiation*, *reproduction*, *variation*, and, in the second cycle only, *adaptation.*
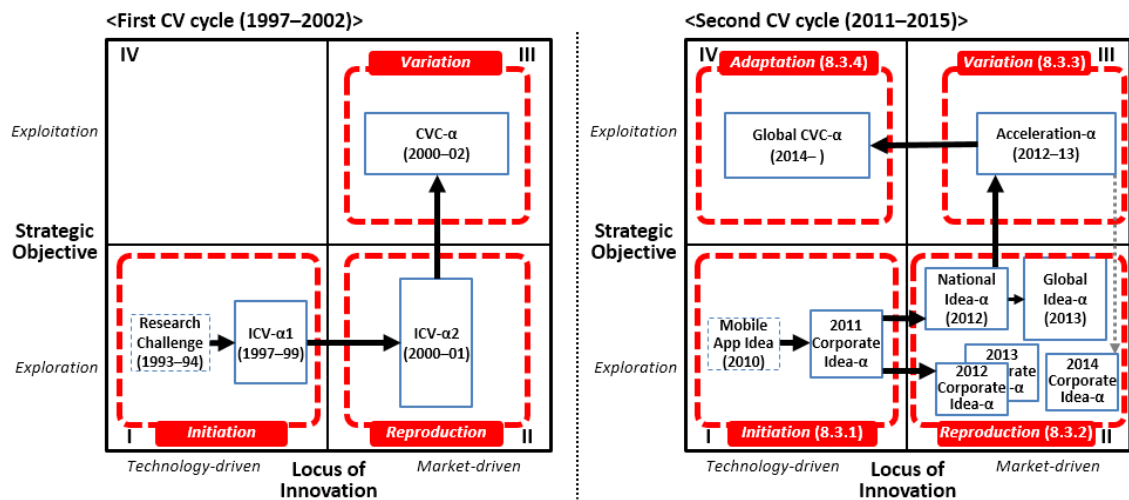
Figure 8.9 Changing direction of CV and the evolution of CV at Company Alpha
Source: Developed by the author.

The identification of these evolutionary cycles and their stages helps us understand *who* in the firm innovates and *why* through the operation of a range of CV programs. In the following sections, four stages in the evolutionary cycle will be discussed.

8.3.1 *Initiation* (the Mobile App Idea and the 2011 Corporate Idea-α programs)

Technology-driven CV program for exploration

The beginning of the *initiation* stage was started by two CV programs within the R&D side of the firm: the Research Challenge in the first CV cycle and the Mobile App Idea in the second (see Figure 8.9). Observing through the new framing of direction (the *direction of CV*), these programs at the *initiation* stage pertain to *technology-driven* CV programs for *exploration*.

As discussed in Section 6.3.1, the Mobile App Idea program was a small-scale idea gathering program. Later, this acted as a *prototype* of CV programs, and evolved into the 2011 Corporate Idea-α, which is the first CV program in the second CV cycle. A similar pattern had occurred in the first CV cycle, where the Research Challenge in 1993 was evolved into the ICV-α1 in 1997 (see Section 5.3.1).

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All of these programs in the *initiation* stage were designed initially, purely for the purpose of gathering fresh IT service ideas, which were new to the firm. The *initiation* of new CV cycles was partly triggered by the identification of *strategic technologies*: *Internet* technology in the first cycle, and *smartphone* and *cloud computing* in the second (see Section 8.2.2). Once the *strategic technologies* were identified, the firm actively started new CV programs to *explore* new business opportunities by searching for new ideas (business, service, etc.).

In the second CV cycle, members of the Technology Strategy Group, then the *de facto* CV unit, were the main actors (i.e. the locus of innovation). In 2010, the lack of ideas desperately felt by CTO#12 changed the way the firm did R&D and carried out its new business development (NBD) activities.[200] Mandated by CTO#12, a new corporate-level innovation strategy was developed by the Technology Strategy Group, which included a plan for an idea gathering program (see Section 6.3.1). In a technology strategy meeting in 2010, CTO#12 underlined the need for change in their approach to new business development led by the Corporate R&D Center:

> So far, we've attempted to squeeze ideas out of researchers; however, we now need to change the approach to carefully identify gems from the flood of ideas coming through the idea gathering channel. Here, the *assessment* of ideas will be our core function.[201]

In the autumn of 2010, Company Alpha launched the Mobile App Idea (see Section 6.3.1); and this was followed by the 2011 Corporate Idea-α in the spring of 2011 (see Section 6.3.2). When designing these programs, the operation team (the Technology Strategy Group) did not have enough knowledge about the "idea competition (IC)" (Mortara et al., 2013) program; therefore, they had to benchmark best practices—i.e. "Innovation Management Practices (IMPs)" (Tidd

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[200] As quoted in Section 6.3.1, CTO#12 described the desperate feeling as "a genuine thirst for *ideas*" (CTO#12, personal interview, 2014; emphasis added).

[201] *Company Alpha* (2010) 'Meeting Minutes: Open innovation strategy meeting'

and Thuriaux-Alemán, 2016)—which included the idea management program developed by a subsidiary of the Alpha Group, because they gathered more than ten thousand ideas per month about new business and process innovation from their employees via an idea gathering program.

Actually, the case study firm was one of the pioneers in the history of corporate venturing (CV) in the Korean high-tech industry, as they performed CV programs in their first CV cycle in the 1990s. However, by the time the second CV cycle started, there was no accumulated knowledge of how to manage CV programs. Furthermore, when they were operating CV programs in the second CV cycle, no one in the *de facto* CV unit used the term corporate venturing (CV) when referring to the Mobile App Idea and the Corporate Idea-α programs (TS-SM-A, personal interview, 2014; CVC-SM-A, personal interview, 2014). This evidence demonstrates that Company Alpha realized *in hindsight*, only in the second half of 2011, that a series of innovation programs they had been operating would be called corporate venturing (CV) by others.

In the second CV cycle, the number of ideas gathered though the two CV programs was relatively small (see Figure 8.10). When the Mobile App Idea ran in 2010, the CV unit created a special webpage on the firm's groupware system, through which 250 employees submitted 364 new business ideas. In the 2011 Corporate Idea-α, they developed an independent idea portal system, and 1,170 employees submitted 1,357 ideas using the new system.
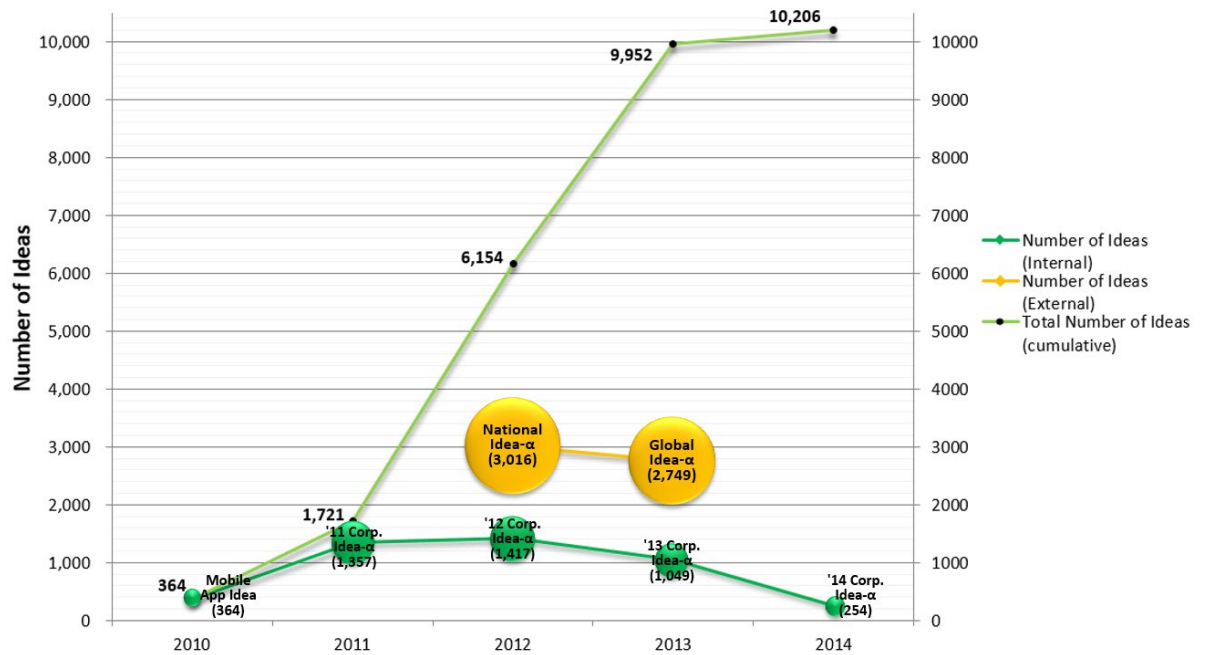
Figure 8.10 CV programs for exploration and increasing number of new business and service ideas (2010–2014)
Source: Elaborated by the author.

The assessment processes for the two programs were designed primarily to select new business ideas mainly by their *novelty* (TS-M, personal interview, 2014). The assessment process was improved during this period. At first, in the Mobile App Idea, all employees were invited to review the proposed ideas on the webpage. Any employees who visited the webpage rated the ideas using five-star ratings, and about one fifth of the total employees (1,950 people) participated in the idea assessment process.

Later, in the 2011 Corporate Idea-α, the assessment process was refined into three stages: evaluation (1) by 60 junior-level employees, (2) by 40 business and technology experts, and (3) by 6 top level management. In the first stage, the assessment criteria were ideas' *clarity* (40%), *novelty* (40%), and *feasibility* (20%), through which ideas were filtered mainly on the basis of ideas' innovativeness. The profile of the first stage judges, who were composed of junior-level employees, supports this approach applied to the assessment. In the second and third stages, two criteria were added: *potential market size* (30%) and *strategic relevance* (10%); however,

the main assessment factor was still ideas' novelty (30%). The list of some selected ideas indicates that the primary objective of the two *technology-driven* CV programs was to *explore* new business and service ideas (see Table 8.2).

Table 8.2: The list of selected ideas (Mobile App Idea, 2011 Corporate Idea-α)

Year	CV program	Rank	Idea description	Core technologies
2010	Mobile App Idea	1	Mobile car navigation application	Digital image processing
		2	Personal accounting mobile application	CRM (customer relationship management) data analytics
		3	Mobile toll payment application	Mobile payment
2011	Corporate Idea-α	1	Crowdsourced learning platform	UX (user experience) design
		2	Contact center service	Cloud Computing
		3	Connected car service	IoT (Internet of Things)

Source: Elaborated by the author based on the firm's archival data.

8.3.2 *Reproduction* (the National Idea-α and the Global Idea-α programs)

Market-driven CV program for exploration

In the *reproduction* stage, the first and second CV cycles show a similar pattern. The main managerial actors for CV programs and the structural unit in which they reside were moved to the marketing side of the firm (i.e. the change of the *locus of innovation*). But still, the main strategic objective of CV programs was maintained to *explore opportunities* for new business at the level of *ideas*. In other words, the programs in the *reproduction* stage are *market-driven* CV programs for *exploration* (see Figure 8.9).

In the second CV cycle, among a range of factors identified in Section 8.2, new CEO#6 (a *L1* manager) with his marketing and strategic planning background was most influential in changing the *direction of CV*. Based on a new corporate-level business strategy to stimulate

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new business development activities (see Section 6.3.2), CEO#6 accumulated all resources related to the CV activities (i.e. on-going programs) to the market side by the annual reshuffling (*R#2012*) (see Section 6.3.3).[202] By CEO's resource structuring action, a new official CV unit (the Emerging Business Team) was formed in the Strategic Marketing Office. The General Manager of the Innovation Group (I-GM), who was then the director of CV unit, confirmed CEO#6's intention:

> After the annual reshuffling [*R#2012*], I had a chance to see CEO [CEO#6] at a dinner. He said, "Now I gathered all those people doing new business development in one place; I hope you do well." Hearing this, I thought that he wanted some synergies from this new combination. It seems that his background from marketing has affected the recent annual reshuffling. (I-GM, personal interview, 2014)

Entering the *reproduction* stage, the new *direction of CV* became *market-driven* CV program for *exploration*, and as a wind change its *direction*, the way the firm operated new CV programs changed. CV programs became *the* strategic innovation activities closely aligned with the firm's *business* strategy, and the firm put a lot more emphasis on the *number* of new business ideas. The CV unit therefore increased the *scope* and *scale* of CV programs by reproducing a series of CV programs. First, the *scope* of the CV program was extended to cover both *internal* and *external* idea competition (IC) programs. The CV unit decided to expand their source of ideas outside the firm, and designed new programs as an *external IC* format.[203] When designing external IC programs, the *scale* of CV programs was also expanded to the national level (the National Idea-α program in 2012) then to the global level (the Global Idea-α program in 2013).

