

TILBURG UNIVERSITY
TILBURG LAW SCHOOL

MASTER'S THESIS

**CORPORATIONS IN THE NEW WORLD: COULD CORPORATE
VENTURE CAPITAL BE THE ANSWER?**

The LL.M. International Business Law master program
Supervisor: Eric P. M. Vermeulen

Tilburg (the Netherlands), June 2016

SABINA LESAR
ANR 256324

TABLE OF CONTENT

INTRODUCTION	1
1. THE NEW BUSINESS ENVIRONMENT	3
1.1 The 20 th century firm versus the 21 st century firm	3
1.2 The 20th century firm	4
1.3 The anti-corporate sentiment and the technological revolution	7
1.4 The 21st century firm	10
2. PARTNERING FOR SUCCESS	17
2.1 Open innovation	17
2.2 Corporate venturing.....	21
2.3 Corporate venture capital.....	22
2.3.1 How do firms pursue corporate venture capital.....	27
2.3.2 Differences in corporate venture capital across industries	32
2.3.3 Challenges.....	34
RECOMMENDATIONS	39
REFERENCE LIST	42

TABLE OF FIGURES

Figure 1. Lifespan of the S&P 500 in years	8
Figure 2. Percentage of the S&P 500 firms with growing capital expenditure, sales and profits ...	8
Figure 3. Market value per dollar of physical assets	16
Figure 4. Closed innovation model	18
Figure 5. Open innovation model	20
Figure 6. CVC League Table 2011-2014.....	31
Figure 7. CVC concentration by industry	33

INTRODUCTION

Globalization and the technological revolution, bringing digital and networked technology (e.g. social media, mobiles, big data and cloud computing), caused a serious disruption to both our personal lives, by changing the way we communicate, socialize and learn, and to the business environment, where it affected the established competition structure and consequently the ways in which corporations organize and create business models (Vermeulen, 2015; Puri, 2014). Particularly affected, was the competition structure, where the dominant firms are being challenged by the so-called ‘new’ or ‘21st century’ firms. After all, Christensen’s theory on disruptive technology tells us that it is precisely technological change that presents one of the biggest challenges for the dominant firms. The latter are burdened by old technology, regulation and compliance, and focused on improving their existing products rather than developing new technology. In turn, this opens an opportunity for new entrants, which successfully utilize this new technology, to outperform and replace the incumbent firms (Christensen, Raynold, & Mcdonald, 2015; Sood & Tellis, 2010; Bergek, Berggren, Magnusson, & Hobday, 2013). In this way the digital and networked technology opened the door for the ‘new’ or ‘21st century’ firms, which utilized it and disrupted the ‘traditional’ or ‘20th century’ firms. Let us look at Alibaba, for example, it is one of the world’s largest retailers today, yet, unlike traditional retailers, it holds almost no inventory (no physical capital), because it was able to connect buyers and sellers directly using digital technology, thus disrupting the competition in the retail industry as well as the established business model for retailers (Colvin, 2015).

Furthermore, in the past the existence of firms could be explained with the theory of the firm. The latter stipulates that firms exist because they are a more efficient way to reduce the transaction costs associated with doing business. In essence, the theory stipulates that if we had to go back to the market every time a business transaction was taking place, and would have to negotiate contracts, hire and then dismiss employees, etc., the transaction costs would be extremely high. If, on the other hand, we establish relationships over time and consolidate these activities and costs within a firm that will bring the costs down and thus be more effective and efficient. However, this stipulation does not hold in today’s networked and digital age. Technology (e.g. software platforms, networked technology) helped reduce these market-based transaction costs allowing firms to unbundle themselves. It became more efficient and less costly to outsource service, production, research and development (hereinafter: R&D) and even employees by utilizing this new technology, rather than consolidating them within the confines of one firm. For example, Apple, Inc. outsources the production of all of their products and Airbnb, Inc. and Uber Technologies, Inc. use software platforms to outsource services. To conclude, all of the above is transforming the business environment towards a project-based model, where people and resources are contracted for a specific project and then disperse, rather than establish long-term relationships within one firm thus driving the traditional firms into extinction (Colvin, 2015; Fenwick & Vermeulen, 2015).

As a result of the mentioned changes in the business environment and in order to retain their market share and sustain growth, the 20th century firms can either break up/spin off into smaller

firms and therefore become more responsive to the technological changes, like Hewlett-Packard for example, or innovate, since innovation is one of the main drivers of growth (Gbadji & Gailly, 2009; Fenwick & Vermeulen, 2015; Vermeulen, 2015). Additionally, as stated above, the 21st century firms have utilized digital technology to their advantage and became the drivers of the technological revolution, which means that the main ideas and technological engineering is taking place outside of the traditional 20th century firms and their internal R&D departments (Dias, Rosenthal, & Schiff, 2013; Park & Vermeulen, 2015). The 20th century firms hence need to look for external sources of innovation to complement their internal R&D and open their innovation process. One of the most prevalent mechanisms for pursuing open innovation today is corporate venture capital. The latter has witnessed a significant growth with over 1500 corporations worldwide having a corporate venture capital unit and its presence in almost every industry across the board. Since corporate venture capital is essentially a firm's direct investment into a startup, it gives the 20th century firms access to the very technological breakthroughs that are disrupting their dominant position and their business. In this way, corporate venture capital also gives the 20th century firms an overview of the industry and enables them to detect and more effectively respond to market disruptions, thus proving to be a viable option for their survival in the new business environment (Gbadji & Gailly, 2009; Park & Vermeulen, 2015; Dias et al., 2013; Chesbrough, 2002; Bielech, Brigl, Khanna, Roos, & Schmieg, 2012).

To sum up, globalization and the rapid technological development have transformed the business environment. The 21st century firms have been able to embrace and use these new realities to their advantage and by doing so transform the competition structure, established business models and the rules for success. One of the possible answers to these changes and a way for the 20th century firms to compete in the new environment is to partner for innovation using corporate venture capital, which is also the topic of this master thesis.

The master thesis is divided into two main parts, an examination of the new business environment or in other words, 'how we got here', and an examination of open innovation and corporate venture capital or in other words, 'how do we respond'. The first part will begin by examining the structure of the 20th century firms, followed by an overview of the societal and technological changes of the 21st century and end by examining how these changes reflect in the newly risen 21st century firms. The second part will explore partnering for innovation by providing a detailed examination of open innovation, corporate venturing and corporate venture capital, followed by an overview of the current trends and challenges in corporate venture capital. The thesis will conclude by summarizing the main findings and giving certain recommendations for the successful future practice of corporate venture capital or in other words, 'where do we go from here'.

1. THE NEW BUSINESS ENVIRONMENT

1.1 The 20th century firm versus the 21st century firm

The result of the changes in the business environment has been the slow demise of and transition from the traditional or 20th century firm to the new or 21st century firm. The 20th century firm was characterized by profits, non-transparent ownership, fixed hierarchy, closed and firm boundaries, mass production and ‘use and throw out’ logic, all of which is now being challenged and reshaped. New engines of global growth, which eliminated international expansion as a source of earnings growth, exponentially increasing pace of innovation, digital and networked technology, communication networks and the financial crisis put the corporations under scrutiny. In particular, their relationship and responsibility towards society, their unethical and unsustainable behavior, work values and work-life balance. So in contrast, the 21st century firm has an innovative and sustainable business model, usually based on the exploitation of digital and networked technology. It changed its inner organizational structure to one of flat hierarchy, open communication and inclusiveness, and it is driven by purpose and intrinsic values. This means that it provides value and vision for its employees, consumers and investors through a strong firm identity and corporate culture. Additionally, in the 21st century external engagement has become crucial, due to the rapid pace of technological innovation. Hence, it is not enough for firms to be intrinsic values driven, they also need to be open to the world by having porous boundaries, they need to collaborate and engage in networks with other firms, employees, consumers, investors and the world in general. In short, they need to have a value driven, outward looking, idea/knowledge based, asset light, human and consumer capital intensive business model (The futures company, 2014; Fenwick & Vermeulen, 2015; The age of the corporation: Big listed firms’ earnings have hit a wall of deflation and stagnation, 2015; Browne & Nuttall, 2013; DiMaggio, 2009).

Table 1. Comparison between the 20th century firm and the 21st century firm

Characteristic	20 th century firm	21 st century firm
Ownership	Non-transparent, unaccountable	Transparent, responsible
Business model	Profit and growth driven, capital and asset heavy, resource consuming - unsustainable	Intrinsic values driven, idea-based, networked, asset light, sustainable
New technology	Challenge	Competitive advantage
Employee	Commodity	Asset
Nature of employment	Life-time, job security, defined jobs	Project-based, job insecurity, fluid definitions
Organizational structure	Pyramid hierarchy, rules and formal communication, separation	Flat hierarchy, open communication, inclusiveness
External engagement	Closed, disconnected	Networked, connected

Source: summarized from The futures company, *The 21st Century Business Planning for success in a changing world*, 2014; M. Fenwick & E.P.M. Vermeulen, *The New Firm: Staying Relevant, Unique & Competitive*, 2015; P. DiMaggio, *The Twenty-First-Century Firm: Changing Economic Organization in International Perspective*, 2009; G. Colvin, *Why every aspect of your business is about to change*, 2015.

1.2 The 20th century firm

The 20th century firm was modeled on the analytical frameworks of Max Weber's theory and model of a bureaucratic firm, on Karl Marx's theory on capitalism and the comments to this theory provided by his successors (DiMaggio, 2009).

Weber envisioned the bureaucratic firm as an organization that steers and harnesses the activities of its employees toward achieving the firm's goals. The main features of the bureaucratic firm were transparent, fair and universally applied rules. The rules defined and delimited everything within the organization, from jobs, positions, qualifications for employment, routines for working, processes and functions, to acceptable employee behavior. The purpose of these rules was to create a fixed hierarchy and to separate the person from the position. By defining not only the employee's job, but also his/her role and the type of acceptable

interaction (formal) within the firm, the rules forced the workers to leave their social and personal lives and networks outside of the firm's door. After all, the employees were not employed to pursue their own goals, well-being or maximize their personal growth; they were employed to help the organization reach its goals. The old firm hence treated the employees as a commodity that was to be efficiently exploited. Another feature of the bureaucratic employment was that the firms tried to motivate the employees and align their interests with that of the firm by providing them life-time employment and job security. The all in all nature of employment in the 20th century firms was therefore one of bureaucracy, transparency, clarity and commitment. Rigorous rules also reduced transaction costs associated with doing business. If we refer back to the introduction, the theory of firm stipulates that the reason why people organize themselves into firms is that they help reduce transaction costs, which would be much higher if every business transaction was to take place in the market. The rules within the bureaucratic firm help reduce the set costs by defining employee activities and making them predictable, which reduces the uncertainty usually associated with the market (DiMaggio, 2009).

Although Marx argued there would be an inevitable conflict between the exploited workers and the managers of the capitalist, profit-maximizing firms, his successors found a rather different conflict still present in the corporate governance of the 20th century firms today and that is the conflict between the managers and the shareholders (DiMaggio, 2009).

Corporate governance of the old firm was characterized by the trident of management, board of directors and shareholders, and was deeply hierarchical and agency-based (Vermeulen, 2015). The role of the board of directors was to monitor the centralized management, for it had the capacity to control and direct the employees' activities toward achieving the firm's goals or more often, their own goals. The managers' capacity for control originated from the fixed hierarchy and separation of people from their position. This is also known as the managerial business model and was wide-spread in the 20th century firms (DiMaggio, 2009; The futures company, 2014). The corporate governance of the old firms was also agency based, as stated above, meaning it was characterized by the agency problem – the conflict between the centralized management and the shareholders. This conflict is essentially a conflict of interests between the shareholders and the management. The shareholders push the firm to maximize its profits, because they can then be distributed to them in the form of dividends. On the other hand, the management directs the firm towards growth, increased market share and financial stability that can then reflect in their bonuses. However, achieving these goals requires for the profits to be held back inside the firm, not distributed to shareholders, so they can be invested and produce growth. In the duration of this conflict there have been many shifts in power between the management and the shareholders, the final of which was an anti-managerial counter-revolution. It enabled the profit maximizing investors to take over the reins of the firm and re-focus it to from growth to high profits. In order to achieve this, the management had to engage in aggressive competition, cost cutting via layoffs, and ensuring short-term financial results (DiMaggio, 2009). The main performance indicators, used to evaluate the performance and value

of such a profit-maximizing 20th century firm, were therefore short-term quarterly results and annual reports or in sum, external benchmarks (Fenwick & Vermeulen, 2015).

Furthermore, in the 20th century firm the external engagement was completely absent due to their closed organizational structure and a model driven by ownership. The organizational structure and with it the firm's boundaries were completely closed and firm, both externally as well as internally. Externally, the old firm was like a fortress, where the only flow was the in- and output of that firm and even that was heavily controlled. Moreover, innovation and R&D were happening behind heavily guarded closed doors, because ownership over intellectual property rights and patents was a source of competitive advantage. Even supplier relations tended to be single and long-term, therefore clearly indicating that the firms had very limited collaboration and networking among them or with the world. Additionally, since workers were expected to leave their personal and social life and networks at the door, this meant that the firm was closed off also to the society and its networks. Internally, the organizational structure was just as firm. All roles, positions, functions and activities were meticulously defined, delimited and governed by rules, even the interaction between the employees and their behavior, making the firm internally disconnected (The futures company, 2014; DiMaggio, 2009).

The firm and closed organizational structure also corresponds to the managerial business model, mentioned above, where fixed roles and processes enabled managers to control, monitor and direct the firm (The futures company, 2014). Hence, due to the power of management and the popularity of the managerial business model, the characteristics of the 20th century firm were heavily influenced also by Alfred P. Sloan Jr. He was a long-time manager of the General Motors Corporation and brought the firm from the industry edge to a Standard & Poor 500 (hereinafter: S&P 500) firm. Based on his experience he wrote a book, *My years with General Motors*, that became the 'go-to' manual for managers and thus the model of most 20th century firms. He argued for a centralized administration and decentralized operations that are monitored and directed by managers and their performance measured by financial indicators like budgets. Therefore, he argued for a model with a fixed organizational structure and a short-term, internal focus (The futures company, 2014).

The 20th century was shaped by the dominance of public companies, the engines of economic progress in that time. Despite shareholder pressures, the corporate model of the old firm was built on a premise of continuous growth and expansion enabled by the 20th century era of abundance. Furthermore, their corporate model was built on extracting value from the employees, the suppliers and the community. The old firms extracted and channeled the energy of its workers and utilized it to achieve its goals, meaning that it was creating value by taking it from others. Additionally, to fuel this need for constant growth, the old firms were firstly creating attractive products, and then creating a demand for them artificially and with aggressive marketing. By creating artificial demand they enabled mass production and the growth of their firms. Unfortunately, since resources in the world are finite such value-extracting, mass producing and mass consuming model was creating enormous externalities at the cost of the society and environment and thus proved to be unsustainable in the long run. Another source of

growth for the 20th century firms was tapping into foreign markets via internationalization. Such an endeavor requires investing and buying assets abroad (e.g. brownfield, greenfield investments), which brings the issue of raising capital and whenever the 20th century firms needed capital they raised it via initial public offerings (hereinafter: IPO). In 1989 the value of equity in IPO firms was an astonishing three trillion dollars and it is safe to say that the 20th century was an era of IPOs and with them publicly owned firms (The futures company, 2014; Jensen, 1997).