As a result, the number of ideas gathered through the two programs was substantially increased (see Figure 8.10). For example, in 2012, a total of 1,500 people across Korea proposed 3,016 ideas (2,155 individual and 861 team ideas) to the National Idea-α. And in 2013,

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[202] The structural change after this annual reshuffling can be seen in the *OC#2012* (see Appendix G).

[203] Idea Competition (e.g. Mortara et al., 2013)

a total of 3,420 people proposed 2,749 ideas (1,530 individual and 1,219 team ideas) to the Global Idea-α. The evolution of CV from the *initiation* to the *reproduction* stage also demonstrates that the firm leveraged their experience and knowledge of *idea management* they had gained in the *initiation* period, which provides empirical evidence to support the claim suggested by Tidd and Thuriaux-Alemán (2016):

> … [T]he difficulty of mobilizing the *entire* organization means that the companies that do this well have developed significant capabilities in the area of idea generation and assessment and have had to implement other IMPs [innovation management practices], which means that this may act as a marker of general good idea management processes and approaches. (Tidd and Thuriaux-Alemán, 2016: 1036; emphasis in the original)

Leveraging their knowledge of the idea management process in the *initiation* stage, the CV unit improved the assessment process to ensure a tight coupling between corporate-level *business* strategy and *venture team-level* strategy (for the strategic layers of CV, see Table 7.3). In the National Idea-α, for example, the assessment process was composed of three stages, in which ideas were assessed by judges who are (1) 90 employees and 90 members of the Korean public (volunteers) in the first, (2) by 90 employees in the second, and (3) by 12 external advisory board members (professors, business experts, VC investors, and futurist) in the third stage. The evaluation criteria at the first stage were ideas' *clarity* (30%), *novelty* (40%), and *feasibility* (30%). In the second and third stages, the criterion of *potential market size* (30%) was added. However, the third stage in particular was found to be not conducive to building a tight link between the firm's business strategy and the business model of selected ideas. Judges in the third stage were all from outside the firm although they were experts in their own fields. I-SM-A, who managed the National Idea-α program, recalled:

> For the objectivity of the idea assessment, we organized the advisory board with the members of experts from outside the company. But, I still remember the *minutes of silence* in the third assessment meeting. When reviewing the 12 finalist ideas, a VP from a venture capital asked, "By the way, what is your company's business strategy? We need to know it to decide these ideas' priority." Suddenly, the meeting room became

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so silent, which was quite an awkward moment. We had to say, "Please can you suggest some nice ideas from the list?" (I-SM-A, personal interview, 2014; emphasis added)

In the Global Idea-α, therefore, the CV unit changed the profile of judges: (1) 150 employees in the first, (2) all members of the CV unit in the second, and (3) top management (CSO, CFO), Head of the Emerging Business Team, Head of the Strategy Team, Director of the Innovation Group, and three external specialists in the third stage.

At the *reproduction* stage, external to the firm, the tight coupling between corporate-level *business* strategy and venture team-level strategy (e.g. types of business) had a positive impact, as it motivated talented entrepreneurs with novel and ambitious ideas to propose their new ideas to the program. A CEO of external CV team (ECV-C), who was one of the finalists and later spun off his external CV team (Venture-δ) from Company Alpha, said:

> There were many idea competition programs when I was developing my business idea. However, I thought that this program [the National-α] was not just an idea *competition*; it looked like a program that the company is committed to search for its future business. (ECV-C, personal interview, 2014; emphasis added)

Internally, however, there was a *decoupling* between corporate-level *technology* strategy and *venture team-level* strategy. First of all, ideas gathered through the CV programs gained strategic importance from the top management, and the ideas' revenue projections were included in the corporate business planning. This in turn imposed heavy *financial pressures* on the CV unit. Therefore, the top priority in the ideas' first assessment stage was changed to the *size* of their potential markets, rather than *technologies* that could enable those ideas. In addition, after the locus of innovation was moved from *technology-driven* to *market-driven*, as I-M acknowledged, people in the new official CV unit rarely considered 'technologies', as if they moved into a new 'thought world' using 'different languages':

> [After the annual reshuffling *R#2012*] … we [in the CV unit] experienced a disconnection from the R&D. Our *language was totally changed*; we didn't even use the word

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'technology' in our daily talks. … Our *way of thinking* was changed as well. … We talked much about the size of *market* for new business ideas proposed. … When evaluating ideas in the Global Idea-α, for example, proposals were immediately filtered out if its potential market size was less than, say, billion dollars. (I-M, personal interview, 2013; emphasis added)[204]

8.3.3 *Variation* (the Acceleration-α program)

Market-driven CV program for exploitation

Both in the first and second CV cycles, new types of CV programs were beginning to emerge in the midst of the *reproduction* stage: the CVC-α in the first CV cycle and the Acceleration-α in the second (see Figure 8.9). Within the same locus of innovation (*market-driven*), the strategic objective of these programs was changed to *exploitation*, and these were *market-driven* CV programs for *exploitation* form the *variation* stage.

In this thesis, *exploitation* is one of the primary *strategic objectives* of CV programs, which means to *utilize* identified business opportunities (e.g. new business ideas) by securing access to vital resources (technologies, business networks, etc.) (see Section 7.4.2). In the first CV cycle, the firm operated the CVC-α program mainly to establish business networks with ventures (see Section 5.3.3). In the second cycle, however, the Acceleration-α program was operated to secure vital resources, especially human resources and technologies, to implement ideas identified by many programs in the *reproduction* stage (see Section 6.3.3).

Since 2012, the number of ideas gathered through the CV programs was rapidly increased. As Figure 8.11 shows, the number of new ideas was increased from 1,721 in 2011 to 6,154 in 2012. The increasing number of ideas exerted *operational pressures* on the CV unit, and its members faced a new challenge: a lack of resources (human resources and technologies) to implement

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[204] This is part of the interview with I-M which was quoted in full in Section 7.3.2.

ideas gathered through their CV programs.
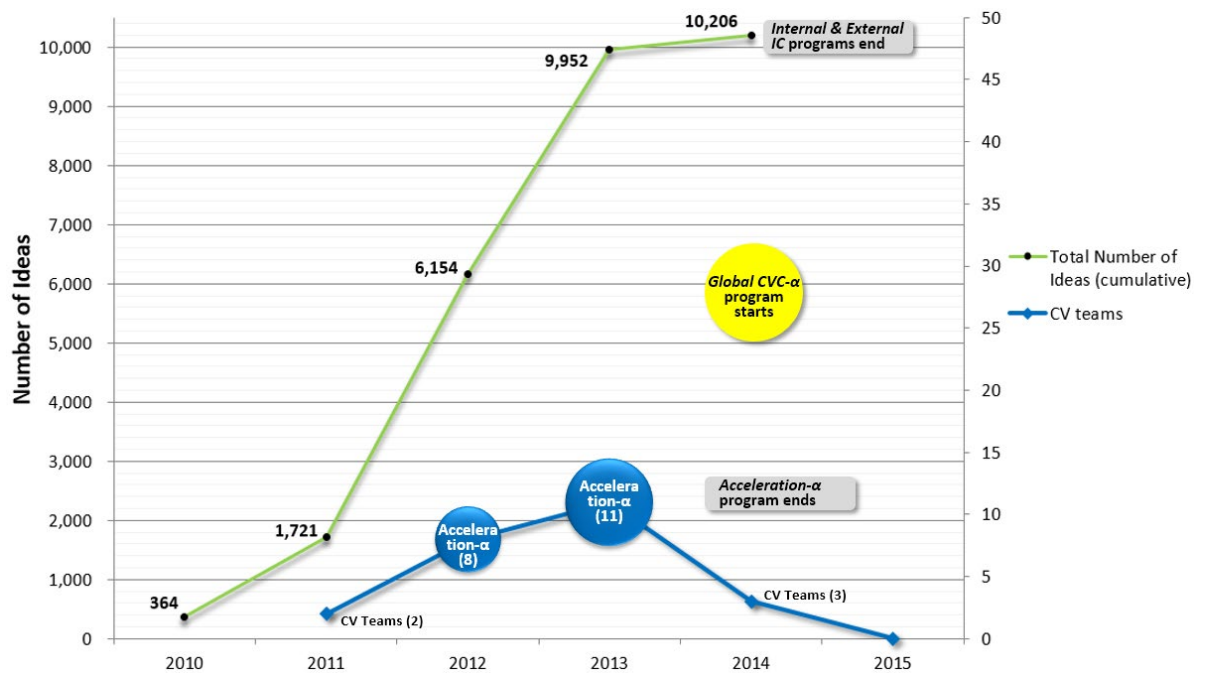
Figure 8.11 The emergence of new CV programs for *exploitation* (2011–2015)
Source: Elaborated by the author.

Accordingly, the CV unit decided the primary objective of a new CV program needs to be *exploitation*, and the Acceleration-α program was launched in mid-2012. As discussed in Section 8.2.3, the new program-level strategy (*exploitation*) was developed through a six-month strategy development project—the Open Venturing Strategy (OVS) project. The OVS project was not mandated in a top-down manner; instead, it was initiated by a *L5* manager (I-SM-B), who realized the importance of idea *implementation*, rather than ideas themselves (I-SM-B, personal interview, 2015). I-SM-B shared what he learned from the planning and operation of the CV programs in the *initiation* and *reproduction* stages:

> By 2012, we came to realize that the *implementation* of ideas is much more important than the ideas themselves. It's because there are many *pivoting* moments in the ideas' implementation stage; therefore, it is very important to involve the people who proposed ideas in the ideas' implementation stage. We designed a new program, the Acceleration-α, to support ideas' proposers in our ideation programs [internal and external IC programs], and help them refine their business models and develop what they proposed. (I-SM-B, personal interview, 2015)

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Acceleration-α was designed for a systematic level of support for the *exploitation* of vital resources to implement ideas; its underlying principle was that the owner of an idea needs to be involved in the idea's *implementation* process, which was in line with CTO#12's rejection of the division of labor in the innovation process:[205]

> I don't think the innovation process can be assigned to different people at different stages. Do you think those people who generate ideas and people who articulate and develop those ideas into business can be different? Although basic ideas can be handed over, but substantial losses are inevitable. I don't believe that Adam Smith's *division of labor* comes into effect in this case. (CTO#12, personal interview, 2014)

In 2012, one of the finalists in the National Idea-α established an external CV team (Venture-δ) at the Acceleration-α Center (working space), which provided IT infrastructures, business mentoring, and legal consultation (see Section 6.3.3). The business model of Venture-δ was then changed from a previous 'business-to-client (B2C)' model to a 'business-to-business (B2B) model', which resulted in the increase of its potential market size. The business mentoring provided by the Acceleration-α program was influential in bringing about this change (ECV-C, personal interview, 2014). From early 2013, Venture-δ made their first profit by providing a B2B service to its parent firm, Company Alpha (I-SM-B, personal interview, 2013).

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[205] In this thesis, the definitions of *exploration* and *exploitation* apply to 'early commercialization' stages, because opportunities are identified by the explorative activities then developed by the exploitative activities with the aim of commercialization of the ideas. If *exploitation* is defined in other ways (e.g. to *exploit* something to make the most of it) and refers to the post-commercialization stage (business in general), then actors exploring opportunities and actors exploiting developed opportunities can be different, as suggested by Teece's (1986) profiting from the technological innovation model.

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8.3.4 *Adaptation* (the Global CVC-α program)

Technology-driven CV program for exploitation

The first CV cycle of the case firm was terminated at the *variation* stage; whereas, in the second cycle, a process of *adaptation* enabled CV programs to survive in the evolution of CV. Rather than being the result of a process of natural selection, it was a proactive change of the program, as the survived CV program (the Global CVC-α) was the one which *adapted* by focusing on the *exploitation* of identified business opportunities by securing access to vital resources (e.g. emerging technologies) (see Figure 8.9). When changing the program-level strategy, middle-level managers (*L5* managers) in the CV unit played a vital role in convincing top management as a result of the outcome of the Corporate Venturing Strategy (CVS) project (see Section 8.2.3).

From early 2013, at the latter stage of the *variation*, high level managers began to become concerned about the business outcome of CV programs. Originally, however, there was a huge gap between the time during which top management wished to implement ideas and the time realistically required for the implementation of ideas. The CSO, the head of strategy, already pointed out this gap in 2011:

> I like this plan [for the Corporate Idea-α program]. Senior management, including me, is less patient with business outcomes. No matter how you feel about pressure from the top [for business outcomes], I hope you can proceed with the plan we reviewed in this meeting.[206]

A Business Strategy Senior Manager (BS-SM) said that such pressure was inevitable because of the growing *shortermism*, which was pervasive among top management (*L1–L2* managers) (BS-SM, personal interview, 2016).