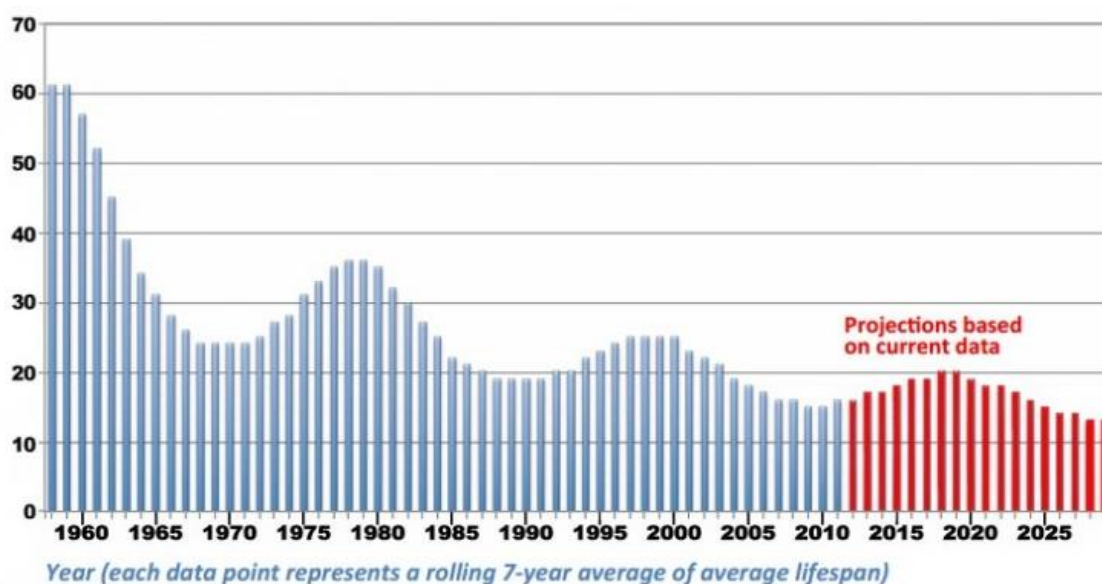
1.3 The anti-corporate sentiment and the technological revolution

Public companies have been a growing source of disappointment and dissatisfaction in the public eye and this anti-corporate sentiment was only reinforced after the 2008 financial crisis. The latter resulted in substantial wage stagnation and widespread unemployment, thus fueling the resentment even further. The anti-corporate sentiment origins, in part, from the conflict of interest between the managers and the shareholders, the previously described agency problem, caused by the fact that managers put their own interest ahead of the firm's (Reinventing the company: Entrepreneurs are redesigning the basic building block of capitalism, 2015). As found by a survey of the Preamble Center for Public Policy (Corporate Irresponsibility: There Ought to Be Some Laws - A Study of the Political and Policy Implications of Public Attitudes Toward Corporate America, n.d.), people were becoming increasingly intolerant of: 'corporations that put the interest of executives and shareholders ahead of their employees and society'. The second origin of the set sentiment comes from the rise of financial institutions, which even further weakened the link between the shareholders of the firm and the firm itself. As a result, the corporation's ownership became even less transparent, since the main investors became mutual and venture capital funds, thus reducing its responsibility and accountability to the public. Lastly, it was the view of the public that economic difficulties (e.g. layoffs, profits not resulting in employee benefits) were a result of corporate greed and profit maximization. Consequently, the sentiments of the public changed. People demanded corporate responsibility towards the society as well as the environment, and more importantly, they did not wish to be anonymous, disconnected parts in a large and greedy corporate machine any longer. They wished to maximize their personal development by being engaged, co-creating and being connected to the product and the firm, and by doing something they were passionate about, as customers, shareholders and as employees (Fenwick & Vermeulen, 2015; Reinventing the company: Entrepreneurs are redesigning the basic building block of capitalism, 2015; Corporate Irresponsibility: There Ought to Be Some Laws - A Study of the Political and Policy Implications of Public Attitudes Toward Corporate America, n.d.).

Furthermore, on the public company side, the lifespan of the S&P 500 was reduced from 61 years in 1958 to 18 years (see Figure 1) and what is more, 75% of them will be replaced by 2027. One S&P 500 firm is replaced every two weeks and the trend is even accelerating (Foster, 2012), thus showing that their capabilities to innovate and stay ahead of market trends are failing (Vermeulen, 2015). The initial public offerings were in decline; managers were solely focused

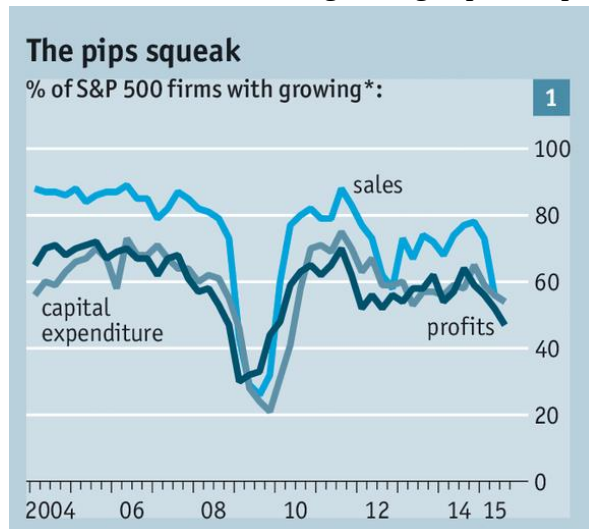
on short term goals (quarterly results) and the rules and regulation were increasing after the Enron case and the 2008 financial crisis, thus eliminating financial industry as a source for profit enhancement. Finally, the sales and profits of the S&P 500 fell from 8 to 5% (see Figure 2) and since such earning recessions are rare, they are a further proof that the old profit-extracting business models were unsustainable (Fenwick & Vermeulen, 2015; Reinventing the company: Entrepreneurs are redesigning the basic building block of capitalism, 2015; The age of the torporation: Big listed firms' earnings have hit a wall of deflation and stagnation, 2015).

Figure 1. Lifespan of the S&P 500 in years



Source: R.N. Foster, *Creative Destruction Whips through Corporate America: To survive and thrive business leaders must "create, operate, and trade" without losing control*, 2012, p. 2.

Figure 2. Percentage of the S&P 500 firms with growing capital expenditure, sales and profits



Source: *The age of the torporation: Big listed firms' earnings have hit a wall of deflation and stagnation*, 2015.

As described in the introduction, the 21st century is the age of digital and networked technology. The technological revolution has gone far beyond the internet and the main technological trends today are cloud computing, big data and analytics, mobile phones and social media, all of which have had an earthshattering impact on the way we socialize, communicate, work and do business. Therefore, it is imperative for the understanding of the new business environment that we examine these new trends, the main implications of which are explored here below. Cloud computing provides platforms and software as service and transforms the firm's infrastructure from the headquarters, physical-asset based infrastructure to a virtual one, that is hosted on a cloud and accessible via mobile phones. The virtual firm infrastructure has two main implications; firstly it enables a physical-capital-light business model, since there is no need for central offices. Secondly, the virtual firm infrastructure increases employee mobility and optimizes talent acquisition, since employees no longer have to be physical present and located at the central offices, but can be located and work from anywhere. This expands the firm's search for talent and means they can hire the best talent in the world and not only within their country. Big data and analytics allow firms to analyze the growing data and create models that predict consumer trends. In this way, big data and analytics enable firms to adjust their demand forecast and consequently their supply, test new ideas and make better business decisions. Mobile phones enable data mobility and tracking, and social media are transforming the demand side of the market. The social media are enacting this change by reducing the information asymmetry on the side of the consumers, making them more selective and demanding instant product availability, and by giving the consumers the power to shape demand trends online and instantaneously. What is more, these revolutionary trends are now converging and causing an even greater disruption. Seeing that the technology also profoundly reshaped our personal lives via smart phones and social media, the people are spending more on technological innovation than the old firms, therefore even deepening the chasm between the latter, which are already behind the innovation capabilities of the new firms, and the innovation curve.