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[206] *Company Alpha* (2011) 'Meeting Minutes: New business development strategy planning'

Under growing pressure from the top, the CV unit could not prove the viability of their outcome except for the promotional effect of the firm's brand value (I-SM-A, personal interview, 2016). Even among the members of the CV unit—many of whom were recruited at the *reproduction* and *variation* stages—there was a lack of consensus about what the main goal of their programs should be. In the words of I-M:

> We talked much about what our *direction* was. From my viewpoint, it was as if we were operating the programs because we had been operating them. (I-M, personal interview, 2013; emphasis added)

In the middle of 2013, CEO#6, who was disappointed with the CV unit's performance, moved the Emerging Business Team back to the Corporate R&D Center by an ad-hoc reshuffling *(#R2013-2)*. The second CV cycle would have been discontinued, if the CV unit had not *adapted* their CV programs by changing its primary objective. However, having been transferred to the Corporate R&D Center, the CV unit started a strategy development project (the CVS project) to review their program-level strategy. Due to the longitudinal research design of this study, I-SM-B had been interviewed in 2013 before the CVS project was launched:

> Our programs have been losing their importance [within the firm], so we need to think about a new strategy for the program. We found that the time for *harvest* [by previous programs] was too long, and we need to develop another approach. (I-SM-B, personal interview, 2013; emphasis added)

The CV unit designed a new CV program focusing on the *exploitation* of already identified business opportunities. In the course of *adaptation*, interactions between I-SM-B (*L5* manager) and top-level managers (*L1–L2* manager) was crucial, which was enabled by the CVS project (see Figure 8.8). From early 2014, the Global CVC-α began its operation and the firm officially announced the program in late 2014.

As the new CEO (CEO#7) emphasized the importance of technology capabilities, the technology roadmapping process managed by the Technology Strategy Team gained its

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strategic importance across the firm. The Global CVC-α then became a means of strategic access to Silicon Valley, as it was mainly designed for securing technological resources defined in the technology roadmap by tapping into high-tech start-ups. CVC-SM-B explained their tasks:

> I'm meeting more than one hundred start-ups in a year. Most early stage start-ups have very competitive technologies with less business networks. Therefore, if their technological excellence is proved, we are trying to make a link between our business and those technologies from the start-up, as our business divisions already have established marketing and sales channels. (CVC-SM-B, personal interview, 2016)

At the *adaptation* stage of the evolution of CV, Company Alpha running the Global CVC-α became a strategic corporate investor. As to the difference between VCs (mostly financial investors) and CVCs (mostly strategic investors), the Managing Director of 'Company D', which is a start-up accelerator in Korea, shared his observations:

> Most VC firms in Korea are financial investors. Maybe more than 80% of them are making *financial investments*, and their payback period [on initial capital investment] can be between five to ten years. Even angel investors in Korea are mostly financial investors. However, CVCs are, by their nature, making *strategic investments*, say, more than 50% of CVCs are strategic investors. CVCs as strategic investors have a shorter payback period than financial investors and it's between three to five years. …The amount of capital investment of CVCs is relatively smaller than VCs, because they [CVCs] need to obtain the strategic items for which they invested and to make the next strategic investment. (Park, Managing Director of Company D, personal interview, 2016).

As a strategic investor, CVC-SM-B at the US office of Company Alpha explained:

> What they [start-ups] want is, rather than the amount of money invested, a strategic relationship for a joint business. They themselves believe that financial investment is a means of bridging this sort of strategic relationship. Recently, for example, we were able to establish a strategic partnership with *A company* who had deep learning based *B* and *C technologies*.[207] They as a result could expand their business areas into the Korean market. This is the opportunity they want. (CVC-SM-B, personal interview, 2016)

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[207] The company's name and the specific names of these technologies are disguised.

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8.4 Conclusion

At the outset, this chapter has discussed three main factors that influence changes in the *direction of CV*. These three factors are related to *managerial actors* at different levels in the organizational hierarchy: CEO (a *L1* manager), CTO (a *L2* manager), and middle-level manager (especially *L5* managers). First, the CEO's perception on the role of R&D and innovation affected how they conducted their resource *structuring* actions by annual, or ad-hoc, reshuffling. These shifted the *locus of innovation* between *technology-driven* and *market-driven* ones. Next, the identification of *strategic technologies* was important in transforming the technology side of the firm (the Corporate R&D Center) into a locus of innovation.

Here, CTO#12's identification of the value of strategic technologies was crucial, as he interacted with other actors (CEO, L2 managers, and other managers within the Corporate R&D Center), and convinced them of the potential value of specific technologies to the firm. Finally, middle-level managers, who were delegated resource-related actions from the top, decided the main goals of resource *bundling* actions (i.e. specific programs). These strategic decisions with regard to CV programs were often made in strategy development projects, which were initiated by the strategic freedom of middle-level managers. Then the *strategic objective* of CV programs moved between *exploration* (to *identify* new business opportunities) and *exploitation* (to *utilize* identified business opportunities).

These changes in the *direction of CV* can be understood from the resource orchestration perspective, and this helps explain how the firm combines resources in new ways by using CV activities. The results of the case study demonstrate that top-level management periodically reviewed and, if necessary, changed the organization's internal consistency, trying to maintain a best strategy-structure linkage. The location of the managerial actors and the structural units in which they reside (i.e. the *locus of innovation*) was changed by the CEO's resource

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structuring actions (especially by annual reshufflings). And, within the locus of innovation, middle-level managers' resource *bundling* actions were followed by setting the program-level strategy of CV activities. Collectively, this formed the *direction of CV*.

Secondly, using the *direction of CV* framework developed through the research, this chapter has found an evolutionary pattern in the firm's corporate venturing (CV) efforts (see Figure 8.9). Based on the analysis of ten CV programs from 1990 to 2015 (see Table 6.3), this thesis refers to this pattern as the *evolution of corporate venturing*, which is composed of four stages: *initiation*, *reproduction*, *variation*, and, in the second cycle only, *adaptation*. The identification of CV's evolution in the first and second CV cycles helps understand the firm's behavior when they conduct CV programs in a more *realistic* way. It is because the firm's innovation journey related to its CV activities can be explained by who in the organization innovates why, and how their activities were developed into different types of CVs.

In particular, the findings about *evolutionary CV cycles*, represented by changes in the direction of CV, suggests that there are potential *pathways* along which the firm conducts a range of CV programs. Company Alpha was a pioneer in the history of corporate venturing (CV) in the Korean high-tech industry, as the firm has conducted a series of CV programs from the mid-1990s to the current day. However, these pioneering efforts were not continuous. The firm started their CV program with its first CV cycle in the 1990s. Reaching its peak in the first cycle, however, all CV programs were discontinued, and a new cycle was only initiated after nearly a decade.

However, when the second CV cycle started in the early 2010s, there was no accumulated knowledge, or organizational memory, of how to manage CV programs. Even the term corporate venturing (CV) was not used in the *de facto* CV unit when they carried out CV programs during the initiation stage of the second cycle. This finding suggests that Company

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Alpha realized *in hindsight*, in the second half of 2011, that a series of innovation programs they had been operating was what others call corporate venturing (CV).

The disconnection of knowledge and experiences between the two CV cycles raises questions about "organizational memory". Unlike general perceptions that firms, as a collective group of people, maintain their memory in their organizational settings and history, this observation suggests that there was limited organizational memory maintained between the two CV cycles. After one evolutionary cycle was completely ceased, and after the actors who were involved in—and maybe exhausted by—operating CV programs either left the firm or forgot the details, a new cycle emerged 'from the grave' after nearly *eight years*. Although the new cycle was started by new actors who had limited access to prior organizational memory of the previous cycle, the way in which new CV programs were emerged and developed follows a similar pattern, which is captured by the changes in the *direction of CV* framework.

Importantly, this finding could provide an empirical insight with which to explain the dynamics associated with the *cyclicality* in corporate venturing (e.g. Fast, 1978; Burgelman and Valikangas, 2005) (see Section 3.2.5). The identification of a repeating evolutionary pattern at Company Alpha suggests that CV is a periodically emerging phenomenon in the history of a firm, and 'corporate venturing' is a label that refers to a specific type of strategic innovation activities in the evolution cycle. Here, it should be noted that CV's evolution is not in a Darwinian way (related to random variation), as "… there is an element of deliberate rather than random variation [because] innovation involves conscious experimentation" (Tidd and Bessant, 2014: 7). At Company Alpha, the first CV cycle was terminated before it arrived at the final stage of its evolution; whereas, a new cycle occurred, which was not terminated and reached the *adaptation* stage by deliberately changing its direction at the *variation* stage. This suggests that there would be another CV cycle that may be initiated again, especially when this firm identifies new strategic technologies, and Company Alpha will benefit in the future from

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knowing about its own corporate history—the evolution of CV identified by this thesis—while

considering the direction of CV and the management of strategic innovation activities.

CHAPTER 9
CONCLUSION

9.1 Research questions revisited

This thesis focuses on corporate venturing (CV), which is an example of an innovation practice (see Section 1.2.1). This research was motivated by an empirical phenomenon in CV activities known as *CV cyclicality* (i.e. a cyclical nature of CV activities being repeated over time), which happens both globally and locally in Korea (see Section 1.2.2). Specifically, the thesis aims to develop a better understanding of *CV cyclicality* at the level of the firm in a way that helps managers manage CV activities—engaged scholarship (Van de Ven, 2007) (see Section 1.3.1). Hence, the first research question was articulated as follows:

> How are *corporate venturing* activities developed, terminated, and then re-started at the level of the firm?

To explore CV cyclicality at the level of the firm, this thesis adopts a *case study* approach. A high-tech ICT firm in Korea (Company Alpha) was chosen as the case study firm, because it is the exemplar of a large firm in Korean CV history which repeated CV activities over time. Through the observation of, and interaction with, CV practitioners across different levels within the case firm, the importance of 'direction' in managers' framing of CV management emerged (see Section 1.3.2). At Company Alpha, during a period of major strategic decisions on CV activities, CV practitioners' managerial challenges were converged into a theme: the importance of the *direction* of CV activities. From the strategy literature, strategy is seen as "about the direction of organizations" (Rumelt et al., 1994: 9), and managing innovation in a strategic manner requires a "clear sense of direction" (Tidd and Bessant, 2014: 21). However, it was also revealed that there was a degree of widespread *ambiguity* about how the concept 'direction' *itself* was interpreted by different actors within the firm. Today, in the Korean

context, the importance of the term 'direction' is also highly emphasized after the country succeeded in 'catching up' with frontiers and moving on to 'forging ahead' (see Section 1.3.3). Therefore, this research aims to usefully conceptualize 'direction' *itself* in a way that would help managers make sense of the phenomenon of CV cyclicality. The second research question was then articulated as follows:

> How can different understandings of *direction* help managers and academics understand and explain Company Alpha's corporate venturing activities and how they repeat over time?

9.2 Research findings

9.2.1 A new framing of direction: Direction of CV

This thesis suggests that there is a new way of thinking about *direction* in a way that allows us to better understand and explain Company Alpha's repeating CV cycles. Here, the *direction of CV* initially acted as an analytical framework to examine internal activities within the firm throughout its twenty-six-year CV history. Later, as empirical evidence was gathered, this framework was developed into a *conceptual framework* that helps explain the *evolution of CV* in the case study firm (e.g. the initiation, variation, termination (or adaptation), and re-initiation of CV activities).

As discussed in Chapter 3, the review of the strategy literature suggests that there are two main ways in which the term 'direction' is used in strategy settings. These are distinguished by whether direction is focused on *states* or *processes*. In the first body of literature, the *direction of strategy* (Type I) is an indication of the *content* of the firm's core strategy (e.g. Burgelman's (2002a) *strategy vector*; see Section 3.2.2). It is a plan defined, adopted, and pursued by the firm that will allow it to achieve sustainable competitive advantage (SCA) at some point in the future (e.g. being a 'defender' or a 'prospector'). In the second body of literature, the *direction*

of strategic change (Type II) reflects *changes* in the *content* of the firm's core strategy (e.g. Zajac et al.'s (2000) ideas about the *direction of strategic change*; see Section 3.2.2).

Using a vector analogy (see Figure 3.1), this thesis highlights that the content of strategy *itself* has a direction (Type I); and, when the content of strategy changes from time t (Strategy$_t$) to time t+1 (Strategy$_{t+1}$), the strategy change between Type I directions is represented by the difference of the two vectors, which generates another type of direction (Type II). Importantly, this reframing helps us clarify that 'strategic change' can refer to two things: first, changes that are strategic, and second, changes in core strategy (i.e. strategy-change) (see Section 3.2.3). Hence, it is possible to have a strategic change that is not strategic in the sense that strategy might change, but that change is ill-considered, random, etc.

The review of the organizational change literature informs an alternative way of thinking about direction. Since the 1980s, the core questions about organizational change in this literature have shifted from 'whether organizations can change themselves (or not)' in the 1970s (Demers, 2007) to 'how organizations can change (i.e. processes of change)' (Van de Ven and Poole, 1995). After this change, organizations, which had been regarded as loosely coupled systems, came to be increasingly viewed as tightly integrated systems. In addition, rather than only being interested in how organizations passively respond to external constraints, the literature is increasingly interested in how organizations *proactively* change and the importance of its internal consistency in that change. These changing viewpoints are associated with the debate between the *contingency* approach (Donaldson, 1996) and the *configuration* approach (Miller, 1996) (see Section 3.2.1), and this provides us with an insight into the conceptualization of 'direction' in the context of CV: a new concept of direction needs to capture organizational *proactive* change generated by reconfiguring their internal elements, even without stimuli external to the firm (see Table 3.1).

Applying Rajagopalan and Spreitzer's (1997) three theoretical lenses on strategic change (see Section 3.3.1), Type I and Type II directions are found to be the way of thinking about direction through the *rational* lens. The rational lens assumes that (1) external conditions are deterministic and immutable; (2) there is an *equilibrium* which is an effective alignment between the firm and its external environmental conditions; and (3) organizations are equilibrium-seeking rational systems. However, Rajagopalan and Spreitzer's (1997) *learning* and *cognitive* lenses on strategic change helps us think about direction in a new way by modifying previous assumptions: (1) environmental conditions are uncertain and dynamic, which can be changed influenced by *managerial actors*; (2) organizations' *proactive* change can be better enabled by an internal consistency; and (3) what firms do for innovation is to deviate from or even disrupting a *status quo* equilibrium state (see Section 3.3.2).

Therefore, this thesis suggests that the *direction of corporate venturing* (CV) can be usefully conceptualized as an internal consistency between the firm's structure (with actors residing in the structure) and its strategy. A conceptual framework (the *direction of CV*) is then developed by combining both the main managerial actors who conduct CV activities (the starting point) and the primary *strategic objective* that the CV program pursues and is designed to achieve (the end point). This is a new way of framing *direction* in innovation settings, which considers the concept of direction from an internal firm perspective.

To position the framework in the CV and the strategic management literature, this conceptual framework is developed by drawing on resource orchestration (RO) theory (Sirmon et al., 2007; Sirmon et al., 2011) (see Section 3.4.1). RO theory emphasizes the role of managerial actors in the process of resource combination. The theory suggests that managers' resource-related actions can be divided into three main processes: (1) *structuring* (the formation of the firm's resource portfolio); (2) *bundling* (the integration of resources to build the firm's capabilities); and (3) *leveraging* (the application of the firm's capabilities to create value). In particular, the

theoretical background to the framework's dimensions are provided by the underexplored but prospective research agenda of RO theory: the *depth* (multiple levels of structures and actors) and *breadth* (multiple levels of strategies) of RO (Sirmon et al., 2011) (see Section 3.4.2).

9.2.2 Changing direction of CV

Using the idea of *changing direction of CV*, this thesis addresses the first research question, which is about the process of the repeat of CV activities. As shown in Figure 9.1, the series of CV programs in the first and the second CV cycles at Company Alpha (see Table 6.3) can be analyzed through the lens of the *direction of CV*.
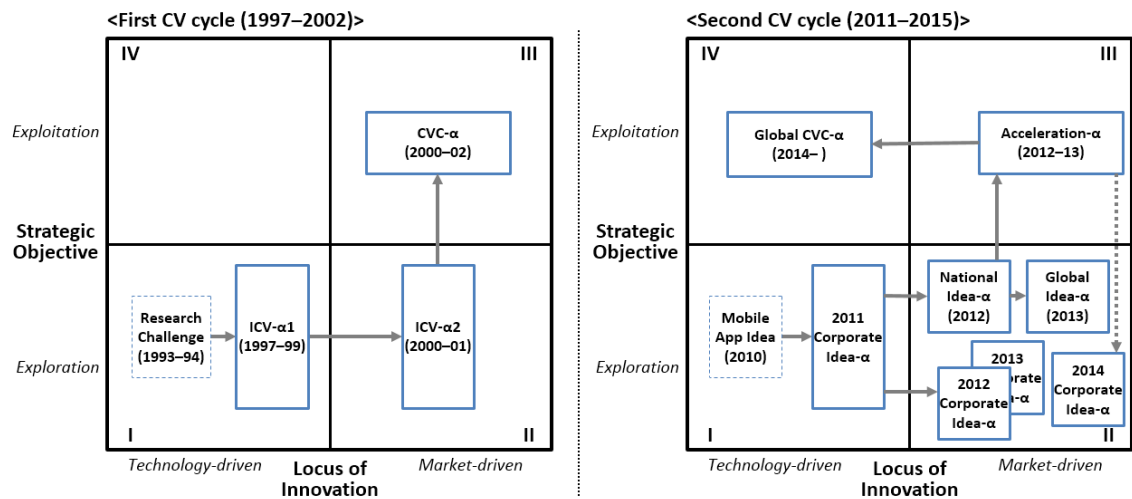
Figure 9.1 Changing direction of CV in the first and the second CV cycles at Company Alpha
Source: Developed by the author

Figure 9.1 illustrates how CV programs were developed, terminated (or adapted), and then re-started at Company Alpha in its twenty-six years history of CV activities from 1990 to 2015 (For the firm's timeline, see Appendix D). Importantly, the conceptual framework about the *direction of CV* allows us to see a pattern of change in both within the first (1997–2002) and the second cycle (2011–2015) of CV at Company Alpha.

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Changing locus of Innovation (the X axis)

On the conceptual framework, the X axis focuses attention on the main *managerial actors* who conduct CV activities (see Figure 9.1). This axis is referred to as *locus of innovation*, which is the starting point of the *direction of CV*. Inside the firm, there is a distinct group of individual actors within specific structural units who undertake a dominant role in managing a series of CV activities. The combination of these individual actors and the structural units in which they reside collectively form the *locus of innovation* (see Section 7.3).

Considering the *depth* (multiple levels of structures and actors) or RO, a multi-layer framework (MLF) composed of five layers (see Figure F.1 in Appendix F) was developed (see Section 7.3.1). The MLF enabled identifying distinct groups of individual actors who resided in two *L2* level units within the R&D side and the marketing side of the firm (see Section 7.3.2). These are the two potential *loci of innovation* at Company Alpha (see Figure F.2 in Appendix F); each *locus of innovation* had their own logic and also there was mutual competition between the two sides.

Changes in the *locus of innovation* are identified from the analysis of the organizational charts at critical junctures (see Appendix G): main managerial actors (and the structural units they reside in) of CV activities swung between the *technology* and the *marketing* sides within the firm (see Section 7.3.3). This change can be theoretically interpreted from the RO perspective. The resource orchestration process was initiated by a CEO's (*L1* manager) resource *structuring* action through annual reshuffling. The change of the *locus of innovation* was often a result of top management's resource *structuring*. Subsequent RO actions were then delegated to the lower level managers (*L2–L5* manager).

Changing strategic objective (the Y axis)

On the conceptual framework, the Y axis represents two possible primary aims of CV programs

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(see Figure 9.1). This axis is referred to as *strategic objective*, which is the end point of direction. From the RO perspective, middle managers, who are delegated to carry out resource-related actions, conduct resource orchestration actions by designing and operating a range of CV activities in the form of 'programs'. Here, the *breadth* (multiple levels of strategies) of RO informs that middle-level managers' resource orchestration actions *themselves* need to be guided by an overarching strategy (i.e. program-level strategy), which may not be the same as corporate- or business-level strategies (see Section 7.4.1). Therefore, multiple levels of strategy in the context of CV were articulated using 'strategic layers of CV' (see Table 7.3), which helped discern two primary *strategic objectives* of CV programs: *exploration* and *exploitation* (see Section 7.4.2)*. Exploration* means to *identify* new business opportunities by searching for new ideas (business, service, etc.) from a variety of sources internal and external to the firm; whereas *exploitation* means to *utilize* identified business opportunities (e.g. new business ideas) by securing access to vital resources (technologies, business networks, etc.).

Changes in the *strategic objective* of CV programs are identified from the analysis of ten CV programs conducted in the history of Company Alpha (see Table 6.3): a series of CV programs were developed, terminated, and then re-started with changes in the primary strategic objective of the CV programs between *exploration* of new business opportunities and *exploitation* of identified opportunities (see Section 7.4.3).

9.2.3 Factors for the changing direction of CV

The case study of Company Alpha's CV programs in Chapter 5 and 6 were analyzed in Chapter 8, focusing on factors that influenced changes in the direction of CV. The analysis suggests that there are three main factors, which are associated with managerial actors positioned at different levels within the organization, and their interplay with other actors and technological changes. Here, the multi-layer framework (MLF) (see Figure F.1 in Appendix F), which was

developed to articulate the *depth* of RO, is also found to be a useful framework to examine the role of actors across different levels of the organizational hierarchy.

The first changing factor is *how a chief executive sees the role of R&D and innovation*. The CEO of the firm is a top-level managerial actor (the *L1* manager) (see Section 8.2.1). As a conductor of *resource orchestration*, CEOs of the case study firm (e.g. CEO#5, CEO#6, and CEO#7) were the main actors involved in resource *structuring* actions. As discussed in Section 7.3.3, they fostered or shifted the *locus of innovation* by means of annual reshuffling, and sometimes by ad-hoc reshuffling, between the technology side (i.e. *technology-driven*) and the marketing side (i.e. *market-driven*) of the firm. These were deliberate structural and human resource changes implemented by those CEOs. During these changes, the location of the CV unit was also changed, because this unit resided in the locus of innovation. The empirical evidence suggests that the changes in the locus of innovation were affected by CEOs' perception on the role of R&D and innovation, which were varied by CEOs and sometimes changed during a single CEO's tenure. For example, those who believed (e.g. CEO#7), or came to believe (e.g. CEO#5) that the roles of R&D and innovation were more important in the innovation process accumulated resources for innovation on the technology side (e.g. the Corporate R&D Center). By contrast, CEO#6, who emphasized employees' interactions with customers in markets and the role of the innovation process in scaling up the size of new business ideas, accumulated resources on the marketing side (e.g. the Strategic Marketing Office) (see Figure 7.5).

The second factor is *the identification of strategic technologies,* which have substantial potential to generate new business and technological opportunities (see Section 8.2.2). It should be noted that technologies *themselves* were insufficient to act as a factor that could change the direction of CV. Instead, the value of *strategic technologies* to the firm had to be *identified*, or recognized, by internal actors. As found in Chapter 5 and 6, the case firm's first CV cycle began after the identification of Internet technology. Similarly, the second cycle was

initiated after a top-level managerial actor (CTO#12, a *L2* manager), who led the Corporate

R&D Center, recognized the strategic importance of 'smartphone' and 'cloud computing'

technologies. As a result, each cycle was initiated by exploratory CV programs from within the

technology-driven locus of innovation (see Figure 9.1). More specifically, in the second CV cycle,

CTO#12 recognized in 2007 that *smartphone* and *cloud computing* would collectively bring

substantial new opportunities to the firm (see Section 6.2.3). By interacting with members of

the Corporate R&D Center (*L2* to *L5* managers) (see Figure 8.5) and also with the CEO (the *L1*

manager) and other C-level executives (*L2 managers*) (see Figure 8.6), CTO#12 gathered scarce

resources from across the firm (e.g. financial and human resources), and successfully

transformed the Corporate R&D Center into the *locus of innovation* (see Figure 8.4).

The third factor is *the strategic freedom of middle-level managers* (*L5* managers) who resided

within the locus of innovation, especially the CV unit (see Section 8.2.3). These *L5* managers,

who were delegated resource-related actions from the top (CEO and CTO), designed detailed

plans for CV programs and operated newly developed programs. The key issues then were

setting the primary aim of CV programs. Sometimes, they organized strategy development

projects (e.g. the Open Venturing Strategy project and the Corporate Venturing Strategy

project) (see Figure 8.7) to decide their new program-level strategies. These projects were not

mandated from the top; instead, *L5* managers (e.g. I-SM-B) proposed the plan for a strategy

development project. For example, the Open Venturing Strategy (OVS) project was started

after I-SM-B realized the importance of idea *implementation*, rather than ideas themselves (I-

SM-B, personal interview, 2015). After the six-month OVS project, the Acceleration-α was

launched in mid-2012 to address the need to implement enormous numbers of ideas

(increased from 1,721 in 2011 to 6,154 in 2012) (see Figure 8.11). Similarly, the Corporate

Venturing Strategy (CVS) project was started because the time to commercialize ideas

gathered and nurtured by previous CV programs was too long (I-SM-B, personal interview,

2013). As a result, the Global CVC-α, which is a CVC program based in Silicon Valley, was started in order to secure specific technologies already defined in the technology roadmap (i.e. to *exploit* identified opportunities).