The described technological changes represent either a significant opportunity, by giving the firms scalability, agility, a competitive advantage and better efficiency, or a significant challenge, as it proved for many 20th century firms (Foley, 2014; Puri, 2014; Vermeulen, 2015; Kokalitcheva, 2015). The 20th century firms failed to recognize the changed consumer experience of the social-media and smartphone connected, informed and value demanding consumers. On the account of that failure the old firms did not invest sufficient (or any) resources into internet marketing and online platforms, two necessary tools for acquiring and retaining customers today. Furthermore, they failed to embrace and put to use the new technological advances, reportedly 63% of firms fail to use the opportunities that big data brings. Largely, this was due to the fact that the technological innovation was taking place outside of their closed boundaries and internal R&D departments, yet they were still operating in a model of closed innovation. As a result, the 20th century firms could not innovate at the same speed as the 21st century firms and since even consumers were spending more on technological innovation than most traditional firms, as stated above, this left them behind the innovation curve in every

way. The crippled innovation abilities of the old firms, in addition to their lacking human capital management, produced an impediment on their ability to acquire and retain top talent and since human capital is a vital component in value creation and innovation for firms in the new business environment, their inability to retain it further crippled their innovation abilities (Foley, 2014; McClure, 2015).

1.4 The 21st century firm

The inability of the 20th century firms to adapt to the deep societal and technological changes left the door wide open for new entrants, the 21st century firms, which not only embraced the new realities, but managed to use them as a competitive advantage. Contrary to popular belief, it is not only start-ups from the Silicon Valley that have the features of the 21st century firms. They can be found across the board in different industries, from spectacles to banking, and of all ages, like Nike or even General Electric, which are re-inventing their business models to accommodate the set changes (Colvin, 2015; Vermeulen, 2015; Fenwick & Vermeulen, 2015). As the effects and impacts of these revolutionary changes are still unfolding and remain unclear, similarly, the ways in which they reshaped the consumer and employee relations, organizational structure, corporate governance and business models, continue to be the subject of much debate in the academic circles (DiMaggio, 2009). However, there are certain features of the 21st century firms on which most authors do agree and which will therefore be explored in this sub-chapter. The most notable and impactful new feature is that the 21st century firm is driven and governed by intrinsic values rather than firm rules. The intrinsic values orientation made the new firm not only consumer and human capital intense, but it changed the nature of employment to a more fluid, project based model. It also reconfigured the corporate governance to one of flat hierarchy, inclusiveness and open communication. All of these combined created a de-centralized, porous, open and collaborative organizational structure that is typically found in the 21st century firms. The intrinsic value driven orientation coupled with the networked and digital technology then reshaped the traditional business models to a networked, idea-based, asset-light, outward-oriented business models of the 21st century (DiMaggio, 2009; The futures company, 2014; Colvin, 2015; Vermeulen, 2015; Fenwick & Vermeulen, 2015).

Intrinsic value and consumer capital

The 21st century is a world of an improved consumer experience and modern technology equipped consumers. Technology changed the power dynamics between the firms and the consumers, tipping the scale to the side of the latter. The internet reduced the information asymmetry making consumers more informed, more selective and less susceptible to the manufactured demand imposed by big corporations. This trend was only accelerated by social media and smart phones, which make such information accessible anywhere, at any time and what is more, by using those two digital and networked technologies the consumers are now dictating and shaping demand trends instantly with one tweet or image post (Kokalitcheva, 2015). The 21st century is also an era of intrinsic values. People today no longer view themselves as mere consumers or customers. They wish to be recognized as a whole - as citizens, with their

identity, communities, friends, family, relationship with nature or in short, as citizens with intrinsic values. Accordingly, they support and buy products, brands and firms that reflect their whole life and values. So today, unlike the 20th century firms that were focused on creating an attractive product and then marketing it aggressively thus creating wants, ‘use and throw away’ logic and fuel mass production, the 21st century firm focuses on fulfilling the needs of its consumers, by including them and allowing them to co-create and participate in the designing of the products. Such products are therefore aligned with the intrinsic values and identity of the consumer and are more valuable to them, which results in long-term, deep and sustainable relationships between the consumers and the firm. The collaborative and need-driven production providing tailored and products and services also lowers the consumption of resources, since it does not create artificial demand and mass production, and in doing so, it appeals to another modern intrinsic value – sustainability (addressed further below under business models). The trend has gotten even so far that these intrinsic values became a part of the global economy, through global and social network branding (DiMaggio, 2009; The futures company, 2014).

Human capital and human capital management

Intrinsic values, such as sustainability, identity and friends, have become the driver of the 21st century firms, as described above, throwing a sharp contrast between them and the extrinsic values (e.g. money and success) oriented 20th century firms. Much like the modern consumers, today’s employees no longer wish to be anonymous, de-personalized, formal, exploited parts of a corporate machine. They want to maximize their potential, achieve professional and personal growth through work and with the technological advances, they have more and more opportunities to do so. Not only through 21st century firms that embraced these changes, but even by simply being entrepreneurs themselves. Correspondingly, the new firms provide vision and intrinsic values for their employees with a strong firm identity and corporate culture. The new firms aim for a cooperative form of management rather than the controlling management notorious for the 20th century firms. They also include employees in the decision making process, which requires a flat hierarchy and empowering human capital management. Finally, by corresponding to the intrinsic values of its employees and by including them in the decision-making process the new firm ensures that the employees feel connected to and a part of the firm. Coincidentally, the new firms that reflect these features are also more productive, profitable and deliver better products to their consumers, hence increasing their relevancy (further explained below under performance indicators). Moreover, in the 21st century firm human capital and with it human capital management have become one of the most prominent features. Firstly, this is due in part to the changed nature of employment caused by the rise of the intrinsic values, requiring the firms to create a strong identity, corporate culture and to motivate its employees (human capital management), as described above. Secondly, since the 21st century firm’s business model is knowledge and idea-based rather than capital/asset based (further explored below under external engagement and business models) and relies heavily on the use of complex digital technology, this makes the employees the central assets of the firm, much like in law or consulting firms. Therefore, the main source of value creation and innovation comes from the

employees, making the new firms human capital intensive. Due to their human capital intensity, the 21st century firms must dedicate substantial efforts not only to human capital management, but also to talent acquisition and retention (Fenwick & Vermeulen, 2015; Vermeulen, 2015; Foley, 2014; Puri, 2014; DiMaggio, 2009; The futures company, 2014).

The nature of employment

In the 21st century the nature of employment has changed and not only in terms of employees demanding value and viewing the firm as an opportunity that can contribute to their personal and career growth. The formal job, position and function definitions, delimitations and rules that dominated in the 20th century firm have become fluid and blurred due to the new firm's flat hierarchy, horizontal relationships and digital technology. Formalities and rules on behavior, assigned to specific job positions and seniority within the firm hierarchy, have all but evaporated in the new business environment of collaboration and open communication between the executives and the employees. The life-time employment of the old firms is no longer an option, because much like firms themselves, jobs have been decoupled from the firm. The new firms are outsourcing not only service and production, but also work, hiring employees only for specific projects. This means that employees no longer spend their entire lives working for one firm, but are a part of project based or alliance based models of employment. Consequently, there are no such things as clearly defined jobs and positions, regular wages and job security. Despite the loss of life-time employment, viewed in the 20th century as a way to incentivize employees and align their interests with the firm's, the project based models create more binding ties with the employees, since the latter only engage in projects that they are passionate about and that are aligned with their values. This represents a significant change from the bureaucratic, transparent, commitment oriented employment model of the 20th century. Furthermore, digital technology has expanded the working environment and changed the nature of employment and the organization of a firm in two ways. Firstly, it allows employees to work from anywhere and at any time via online communication, clouds, etc., meaning that firms no longer need headquarters and centralized offices. This changes the infrastructure of the firm from a physical to a virtual one, which further reduces and blurs the 20th century centralized control emphasis and rigorous rules. Secondly, by enabling firms to hire people from all over the world, it maximizes their talent acquisition capacity and ability, for now they can hire the best talent for the specific job, not only the locally available one (Fenwick & Vermeulen, 2015; DiMaggio, 2009; The futures company, 2014; Kokalitcheva, 2015).

Performance indicators

Since the orientation of the 'new' firm is driven by intrinsic values rather than profit, cost and growth, it can measure its performance by more relevant internal indicators than quarterly results or other external benchmarks. The new firm has gone beyond budgeting and calendar planning, because it needs to be dynamic and fluid to respond to modern consumers. The latter, as mentioned above, support products, brands and firms, with which they identify and that reflect their intrinsic values. The true measurement of a firm's performance should therefore be, whether the products or services it provides are relevant and meaningful for the consumer. In this

way, relevancy becomes the new performance indicator that measures whether the firm produces meaning for its stakeholders. Coincidentally, measuring performance by relevancy implicitly includes sustainability as a benchmark for the firm's performance. Since producing products that correspond to the consumer's needs rather than manufacturing demand reduces the use of resources and the firm's ecological footprint (Colvin, 2015; Fenwick & Vermeulen, 2015; The futures company, 2014).

External engagement - networking

In today's world external environment is of unparalleled importance and a source of competitive advantage for firms that engage and interact with it. We live in a relationship economy, where personal and social lives and networks are no longer required to be left at the door, as they were in the bureaucratic firm, but used as a part of the mass collaboration and networking of 21st century firms. What is more, competition is no longer viewed as a zero sum game, where if a firm does not compete with others, it will necessarily lose value. In contrast, the firms are expected to engage in networks with other firms, because it creates more value for everyone involved. As a result, the firms today interact differently. In the past they were separated by strong firm boundaries and they operated much like closed castles, protected and separated from the outside world and rigorously controlling the in- and output of the firm. Now those organizational boundaries are becoming fluid and porous, because the networks and relations between firms became thicker. Moreover, the innovation curve is getting steeper, since knowledge and technology are progressing at a rapid pace, meaning that firms are competing in a learning race. This also means that the best ideas and technological breakthroughs are happening outside of the firm's boundaries and their internal R&D departments. To enhance their capacity to learn and innovate, keep up with the steep innovation curve and create competitive advantage, the firms therefore need to collaborate, open their innovation and R&D, dive into networks and make external engagement a crucial part of their business model. In light of this, the 21st century firms are engaging, networking, co-operating and collaborating with other firms, non-profit organizations, research hospitals and universities, creating a flow of intellectual property, information, data and knowledge. The new firm could therefore also be viewed as a knowledge-based firm, the function of which is the production and distribution of knowledge. Furthermore, this kind of an inclusive collaboration and outsourcing, spreading activities among participants that are outside of the firm's boundaries, is yet another important deviation from the bureaucracy model, for it not only blurs the external organizational boundaries of the firm, but it results in a loss of centralized control, which is the focal point of the 20th century firm. Removing organizational boundaries on the outside (porous boundaries and collaboration) as well as on the inside (flat hierarchy), as described above, also means that the firm can be faster and more dynamic when responding to technological changes as well as an active agent of change and innovation. To sum up, the networked and connected new firm hence has a fluid and open internal and external organizational structure and a fluid and collaborative relationship with all its stakeholders (Colvin, 2015; Fenwick & Vermeulen, 2015; DiMaggio, 2009; Foley, 2014; The futures company, 2014).

Corporate governance

Additionally, intrinsic value driven citizens (both as employees and consumers) and consequently firms have had a profound impact on ownership and with it corporate governance. The corporate governance of the 21st century addresses the sources of the anti-corporate sentiment, namely transparency and responsibility, and is designed to instill trust and employee motivation. Unlike the 20th century firm corporate governance of fixed hierarchy, separation of positions and formal communication, the new corporate governance is characterized by being inclusive with all stakeholders, from the board of directors, investors to employees, by having a flat hierarchy and an open communication with the investors. Other prominent features of the 21st century corporate governance are an entrepreneur/founder type chief executive officer, a diversified board of directors and a published and transparent ownership that is in the hands of the founders and employees in addition to investors. The result of these features is that the relationship between the managers, directors and investors has changed. In accordance to the principles of inclusivity and open communication, the board of directors and the managers are now engaging with the investors, communicating with them and sharing information that surpasses annual reports presented at general meetings. Not only does such open communication and information sharing improve the much criticized lack of transparency, but it makes the investors feel they have sufficient information to make decisions about the firm, makes them feel connected to and a part of the firm and it makes them collaborate with it. By thus including them in the larger structure of networking and knowledge sharing, the firm is tapping into yet another source of knowledge and hence potential competitive advantage. Secondly, ownership is largely in the hands of the founders and employees. This is due in part, to improvements of transparency and responsibility and partly, because human capital and with it talent acquisition and retention is a crucial feature of the 21st century firm. Providing compensation in the form of stock options gives the employees incentive, it aligns their interest to that of the firm and provides inclusiveness, as it makes them feel part of the firm and the firm part of the personal and career growth. In turn this results in a corporate culture of hard work, improved productivity and profitability. Unlike their 20th century counterparts, the 21st century firms also prefer to stay private rather than pursuing an IPO, or in the case they do decide to go public, they change their structure in a way that enables the founder/entrepreneur to stay in control (e.g. via class A shares) and run the firm as if it were private. Such a structure insures that the profit-maximizing, short-term, quarterly reports driven interests of the investors will not prevail and the firm can continue measuring its success via performance indicators, such as relevancy. The focus on intrinsic values, a guiding characteristic of the 21st century firm, also ensures that the corporate governance of the 21st century firms reinforces the supportive structures of the set focus, which are fluid boundaries, flexibility and flat hierarchy. Flat hierarchy, not only between employees and the management, but also between the management, directors and investors, represents a significant break from the traditional corporate governance structure, based on seniority and strong divisions between positions within the firm. Another consequence of flat hierarchy and inclusiveness is that the product design in the new firms is a result of collaboration and

cooperation between the management, the employees from engineers to skilled workers, the consumers and the investors, making the production of new firms flexible and collaborative. All of this, accompanied by a loose general organizational structure (collaborative decision-making, open communication) that focuses on intrinsic values, means that the 21st century firm is constantly evolving with its stakeholders, making it more dynamic, faster and thus able to stay ahead of the innovation curve (Fenwick & Vermeulen, 2015; Reinventing the company: Entrepreneurs are redesigning the basic building block of capitalism, 2015; Vermeulen, 2015; Colvin, 2015; The futures company, 2014).