9.2.4 Changing direction and the evolution of corporate venturing

From an understanding of *direction* developed in this thesis, the conceptual framework about the *direction of CV* allows us to better understand and explain Company Alpha's repeating CV cycles. This addresses the second research question, which is about using an idea of 'direction' to help explain the phenomenon of 'CV cyclicality' at the level of the firm.

Based on the analysis of ten CV programs from 1990 to 2015 (see Table 6.3), changes in the direction of CV can be mapped onto the framework (see Figure 9.2). Here, we can observe a pattern of change within the two CV cycles, which is composed of four stages: *initiation*, *reproduction*, *variation*, and, in the second cycle only, *adaptation*.

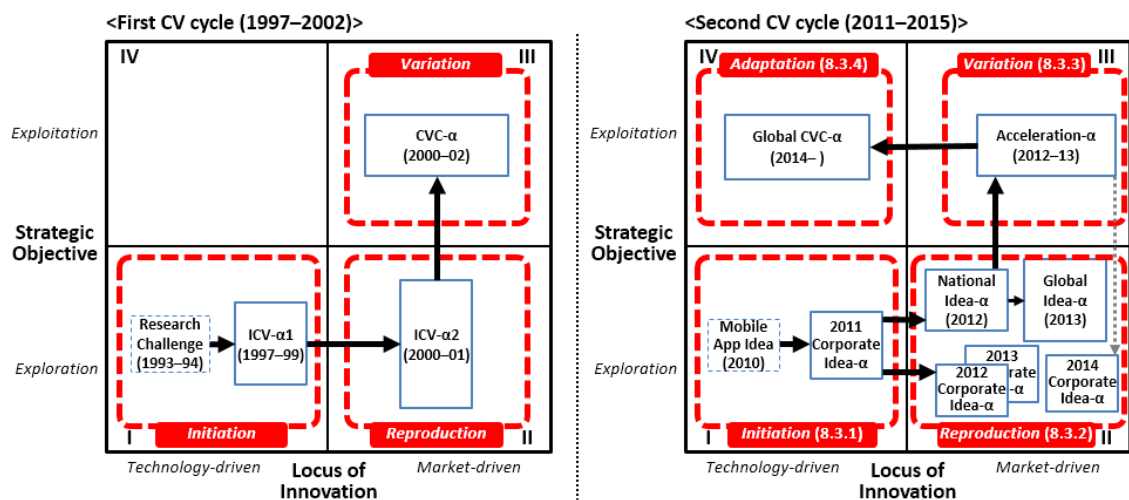
Figure 9.2 Changing direction of CV and the evolution of CV at Company Alpha
Source: Developed by the author.

Company Alpha's repeated CV activities in its twenty-six years (1990–2015) history can be explained as *repeating evolutionary CV cycles* aimed at new resource combination. Specifically, this thesis makes its main argument about the *CV cyclicality* at Company Alpha: rather than

being terminated separately, a series of CV programs evolved over time for the purpose of combining resources in a new way; results of deliberate and experimental efforts then formed an *evolutionary cycle of CV*. The thesis also argues that what was terminated during the firm's repeated CV activities was, instead, a distinct evolutionary cycle of CV, which later re-initiated with the next CV cycle. It should be noted that the term 'evolution' is not being used in a Darwinian way, which is related to random variation. Part of the firm's evolutionary CV cycles is found to be the result of proactive and deliberate experiment (Tidd and Bessant, 2014).

The findings about *evolutionary CV cycles* suggests that there are potential *pathways* along which the firm conducts a range of CV programs. As discussed in Section 8.3, in the *initiation* stage, small-scale idea gathering programs were started on the R&D side of the firm, which later acted as prototypes and evolved into CV programs to *identify* new business opportunities by searching for new ideas new to the firm. The research suggests that the initiation of both CV cycles was highly influenced by the identification of *strategic technologies* by internal actors (see Section 8.2.2). In the *reproduction* stage, the *locus of innovation* was shifted to the marketing side of the firm. As CV activities became more closely aligned with the firm's business strategy, the scope and scale of CV programs were expanded to search for the firm's core business items in the future. At the *variation* stage, however, the primary *strategic objective* of CV programs was changed to *utilize* identified business opportunities (e.g. new business ideas) by securing access to vital resources (technologies, business networks, etc.). In the first CV cycle, CV programs were terminated at the *variation* stage; whereas, in the second cycle, a process of *adaptation* enabled CV programs to survive.

9.3 Contributions towards knowledge

9.3.1 Contribution to the CV literature

Firstly, this thesis contributes towards the CV literature by providing a detailed and empirical evidence-based explanation of *CV cyclicality* at a large Korean high-tech firm. The argument about the firm's repeated CV activities (see Section 9.2.4) goes beyond a relatively simple dichotomy between *termination* (e.g. Gompers and Lerner, 1998) and *evolution* (Fast, 1977) in the CV literature. This insight helps us understand *CV cyclicality* (e.g. Fast, 1978; Burgelman and Valikangas, 2005) at the level of the firm in a new way: *repeated evolutionary CV cycles* aimed at new resource combination. From this evolutionary pattern, it can be suggested that a firm's CV (and CVC) activities are not so much a unitary concept, but rather a range of different programs with varying strategic objectives undertaken by different actors within the firm. Hence, the thesis can also contribute as a program-level study of CV activities within a single firm over time, which helps bridge a divide between the CV and the CVC literature.

Secondly, this thesis contributes to the CV literature by providing an empirical insight that can help managers (e.g. CV practitioners) manage their CV activities. Assuming that CV activities can be a periodically emerging innovation practice in the history of a firm, practitioners of the firm may well benefit from knowing their own history of CV. At Company Alpha, one CV cycle was completely discontinued at its peak, but a new CV cycle was re-initiated after nearly a decade. Seen through the *direction of CV* framework (see Figure 9.2), CV programs in the second CV cycle were developed and operated in a similar way to the previous CV cycle although the latter cycle was initiated and operated by totally new managerial actors.

Nevertheless, almost *no* organizational memory about their previous CV efforts remained in the firm. For example, it is found that they did not initially intend to start a CV program in the second CV cycle. Instead, actors in the CV unit only realized *in hindsight*, in the middle of the

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cycle, that a series of innovation programs they had been operating would be called *corporate venturing* by others (see Section 8.4). If, as is expected, there will be another CV cycle, which will be re-initiated if and when the firm identifies new strategic technologies, Company Alpha's managers will benefit from knowing its own history and the *repeated evolutionary CV cycles* identified by this thesis.

Thirdly, this thesis contributes towards the CV literature by compiling and documenting a detailed explanation of the 26-year timeline of the case firm. In the CV literature, as Makarevich (2017) recently pointed out, "the internal organizational environment in which ventures emerge and operate … is the area where we lack understanding the most" (Makarevich, 2017: 189). This thesis provides the result of empirical observations and documentation of CV activities and the corporate context (including business history), and this helps develop a deeper understanding of corporate venturing conducted by large established firms (particularly by a large Korean firm).

For external observers, researchers often do not have good access to data about large firms. Furthermore, publicly available data, such as newspaper articles, is either limited in its explanatory level, or sometimes, mere representations of what they want people outside the firm to know about them. An External Communication Senior Manager at Company Alpha confirmed that if and how to announce a press release is a highly strategic decision (EC-SM, personal interview, 2014). These could be some of the reasons why many large firms are treated as a 'black box' in many cases.

The 26-year timeline (see Appendix D) was compiled through the researcher's interviews and the in-depth analysis of multiple types of business archives (e.g. meeting minutes, organizational charts, etc.). In order to develop a whole timeline, retired employees and external collaborators were additionally interviewed. Internal actors were found to be fully

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emerged with their everyday operation of programs, while not retaining their previous organizational memories. In addition, business archives were found to be inadequately managed due to practitioners' demanding operational tasks. Therefore, identifying and collecting the data, and weaving those data into the timeline, which is one of the important empirical outcomes in this thesis, would be a significant empirical contribution to the CV literature.

9.3.2 Contribution to the strategy and innovation management literature

This thesis contributes to the strategy literature by clarifying concepts of direction in strategic settings (Type I and Type II direction) and by suggesting a new way of framing direction (the *direction of CV*). Direction is a key attribute of change (Demers, 2007), and it is a dimension that helps us discern changes and decide future strategic movements. These Type I and Type II directions focus on *where* a firm is aiming to go, which is central from a 'rationalist' school perspective where changes are seen through the rational lens on strategic change (Rajagopalan and Spreitzer, 1997). However, considering the shift in the organizational change literature, where organizations are seen as tightly integrated systems that can change themselves *proactively*, the concept of direction in innovation settings needs to be updated to take this theoretical shift into account.

In this regard, the thesis also contributes to the strategy and innovation management literature by suggesting a new framing of *direction* from an internal firm perspective. This new framing updates the direction from a 'rationalist' school focus on *where* a firm is aiming to go, to one which considers both *who* in the organization (managerial actors residing in the structure) innovates and *why* (program-level strategies). The *direction of CV* framework helps us understand organizational and strategic change in a new way that organizations can generate changes *proactively* by reconfiguring their internal elements, even without stimuli

external to the firm. The thesis demonstrates that this new framing is theoretically useful as it helps explain *CV cyclicality* at the level of the firm, which is an important but under explored phenomenon in the CV literature (Burgelman and Valikangas, 2005). Specifically, the new framing of direction (the *direction of CV*) helps us understand and explain the process of the repeat of CV activities from the perspective of new resource combination.

9.3.3 Contribution to the resource orchestration literature

This thesis makes a theoretical contribution to *resource orchestration* (RO) theory (Sirmon et al., 2007; Sirmon et al., 2011) by improving its understanding and updating theoretical building blocks. RO theory is at a nascent developmental stage; however, it has a great deal of potential to explain the role of managers' resource-related actions (resource *structuring*, *bundling*, and *leveraging*) and the process of resource combination (see Section 3.4.1). Specifically, Sirmon et al. (2011) have suggested that this theory's prospective future research agenda involves the *depth* (multiple levels of structures and actors) and *breadth* (multiple levels of strategies) of RO. However, these agenda have not yet been effectively explored and developed both theoretically and empirically.

By analyzing the multiple levels of strategy and structure within the firm, the empirical analysis improves our understanding of the *breadth* (multiple levels of the firm's strategy) and the *depth* (multiple levels of structures and actors within the firm) of RO. More specifically, in the context of the firm performing corporate venturing, multiple levels of strategy (i.e. the *breadth* of RO) are more clearly articulated using 'strategic layers of CV' (see Table 7.3). In addition, multiple hierarchies in *structure* and *actor* (i.e. the *depth* of RO) are more clearly understood by applying a 'multi-layer framework (MLF)' for structural and actor analysis (see Figure 7.3).

This thesis contributes to RO theory by providing a detailed empirical explanation of the *depth* of RO. As noted in Section 7.3.3, Sirmon et al. (2011), by drawing on Floyd and Lane (2000),

hypothesized that the interaction across different managerial levels in organizations occurs when "top management is more likely to delegate authority to middle managers to direct the necessary structuring, bundling, and leveraging actions." (Sirmon et al., 2011: 1405). Unlike the top management's resource orchestration action (e.g. Chadwick et al., 2015), however, our theoretical understanding of the role of middle level managers is still limited. The research's findings highlight that RO actions in the large firm are often initiated by top management's resource *structuring* action by means of *organizational reshuffling* (see Section 7.3.3). Through *reshuffling*, top management (e.g. CEO) changes the location of main managerial actors conducting CV activities (i.e. changing *locus of innovation*), and subsequent RO actions are delegated to these lower level managers.

Next, this thesis contributes to RO theory by providing an empirical case of the *breadth* of RO. This thesis demonstrates that, after the 'delegation of authority from top management' (Sirmon et al., 2011: 1405), middle managers' RO actions themselves need to be guided by another level of strategy which may not be the same as corporate- or business-level strategies. The thesis suggests that the strategy for the CV program can be helpfully guided by two primary strategic objectives: *exploration* (i.e. to *identify* new business opportunities) and *exploitation* (i.e. to *utilize* identified business opportunities) (see Section 7.4.3).

9.3.4 Methodological contribution

This thesis makes a methodological contribution to the study of large firms, especially in non-English speaking countries, by providing a detailed explanation of the research design and the processes of data collection analysis. These strengthen the 'replication logic' (Yin, 2013) of further research, and they can also be used as a source of reference for other researchers who have to address similar issues.

This thesis has developed a 'multi-layer framework (MLF)' for structural and actor analysis (see

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Appendix F) which helps analyze the organizational charts of large Korean firms. The case firm's organizational charts at critical junctures (2000–2013) were obtained for the analysis of dynamic strategic and organizational changes within the firm over periods of time. The results of the analysis through the application of this framework are displayed in a systematic way (see Appendix G). The five levels in the MLF can be utilized in the analysis of other large firms' structures and multiple levels of actors.