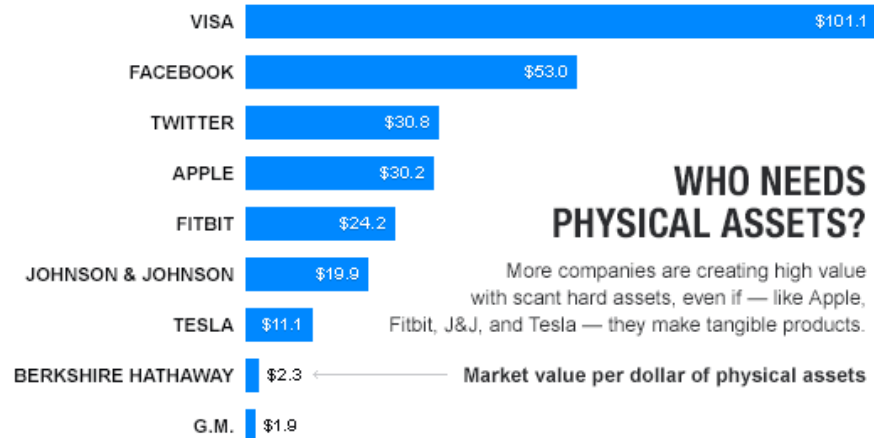
Rules and regulation

Another area that is viewed by the 20th century firms as risk and limitations, but has provided an opportunity and platform for innovation and change for the 21st century firms, is regulation. Regulation is a response to the change of balance between the social values and the market. Even though in itself regulation imposes limitations on the market, needed because the market is not perfect, viewing it as a risk that brings uncertainty and thus viewing compliance as a risk management defense is wrong. This view limits the firm's responses to the changes and causes it to use the wrong tools in addressing them. Instead, firms should view the regulation changes as an opportunity to understand the uncertainty, society's expectations and changed values. Consequently, this will open the firm's problem-solving approach beyond risk and compliance and allow it to innovate and stay ahead of the societal changes (The futures company, 2014).

Business model

Digital and networked technology enables the 21st century firms to be smaller and leaner. In other words, it facilitates a firm with fewer assets, employees and capital, resulting in a physical-capital light and idea-intensive business model. For instance, Tesla Motors owns no physical car dealerships, cars can be ordered online and since the technology they use is simpler than that of diesel, the cars can be produced with fewer workers and less capital. Similarly, Apple Inc. is using platforms to outsource the manufacturing of their products as well as their services, allowing them to pay only and exactly what they need and to add and remove the firm's capacity easily and virtually costless. The digital and networked technology takes this model a step further and even enables firms without any physical capital (e.g. Airbnb, Uber, Alibaba). For instance, firms can incorporate online, raise money via crowdsourcing or bootstrapping and then use platforms to outsource production and services. The exploitation of new technology and lack of a need for physical capital also allows for economies of scale and for such firms to grow and be global / international, without investing in assets (e.g. brown field, green field investment), buying local services and deal with the cost of transport, local regulation and government. Despite of these numerous advantages, not all costs can be reduced with a digital technology based model, for with a more complex technology come higher operational costs on the account of security and integration (Colvin, 2015; Reinventing the company: Entrepreneurs are redesigning the basic building block of capitalism, 2015; Kokalitcheva, 2015; DiMaggio, 2009; Fenwick & Vermeulen, 2015; Puri, 2014; Foley, 2014).

Figure 3. Market value per dollar of physical assets



Source: G. Colvin, *Why every aspect of your business is about to change*, 2015.

As described in the previous sub-chapter, decision-making processes of 21st century firms are based on big data and analytics, which allow them to respond to demand that is driven by dynamic and instantly changing social media trends. For example, a modern consumer discovers a product on Instagram, buys the product and tweets about it. The latter of which then get re-tweeted and shared, driving the demand up instantly. By using big data, these tweets can be analyzed and processed through a model that helps the firm detect such trends and demand increases as they are happening and adjust their supply accordingly. Changes in consumer behavior, resulting from technological and value changes, also require firms to recognize the role of internet marketing to improve customer satisfaction. All in all, new firms were able to master the new digital and networked age and use it as an opportunity to create sustainable competitive advantage and growth. However, the profound impacts of the new technologies, described in the previous sub-chapter, should not be viewed solely through a prism of opportunity or challenge that a firm needs to tackle. It should be viewed as a necessity for every firm to become a technology firm, where technology plays an active role in their business model and strategy (Colvin, 2015; Reinventing the company: Entrepreneurs are redesigning the basic building block of capitalism, 2015; Kokalitcheva, 2015; DiMaggio, 2009; Fenwick & Vermeulen, 2015; Puri, 2014; Foley, 2014).

Embracing and using digital and networked technology, however, is not enough. Extracting the true value and potential that technology brings, requires the right mental model. In the 21st century such a model must give value to networks over chains, for only by being actively engaged with all stakeholders does the firm receive the flow of information, data and knowledge necessary for understanding the needs and with them the demand of its consumers. It is this combination of a networked business model coupled with the new technology that is more sustainable and hence new age. The set combination improves the sustainability of the 21st century firms in two ways. Firstly, it produces less external costs to society, by lowering its own ecological footprint with understanding rather than creating demand and with it production.

Secondly, it produces less external cost to the consumers, by creating additional value for them. The digital and networked technology allows firms to track and better understand their product life-cycle and use this knowledge to create more benefit and additional value for consumers. For example, by understanding the product's life-cycle, the firm can predict when the product might start failing/breaking down and offer to repair it (provide additional service). In this way, it not only creates more benefits for the consumers, but it reduces their ecological footprint, since they no longer have to buy a new product when the existing one breaks down. The key to the firm's sustainability can therefore derive also from the sustainability of its consumers, making the new firms consumer capital intensive. Next to the focus on networks and consumers, firms can pursue several strategies to cope with resource scarcity and sustainability pressures. They can switch from offering products to services. For instance, Philips now provides municipal lighting (and maintenance) as a service rather than selling lighting products. Firms can rent products instead of selling them (e.g. Zipcar), reduce, refurbish, repair or resource to improve sustainability (The futures company, 2014).

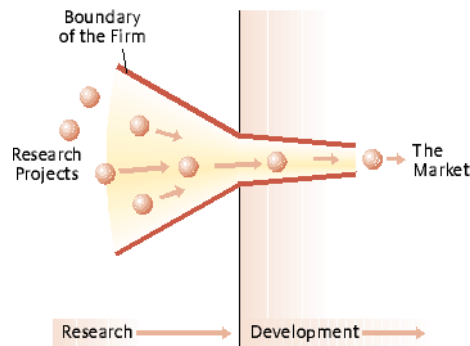
In essence, the 21st century firms have forced us to rethink the traditional organizational structure of firms and the corporate governance that is attached to it, established business models, and the role of capital, where money, cash flow and assets no longer play the most important parts and have been replaced by human capital (employees), intellectual capital (e.g. IP, software, knowledge) and consumer capital (relationship with consumers) (Colvin, 2015).

2. PARTNERING FOR SUCCESS

2.1 Open innovation

Innovation has traditionally been a crucial part of the firm's growth strategy, profits and competitive advantage. In the 20th century, this strategy was based on a closed innovation model. The 20th century firm, as described in the previous chapter, was characterized by firmly closed external boundaries, controlled in- and output of the firm, focus on ownership over intellectual property and patents, and little to no networking with the outside world. Accordingly, in the closed innovation model, the innovation and R&D department was kept within the firm's heavily guarded closed boundaries to prevent the knowledge from leaking out, since intellectual property rights and patents were a source of competitive advantage as well as an entry to barrier for new entrants. Consequently, the firm's research and development process and with it all its knowledge, ideas and technological breakthroughs, were fueled only by one source – their internal innovation department. There was only one way into the innovation process and one way out, or in other words, only one place where the intellectual capital of the firm could be exported and that was the market (see Figure 4). The closed innovation model was therefore much in line with the complete control of the firm's in- and outputs of the 20th century (Chesbrough, 2003; The futures company, 2014; DiMaggio, 2009; Gbadji & Gailly, 2009; European Commission, 2011).

Figure 4. Closed innovation model



Source: H.W. Chesbrough, *The era of open innovation*, 2003.

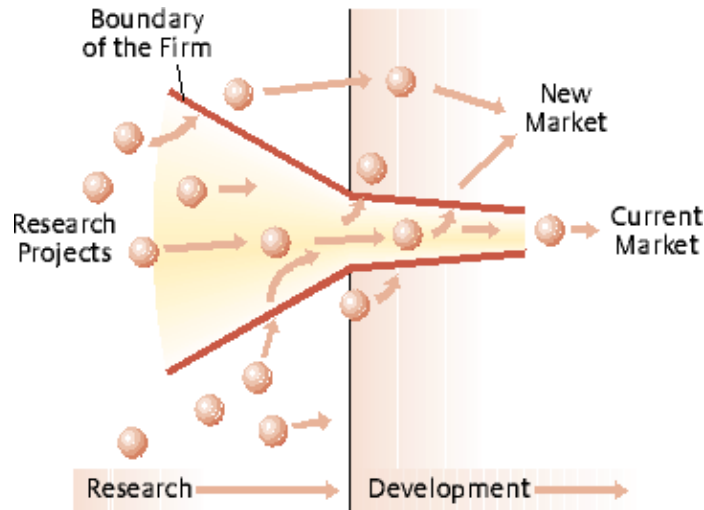
As we can see from the Figure 4 above, in any R&D process a large number of ideas and innovations are considered in the preliminary, research phase (open part of the funnel), but get discarded later in the R&D process, because they can't be commercialized or they do not fit with the firm's core business or do not fill the gaps in the firm's business. Unfortunately, given the nature of the closed innovation system, with firm and closed external boundaries of the firm and the fact that the firm's did not collaborate with one another, this also meant that such new ideas and technological advances could not be used by someone else and were therefore lost. Even public policy, and with it the corporate law of the time, was drafted in a way that supported the closed innovation model. There were strong intellectual property rights and patent protection laws aimed at keeping the intellectual capital of the firm from getting out. Public policies were built on the logic of 'do it ourselves in our region', hence, they were focused on one market and protected the firms within that market by restricting the access of foreign firms, even via foreign direct investment and foreign workers. The protective public policy, in addition to the cycle of innovation, made it effectively impossible to compete with the industry incumbents, thus posing a barrier to entry for the new entrants. The cycle of innovation, of the incumbent firms of the time, was investing heavily into their internal R&D and hiring top talent, which enabled the firm to produce valuable ideas that in turn generated high profits (protected by intellectual property rights). The profits were then re-invested back into R&D further strengthening the incumbent firm's dominant position (The futures company, 2014; DiMaggio, 2009; Chesbrough, 2003; European Commission, 2011).

The end of the 20th century came with the phenomenon of globalization. Globalization increased the mobility of capital, which meant more investment opportunities for new entrants to compete with the cycle of innovation of the dominant incumbent firms. Secondly, it also increased the mobility of employees. Since the life-time employment model was in decline that meant that the knowledge, which the employees obtained in one organization, was transferred and spread to the next one, leading to a diffusion of knowledge. Furthermore, this knowledge diffusion was met with a rapid pace of knowledge and innovation development, both resulting in the fact that the most recent technological breakthroughs and the best ideas were no longer inside the four walls of internal R&D departments, and a completely changed competition structure

(threat of new entrants). So in order to increase their learning and innovating abilities and to keep up in this new highly competitive environment, the firms started exploring new external opportunities for innovation, thus opening their innovation process. This brings us to the open innovation model.

Open innovation is defined by prof. Chesbrough (Chesbrough, Vanhaverbeke, & West, 2014) as: ‘a distributed innovation process based on purposively managed knowledge flows across organizational boundaries, using pecuniary and non-pecuniary mechanisms in line with the organization's business model.’ Essentially, this means that open innovation is a way of doing innovation and R&D by adding and making use of external ideas and technological advances, and in turn letting other firms use the firm’s own unused ideas and technological advances. Consequently, such a model requires firstly, that the firm’s boundaries are fluid and porous in order to facilitate this flow of intellectual capital both in and out of the firm, and secondly, it requires firms to find ways to let others use their intellectual property (e.g. licensing, joint ventures). Moreover, there is no longer a need for firms to generate all the ideas and innovations themselves, they can simply acquire the technology they need or invest in early-stage startups to acquire and overview of what is happening in the industry. In addition to improved access to capital, this meant that new entrants could compete with the industry incumbents without doing extensive research on their own (having well-funded R&D departments), thus changing the competition structure. Open innovation, however, does not stipulate only adding external sources of ideas and technology in the research phase, it stipulates the exchange of intellectual capital throughout the entire R&D process, as can be seen in Figure 5 below. It stipulates an exchange in both generating the ideas as well as the pathways to bringing those ideas to the market. For example, an idea can originate from the firm’s internal R&D department, then get licensed or spin out of the firm and be commercialized or tested by another firm. The same idea can then be spun back to the original firm in case it fits with their core business or fills a gap in that business. This is not only a significant break in the innovation model, but also a complete transformation of the way in which firms produce ideas and bring them to the market (Chesbrough et al., 2014; The futures company, 2014; DiMaggio, 2009; Chesbrough, 2003; European Commission, 2011).

Figure 5. Open innovation model



Source: H.W. Chesbrough, *The era of open innovation*, 2003.

Essentially, open innovation requires that the firms not only make their boundaries more fluid and porous, and to unlock their intellectual property, but to cooperate with each other through networks, alliances, ecosystems and platforms, which insures that valuable knowledge and ideas do not get lost (Chesbrough et al., 2014; The futures company, 2014; DiMaggio, 2009; Chesbrough, 2003; European Commission, 2011). For example, Philips opened its High Tech Campus in Eindhoven and now, over 140 companies and institutes, and 10000 researchers, developers and entrepreneurs, are working side-by-side in a unique ecosystem to innovate faster and produce better and more consumer tailored products and services (Over de Campus, 2016). Lastly, there are several ways in which firms can cooperate in both the research phase (exploring the ways in which external ideas fit with the firm's business) and the development phase (exploring the ways in which internal ideas can be brought to the market), (Chesbrough, 2003). Chesbrough (2003) divides the cooperation pathways into funding, generating and commercializing. Funding, coincidentally the topic of this master thesis, basically entails providing capital for innovation. There are two main ways to fund innovation, innovation investor and innovation benefactor. The former, is providing capital, either in a form of venture capital, angel investment or corporate venture capital, to bring ideas out of the firm and into the market, typically by partnering with a startup (providing capital and advice). The latter, is providing capital to early-stage startups to gain the overview of the industry. This leaves us with generating and commercializing. Generating describes several ways of firm cooperation in the production of ideas and technology, and commercialization describes several ways of firm cooperation in bringing ideas and technology to the market successfully.

In conclusion, today's firms employ both closed as well as open innovation models. Some industries, like the nuclear energy industry for example, for evident reasons employ the closed innovation model and it is highly likely they will continue using it. In other industries, like

computers, telecommunications, pharmaceutical, etc., the open innovation model is prevailing, and the less high tech industries, like the automotive and consumer goods industries for instance, are somewhere in between the two. We can even find different models in different markets employed by the same firm. In this digital and networked age, knowledge, ideas, innovations and technology are developing at a rapid pace and are widespread outside of internal innovation departments of organizations. The 21st century firms are using this to their advantage and have employed open innovation, in addition to networking, to collaborate and co-operate with other firms, non-profit organizations, research hospitals and universities, and deliver the best products and services to their consumers. However, the open innovation model should not be viewed only as one of the central characteristic of the 21st century firm, but it can also and because of this reason become a way for the 20th century firm to compete with its 21st century counterpart or even reinvent its business model and become one (The futures company, 2014; DiMaggio, 2009; Chesbrough, 2003; European Commission, 2011).