Next, this thesis provides a practical example of how to ensure the anonymity of the case study firm and interviewees for the purpose of confidentiality, which is a central element of ethical social research (Wiles et al., 2008). There were some issues, which arose, such as the distinctive characteristics of the case firm and the preferences of some of the interviewees who wished to be identifiable. However, every effort was made to handle these issues. The primary method was the use of systemized codes for interviewees. Other methods include the disguising of identifiable titles of data sources (e.g. business archive, newspaper article, etc.); names of organizational units; and other characteristics of interviewees (e.g. business title, gender, etc.).

Lastly, the case firm and most primary data used for the analysis in this thesis are collected from Korea, hence there is acknowledged subjectivity in the research settings. Translation is seen as 'negotiation' (Eco, 2003) between a translator, original speakers and authors in the context of different language systems. This subjective nature of translation was addressed by explicitly dividing the language used for the thought and the analysis processes (the Korean language—the language of interviewees and business archives) and the language for written words (the English language), which were used in ex post translation processes.

9.4 Limitations and the direction for future research

The research design of this study—a qualitative case study of a single large established firm—demonstrates its benefits by usefully addressing the research questions and developing the

findings of the research, such as a repeating pattern in the case firm's CV cycles which has not been previously observed. However, this study includes several limitations as follow.

The first limitation is about generalization of the findings (i.e. to achieve external validity). This thesis does not claim that the empirical *data* collected from the empirical settings (that is, from the case firm) is generalizable beyond this specific case. As underlined by Yin (2013), external validity in this sense is achieved by *statistical generalization* in which "an inference is made about a population (on universe) on the basis of empirical *data* collected from a sample of that universe" (Yin, 2013: 40; emphasis added). In the case study approach, however, it is less relevant to achieve external validity through *statistical generalization* (*Ibid.*). Instead, this thesis (a case-oriented in-depth study of a single exemplar case firm) aims to achieve external validity through *analytical generalization* in which some theoretical findings or concepts, either applied to or emerged from the research, can go beyond the specific empirical settings (Miles and Huberman, 1994; Yin, 2013).

Specifically, this thesis does not generalize findings about the evolution of CV cycles beyond the specific firm that was empirically examined through the study. Similarly, Robert Burgelman also noted in his classic single firm case study on the process of corporate venturing: "Concerns of external validity were traded off against opportunities to gain insight into as yet incompletely documented phenomena" (Burgelman, 1983b: 224). However, the conceptual framework about direction draws on a theory about *resource orchestration* which is enhanced by the research's findings. This study therefore improves the generalizability (*analytical generalization*) of its findings as it helps RO theory's analytical usage go beyond the specific case in the thesis.

Importantly, there are other analytically generalizable findings from the thesis, such as shifts in the CV program-level strategy between *exploration* and *exploitation* and tensions between

technology-driven and *market-driven* locus of innovation. These shape the future research agenda suggested by the findings from this thesis. For example, some people might think that a division of R&D and marketing units is flexible and vague in the case of small firms and ventures, making a sharp distinction between their two *loci of innovation* (*technology-* and marketing-driven) less clear. However, several professionals in small firms confirmed in discussions, which took place during the period of research, that similar patterns exist in their organizations (e.g. tension between engineers and marketers within the same team). This suggests that the internal dynamics of small firms and ventures can be examined and interpreted by applying *locus of innovation* while modifying this concept at an individual level.

The second limitation concerns the retrospective nature of the data collection method applied in the thesis. To analyze CV activities repeated over time in the case firm's twenty-six years history since the early 1990s, some data collection (especially those about the 1990s) firstly relied on selected interviewees' retrospective memories. There are several interviewees who performed different key roles with different job titles in their career at Company Alpha. For example, as noted in Section 6.3.4, an Innovation Senior Manager (I-SM-A) during the period of the interviews was himself a Technology Strategy Manager (TS-SM-A) before the annual reshuffling for 2012. Therefore, this interviewee was interviewed about his tasks and opinions, as a person with a then present job title. In addition, the same interviewee was also interviewed about his tasks and opinions in previous days, as a person with a different job title in the past. With this type of limitation, however, every effort was made to increase the data's reliability. This includes "corroboratory strategies" (Yin, 2013: 121) such as triangulation by comparing the interview data with the archival data (i.e. data triangulation) and to ask the same questions about past events to multiple interviewees.

The third limitation concerns the positioning of the thesis as an academic work in the CV literature. This study addresses and explains the phenomenon of interest, *CV cyclicality* at the

level of a firm. The thesis argues that the firm's repeating of CV activities—defined as *CV cycles*—can be understood and explained by using a new framing of 'direction'. However, understandings of CV cyclicality at a national or global level—represented as *CV waves*—are traded off against gaining an insight into developing an understanding of the *CV cyclicality* of a uniquely important firm in Korean CV history. This limitation suggests that more studies on other large firms' CV activities—either in Korea or other countries—will help develop a deeper understanding of the cyclical nature of CV activities at different levels of analysis.

Appendix A: List of interviewees

No	Organization	Name Code	Interview Date	Organizational Unit	Title	Follow-up Needed
1		CTO#12	07 Oct 2014 18:30 (2H)	CTO	Executive Vice President	N
2		EBT-VP	10 Oct 2014 14:30 (1H)	Emerging Business Team	Vice President	N
3		TS-GM-A I-GM	30 Sep 2014 18:30 (2H)	Technology Strategy Group Innovation Group (CV unit)	General Manager	Y
4		TS-GM-B	10 Oct 2014 12:00 (1H)	Technology Strategy Group	General Manager	N
5		TS-SM-A I-SM-A	30 Nov 2014 17:00 (2H)	Technology Strategy Group Innovation Group (CV unit)	Senior Manager	N
6		TS-SM-B I-SM-B	21 July 2013 09:30 (1H) 20 July 2014 18:30 (1H) 13 Aug 2014 05:30 (1H)	Technology Strategy Group Innovation Group (CV unit)	Senior Manager	Y
7		TS-M I-M	28 Oct 2013 13:00 (1H) 13 Aug 2014 05:30 (1H)	Technology Strategy Group Innovation Group (CV unit)	Manager	Y
8	**Company α**	CVC-SM-A (ex)	14 Oct 2014 18:00 (2H)	Innovation Group (CV unit)	Senior Manager	N
9		CVC-SM-B		CVC unit	Senior Manager	N
10		IC-SM	09 Oct 2014 17:30 (2H)	Incubation Center	Senior Manager	N
11		ICV-M-S	24 Sep 2014 21:00 (3H)	*Internal* CV team	Venture Manager	N
12		ICV-M-K	08 Oct 2014 19:00 (2H)	*Internal* CV team	Venture Manager	N
13		ICV-M-J	11 Oct 2014 09:30 (2H)	*Internal* CV team	Venture Manager	Y
14		BD-GM	01 Oct 2014 19:00 (2H)	Mobile Business Division	General Manager	N
15		BS-SM	10 Oct 2014 15:30 (1H) 01 Apr 2016 20:30 (2H)	Corporate Strategy Team	Senior Manager	Y
16		EC-SM	07 Oct 2014 21:30 (1H)	Communication Team (External Communication)	Senior Manager	N
17	**Spin-out firm**	ECV-C	01 Oct 2014 10:00 (2H)	*External* CV team	CEO (Start-up)	N
18	**IgniteSpark**	Choi, HJ	08 Oct 2014 12:00 (2H)	N/A	CEO (Accelerator)	N

19	**Korea Univ.**	Hong, SJ	10 Oct 2014 18:30 (2H)	Business School	Professor of Management	N
20	**Company D**[208]	Park, SH	11 Oct 2014 13:00 (2H)	Company D	Managing Director	Y
21	**LG CNS**	Seo, HY	02 Oct 2014 11:30 (2H)	Business Development Team	Senior Manager	N
22	**SK Telecom**	Lee, KY	06 Oct 2014 11:30 (1.5H)	Corporate Venturing Team	General Manager	N
23	**SK Planet**	Kim, SH	16 Oct 2014 14:00 (2H)	Corporate Venturing Team	Senior Manager	N
24	**KLC (ex)**	Eum, MJ	07 Oct 2014 12:30 (1.5H)	Business Development Team	Senior Manager	N
25	**Cisco (ex)**	Roh, BJ	04 Oct 2014 08:30 (2H)	Business Development Team	Senior Manager	N
26	**Angel Investor**	Roh, JS	13 Oct 2014 19:00 (2H)	N/A	CEO	N
27	**Bain&Compamy**	Lee, SH	10 Oct 2014 17:15 (1H)	Business Strategy Consulting	Principle	N
28	**Ewha Univ.**	Song, SY	07 Oct 2014 15:30 (2H)	Business School	Professor of Marketing	N

* Organizational units indicate the department where the interviewees worked, or are working.
** All names of the interviewees from Company Alpha are disguised.

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[208] Unlike "Company Alpha", this is not a disguised name for the purpose of anonymization.

Appendix B: Interview guide (one-to-one in-depth interview)

Date (duration): *DD-MM-YYYY (H hrs M mins)*   **Interview ID:** *DDMMYYYY_Initial_Count*

Interviewee's Name: **Position and Title:**

Interview Place: **Contact E-mail:**

Notes:

Type of Question	*Interview Questions (selected)*
General questions	• Please tell me about your organization, groups/teams/divisions, and the work that you do • How is your organization structured internally? This could include reference to: - Organizational charts - The role of groups/teams/divisions - Key individuals and the title of their position (or title of their rank) • Can you describe the characteristics of the reporting line from you the CEO of your company? • Who do you collaborate with in the other groups/teams/divisions?
CV and CVC program (program-level)	• Please tell me about the *A program*. This could include reference to: - Ideation processes and categories - Evaluation processes and criteria - Exit strategies (e.g. spin-offs, new CV teams) - Incentive schemes and/or investment processes • How, and when, was the *A program* initiated? • What do you think was the main driving force behind the *A program*'s initiation? • When you operated the *A program*, what was the main goal, aim, of the program? • How many ideas were gathered by the *A program*? What were those ideas about? How were these then developed, and by whom? Can you comment on the current status of those developed ideas? • Why did your team (the CV unit) start the *B program* after the *A program*? What do you think were the reasons for this change? • (If the *A program* was terminated) In your opinion, what do you think was the reason the *A program* discontinuation? • What do you think are the differences between the *A* and the *B programs*?

	• What challenges have you encountered operating CV programs?
CV unit-level	• Please explain the new business development process of your company
	• How has the new business development process changed, or developed, since you were involved in the process?
	• Did you observe, or experience, any difference in your team/programs after the relocation of the team (the CV unit) after the reshuffling (in 20xx)?
	• How does your team work with the CEO, top management team members, and the CV teams?
	• How does your team collaborate with other groups/teams/divisions and other people outside the company?
CV team-level	• Please tell me about the work that you do. What is the business model of your team (a CV team)?
	• What idea(s) did you propose to the *A program*, and why?
	• Subsequent to getting approval from the CV unit, how were your ideas developed?
	• How does your team (a CV team) work with the CV unit, and with the top management team?
	• What challenges have you encountered running your team?
Strategy development project	• What did you do during the *X project*?
	• Who proposed the *X project*, and how was it initiated?
	• What was the main goal, or aim, of the *X project*?
	• How did you work with the CEO and other top management team members in relation to *X project*? What was the main outcome of the *X project*?
	• (To top management team members) Why did you mandate *XX* to the project members working on the *X project*?
Organizational reshuffling	• Please tell me about the organizational reshuffling in the year of 20xx.
	• Why do you think the CEO moved the location of your team (the CV unit) from R&D to marketing (or from marketing to R&D) in 20xx?
	• Can you explain any internal changes after the relocation of your team? What impact do you think the relocation had on your team and program? Did you feel any kind of changes in the relationship between your team and R&D (or marketing)?
Etc.	• What do you mean by changes in the 'direction' of your programs?
	• Please explain R&D processes of your company.
	• What do you think about the role of *Y technology* to your company?
	• What do you think is the most important thing for the successful management of CV?

Appendix C: List of provisional codes

No	Category	Code	Rationale[*]
1.1		#CV-Definition	
1.2		#CV-Objective	
1.3	Corporate Venturing (CV)	#CV-Termination	
1.4		#CV-Type	
1.5		#CV-Process	
2.1		#Strategy-Top Level	
2.2	Strategy	#Strategy-CV Team Level	
2.3		#Strategy-Venture Team Level	
3.1	Innovation	#Innovation-Termination	Phenomena
4.1	Direction	#Direction	Core concept
5.1		#Locus of Innovation	Analytical framework
5.2	Locus of Innovation	#Locus of Innovation-Technology Driven	Analytical framework
5.3		#Locus of Innovation-Market Driven	Analytical framework
6.1		#Strategic Objective	Analytical framework
6.2	Strategic Objective	#Strategic Objective-Searching Opportunities	Analytical framework
6.3		#Strategic Objective-Building Capabilities	Analytical framework
7.1		#Change-Direction	Research question
7.2	Changes	#Change-Locus of Innovation	Research question
7.3		#Change-Strategic Objective	Research question
7.4		#Change-Factor	Research question
8.1	Queries	#Queries-Surprizes	Miles and Huberman (1994)
8.2		#Queries-Puzzles	Miles and Huberman (1994)
9.1		#CV program	Unit of analysis
9.2	Etc.	#Cyclicality	Phenomena
9.3		#Research Question	

* This column indicates why these provisional codes were developed during the first cycle coding stage.

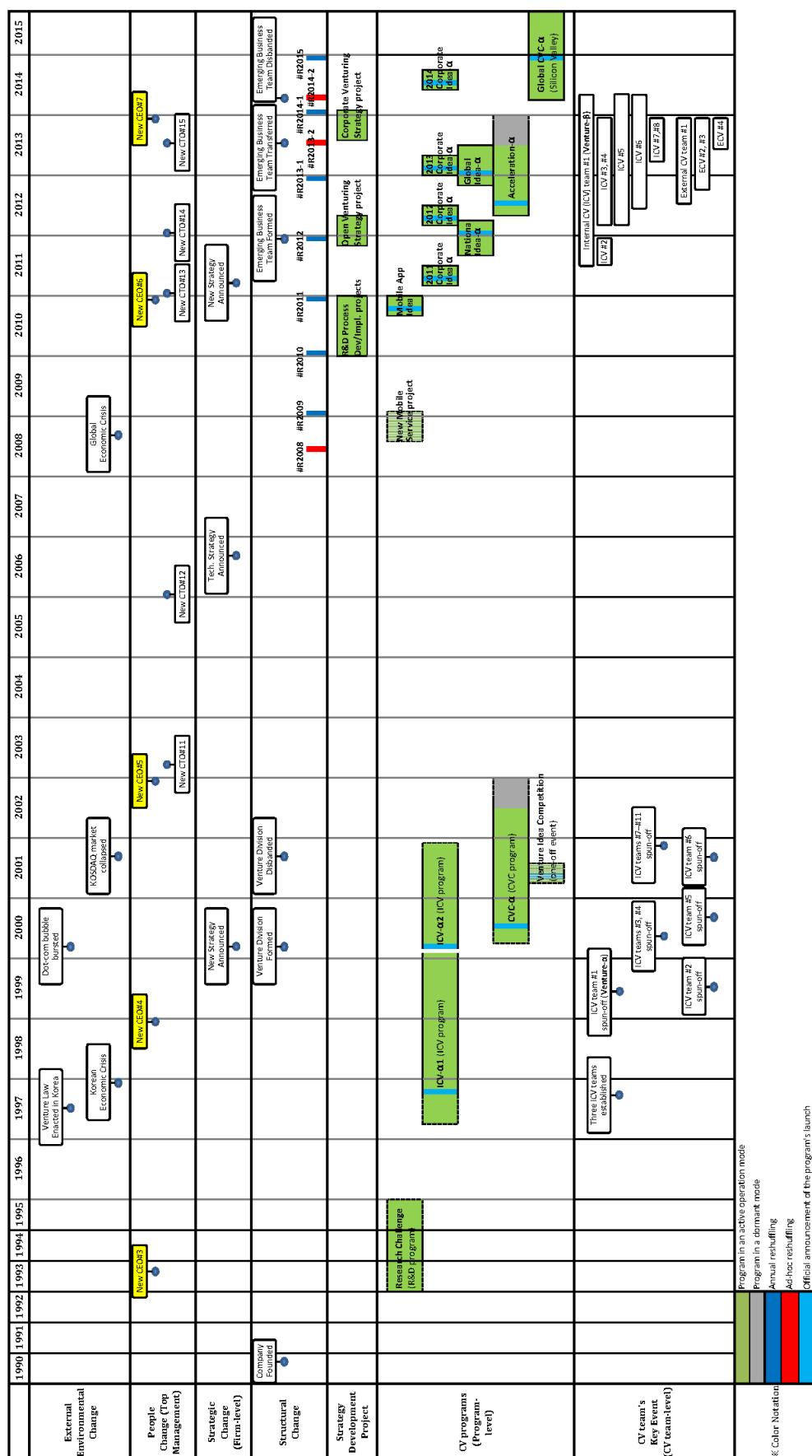**Figure D.1 The 26-year timeline of Company Alpha associated with CV programs (1990–2015) (see Figure 5.2)**

Source: Developed by the author.

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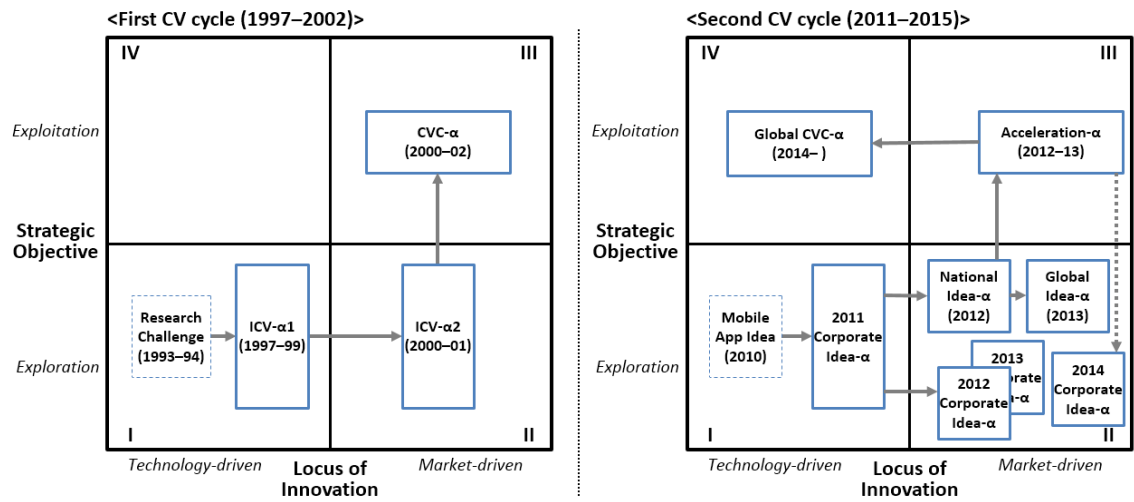# Appendix E: Changing direction of CV and the evolution of CV

Figure E.1 Changing direction of CV in the first and the second CV cycles at Company Alpha (see Figure 7.2)
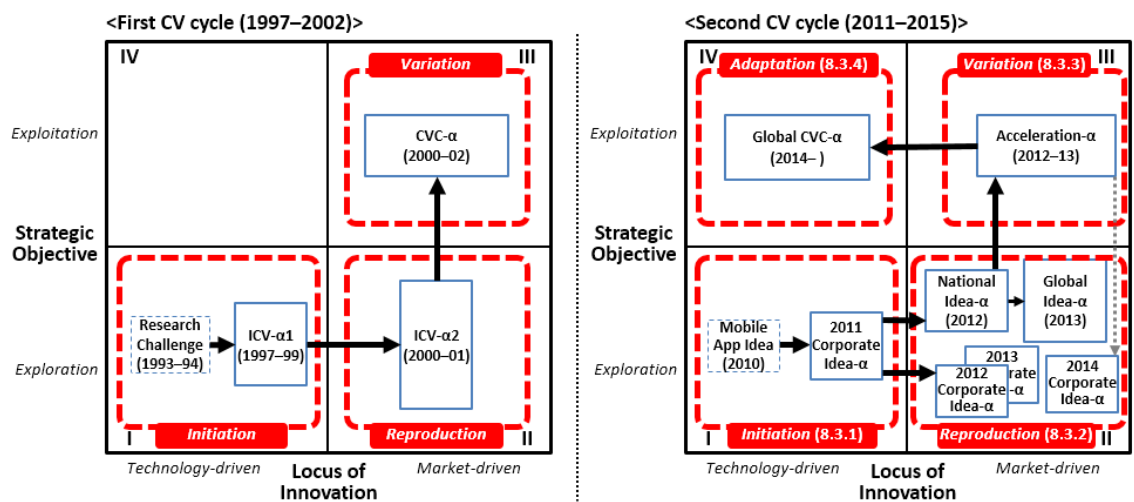*Source*: Developed by the author

Figure E.2 Changing direction of CV and the evolution of CV at Company Alpha (see Figure 8.9)
Source: Developed by the author.

Appendix F: A multi-layer framework (MLF) and two potential loci of innovation
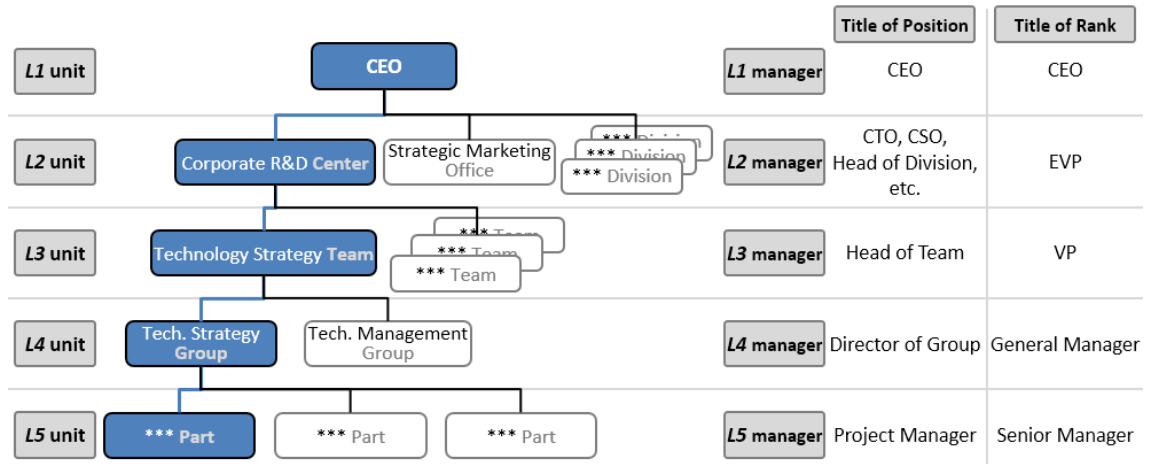

Figure F.1 A multi-layer framework (MLF) for structural and actor analysis (applied to OC#2012) (see Figure 7.3)
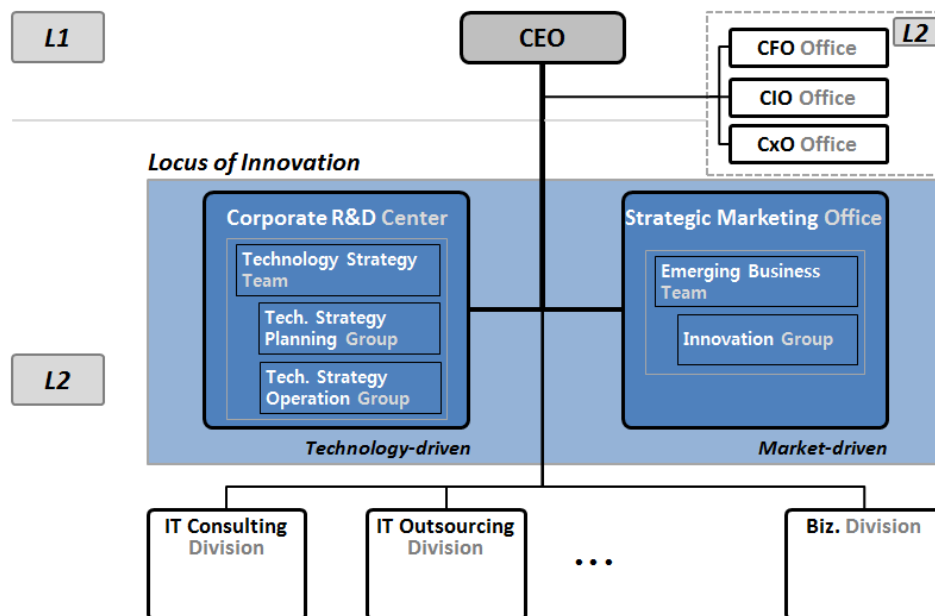*Source*: Developed by the author.

Figure F.2 Two potential *loci of innovation* at Company Alpha (Technology-driven vs. Market-driven) (see Figure 7.4)
Source: Developed by the author.

Appendix G: Organizational charts of Company Alpha at five critical junctures

Chapter 5 and 6 presented five organizational charts of the case firm at its critical junctures. For a more convenient comparison, those charts are included here. These charts are elaborated based on Company Alpha's business archives (e.g. annual reshuffling plans). Structural units colored in blue represent newly formed divisions following the announcement of a new corporate-level strategy. In addition, *italicized* names indicate a change of a person in the position between two consecutive organizational charts.

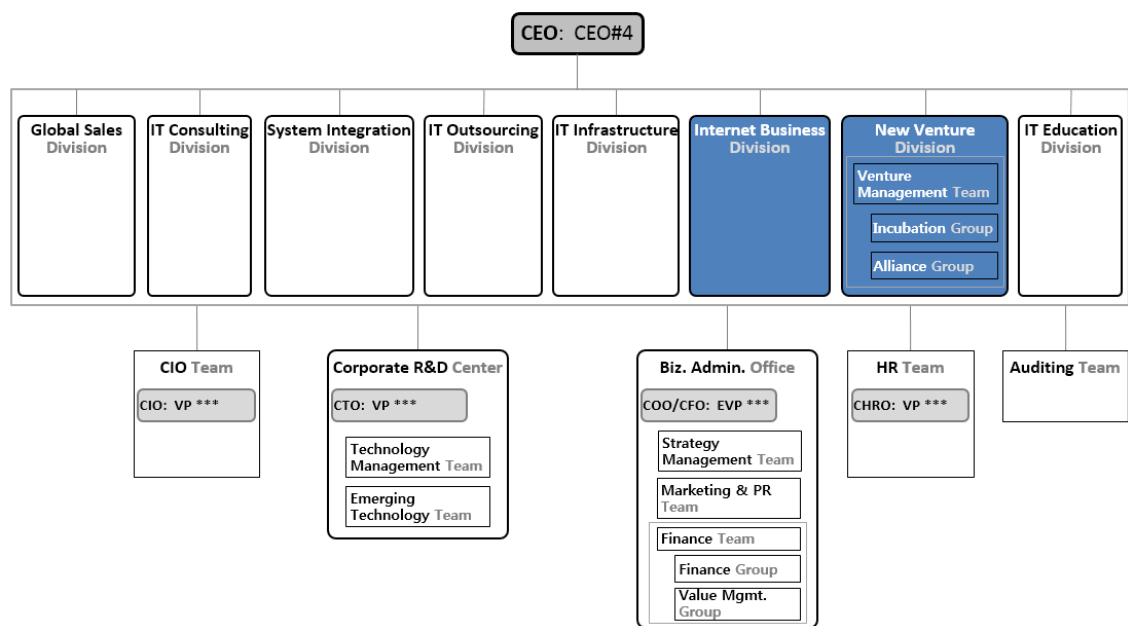*Organizational chart of Company Alpha (March 2000) (OC#2000)*

Figure G.1 Organizational chart of Company Alpha, March 2000 (see Figure 5.4)
* **CFO**: Chief Financial Officer; **CHRO**: Chief Human Resources Officer; **CIO**: Chief Information Officer;
COO: Chief Operating Officer; **CTO**: Chief Technology Officer

Organizational chart of Company Alpha (March 2006) (OC#2006)
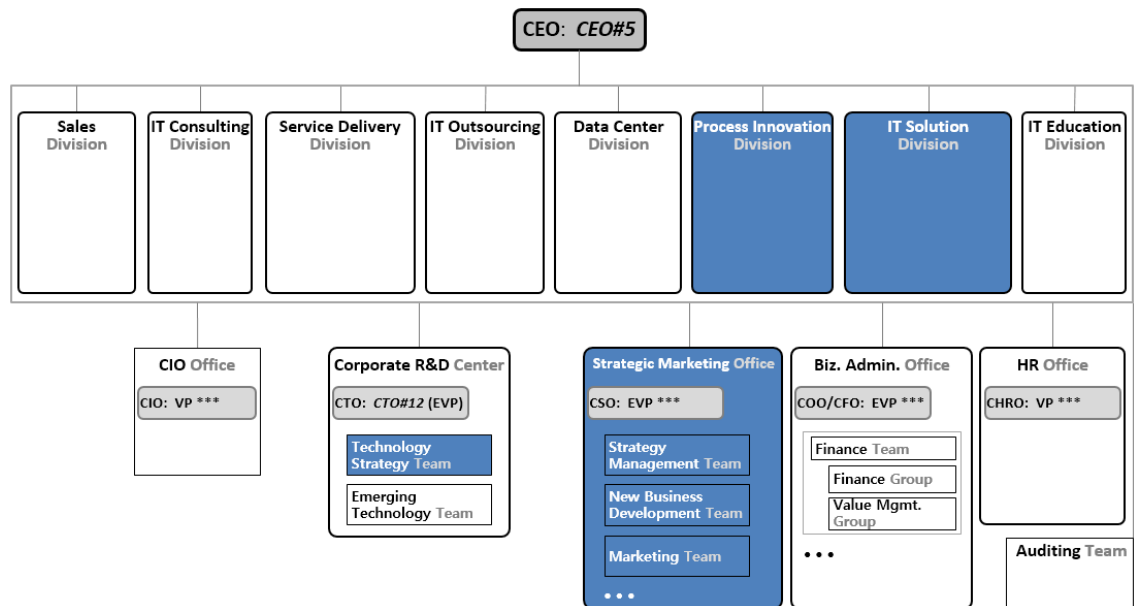

Figure G.2 Organizational chart of Company Alpha, March 2006 (see Figure 6.2)

Organizational chart of Company Alpha (January 2010) (OC#2010)

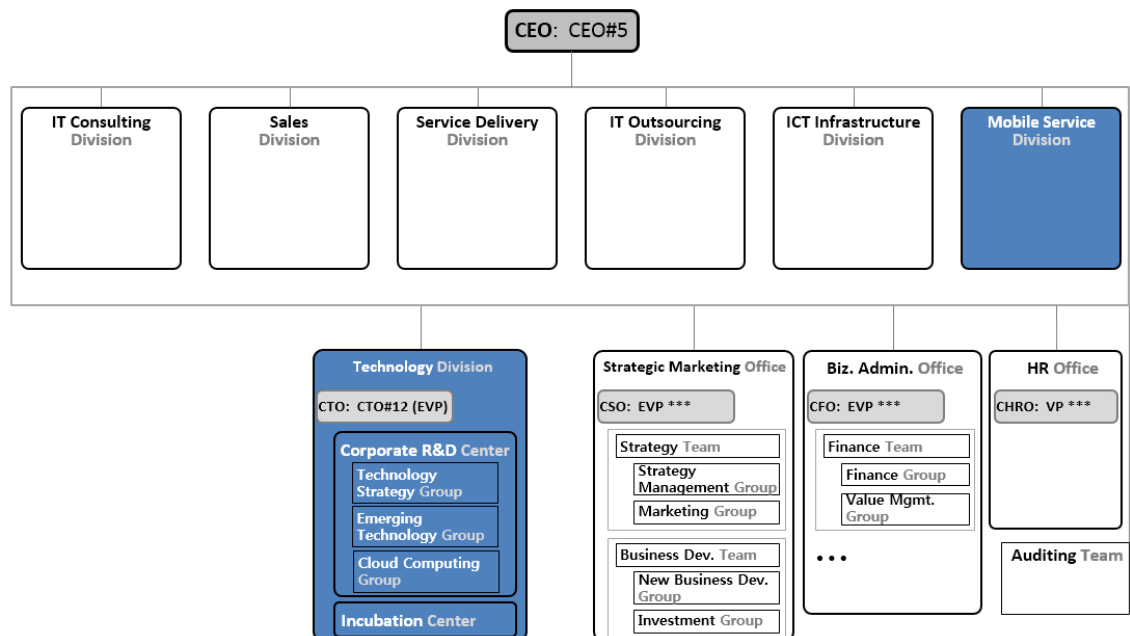**Figure G.3 Organizational chart of Company Alpha, January 2010 (see Figure 6.3)**

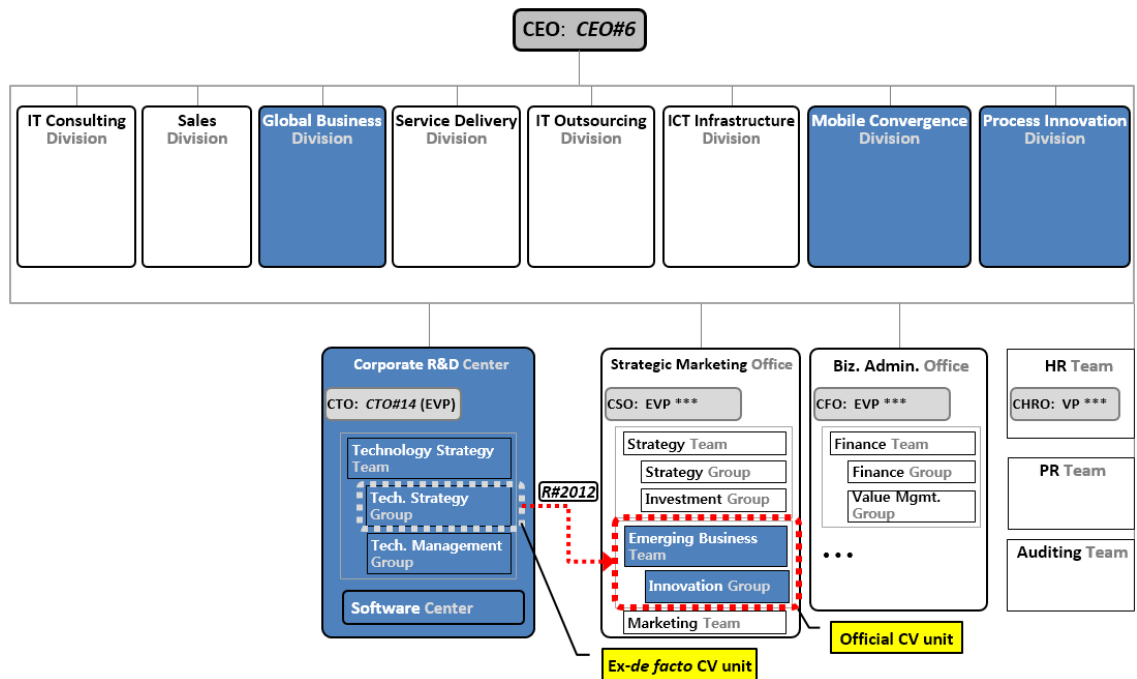*Organizational chart of Company Alpha (January 2012) (OC#2012)*

Figure G.4 Organizational chart of Company Alpha, January 2012 (see Figure 6.4)

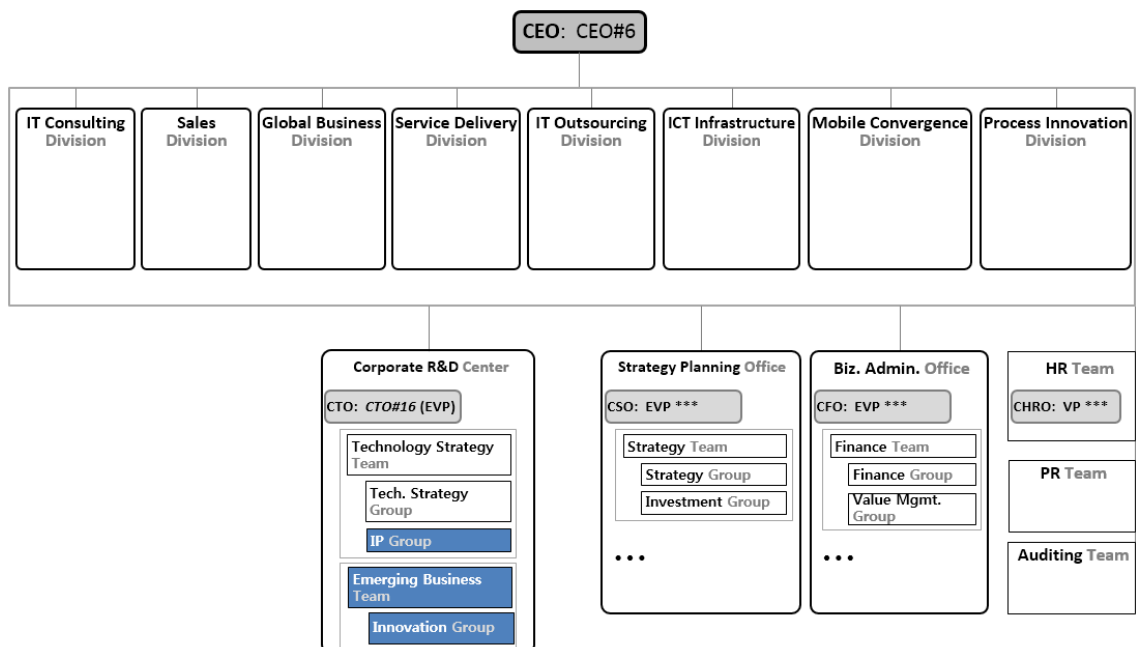*Organizational chart of Company Alpha (January 2013) (OC#2013)*

Figure G.5 Organizational chart of Company Alpha, July 2013 (see Figure 6.5)

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