2.2 Corporate venturing

Corporate venturing is one of the mechanisms of open innovation. It originates in the 60's, when firms first began creating independent units to explore opportunities for strategic and financial growth. Since then, corporate venturing has had many waves or cycles, which were usually in line with the booms in the venture capital industry, beginning with the 70's when 25% of the most prominent firms had a corporate venturing unit, then again in the 80's and the 90's with the dot com boom. Today, corporate venturing is on the rise yet again, however this time its presence will likely be more permanent, due to an increased need for faster innovation and learning capabilities, as described in the previous chapters (Devash, 2011; Chesbrough, 2000; The Boston Consulting Group, 2014). There are many definitions of corporate venturing within the academic circles. Rohrbeck, Döhler and Arnold (2009) view it as a tool for international firms to grow or a tool for exploring new market opportunities and integrating external knowledge into the firm. In accordance with the latter, they see corporate venturing as all the activities of a firm aimed at entering new businesses or growing within the existing or new markets. On the other hand, Cassia, De Massis and Minola (2011) have a more entrepreneurial view and see corporate venturing as entrepreneurial efforts through which firms develop and broaden their business, which is normally succeeded by a creation of new business entities. In sum, corporate venturing are investment activities of a firm aimed at identifying potentially beneficial new technologies, markets or opportunities, which can then be developed or commercialized into broadening and growing their existing business or a developing a complimentary one. Furthermore, the firm's corporate venturing activities can be pursued either internally or externally. Internal venturing encompasses investments into developing and commercializing ideas that were generated within the firm itself (internal R&D projects) and have the potential to be a source of growth. Internal venturing is managed through specialized units created within the firm for this exact purpose. External venturing, on the other hand, encompasses integrating ideas that originate from the outside into the firm, due to their high

growth potential or potential for future strategic value, or realizing internal ideas externally via spin-outs or by investing into startups. In external venturing the investment capital is placed in an independent specialized unit (corporate venture capital fund, hereinafter: CVC fund) created outside of the firm's domain, which then manages the external venturing process. To clarify, in internal venturing the firm invests into an idea that is both generated internally and realized internally, and this investment is managed by an internal unit. In external venturing the firm's external independent unit (CVC fund) invests and manages realizing internal ideas externally or bringing external ideas within the firm (Devash, 2011; Chesbrough, 2000; Rohrbeck et al., 2009).

Not only is corporate venturing a mechanism of open innovation, but the open innovation can be applied as a principle to the process of corporate venturing itself. Traditionally, the entire corporate venturing process was organized and managed within one (internal/external) unit, as described above, and the decisions regarding the suitable form and level of autonomy of that corporate venture unit were made based on the factors of operational relatedness and strategic importance (Shah, Burgers, & Scholten, 2008; Cassia et al., 2011). However, the corporate venturing process consists of three separate phases, which are generating ideas, development and commercialization. Shah et al. (2008) argue that the suitable form of the corporate venture unit should therefore be based on these three different phases. The authors suggest splitting up the corporate venturing process and creating a separate corporate venturing unit for each of the three phases (generating, developing and commercializing ideas), thus allowing the unit to acquire the specialized skills associated with each particular phase. Additionally, this would allow for a greater flexibility of the corporate venturing process, as it would enable specific projects (investments) to move in and out of the firm after each phase and it would allow firms to specialize only in the one phase that suits them best. For instance, a firm with a smaller internal R&D department, but vast sales and distribution channels could create only the corporate venturing units that focus on the commercialization of ideas. In sum, the authors argue that firms should apply the principles of open innovation to the corporate venturing process (Shah et al., 2008).

2.3 Corporate venture capital

Corporate venture capital refers to the external corporate venturing investments of a corporation. Consequently, just like corporate venturing, it has experienced many cycles and booms (in the 60's, 70's, 80's, and 90's) in its history and is on the rise yet again. What is more, today corporate venture capital is more widespread than ever, even in non-traditional corporate venture capital industries like consumer goods, and has widened its investment focus on both different industries as well as different geographical markets (increasing investments into the People's Republic of China and the Republic of India). Even the previously short life-span of CVC funds is prolonging, thus clearly indicating a more permanent presence of this corporate venturing endeavor. Corporate venture capital can be pursued in two ways. Firstly, the corporation can establish a separate external unit (CVC fund), which then invests directly into a

startup or secondly, it can be pursued through collaborative models. The latter essentially mean that the corporation invests either into a venture capital fund as a limited partner, a spin-off subsidiary, a traditional venture capital fund or a fund of funds, which then invests into startups (Chesbrough, 2000, 2002; Bielech et al., 2012; Park & Vermeulen, 2015). This master thesis will focus on the first way of pursuing corporate venture capital and will follow the definition provided by professor Chesbrough (2002), who defines corporate venture capital as: 'direct investment of a CVC fund into external startups.'

CVC funds have had many different structures throughout the numerous corporate venturing cycles mentioned above. Among the most prevalent structures is the tendency to imitate their far more successful counterpart – venture capital, especially because of the structural disadvantages inherent to corporate venture capital. Although the CVC fund is an independent external unit, it is also still a part of the corporation, which draws significant implications for the structure of the set unit and its performance, and it is also the root cause of its structural disadvantages. Links to the corporation draw implication for the CVC fund in terms of managing the difference between the corporate culture and the startup culture, leadership participation and support, managerial compensation policy (incentive structure) and strategy (Lerner, 2013; Chesbrough, 2000; Bielech et al., 2012; Park & Vermeulen, 2015).

The corporations, mainly modeled in accordance with the 20th century firms described in the previous chapter, are inherently completely different organizations from the startups, which are essentially an embodiment of the 21st century firm. Corporations are characterized by rules, bureaucracy and routine processes that make its decision-making and approval processes long and complex. Not only are these characteristic crippling to the dynamic and flexible nature of the startups, but what is more, investing in and working with the startups requires a fast decision-making process (streamlining approval), because of the uncertainty of the markets in which they operate. Secondly, the inherently different nature of the corporation also leads to completely different methods of measuring success and with it completely different expectations regarding the performance of the CVC fund's investments, requiring significant efforts from the CVC fund's manager to manage these expectations. Of course the culture of younger corporations more closely resembles that of the startup, like Alphabet, Inc. or Intel Corporation for example, resulting in an enhanced understanding of the ways in which the startups operate and fewer challenges in managing the expectations of the parties involved. The same holds for the corporation's leadership. In order to succeed, the CVC fund requires the full support of the corporate leadership, which must therefore have either an entrepreneurial spirit or an open mind to understand and tolerate the risks involved in corporate venture capital. The need for the support of corporate leadership goes even further, as it also implies an active role of the latter in fast tracking the investment approval process, which requires for the CVC fund to be situated close to the board of directors, and a commitment of corporate leadership to long-term projects. Furthermore, the corporation's slow approval processes coupled with its risk averse corporate culture leads CVC funds to ineffective investment patterns. For instance, wrong investment decisions in terms of a perfect portfolio, early exits and the executive management approving

only the projects that entail investing into technologies or opportunities seen at the time as ‘the next big thing’. The corporation’s risk averse corporate culture is especially problematic also given the fact that investing in general is a risk laden activity and can therefore, in addition the general characteristics of the corporation, be a structural disadvantage for the CVC fund (Lerner, 2013; Chesbrough, 2000; Bielech et al., 2012; Park & Vermeulen, 2015).

Venture capital managers are notorious for their high salaries, which they make by profiting on their successful investments (carried interest). However, since the CVC fund is a part of the corporation, its managers are paid the same as managers of the other corporate units (fixed corporate salary) to ensure seniority and fairness principles. Naturally, this affects the incentive structure and the motivation of the CVC fund managers, because even if they make the right investment decisions and the startup they invest in succeeds, they are not rewarded with carried interest like their venture capital counterparts. More importantly, this incentive structure reduces the performance of the CVC fund itself, because managers become more risk averse, thus investing at the later stages where other investors already reaped the strategic benefits of discovering new, disruptive technologies. The CVC fund’s incentive structure also leads to diminished abilities of the corporation to retain talented managers, which further degrades the CVC fund’s performance since human capital is a crucial asset in the networked world of entrepreneurship, where connections and reputation are crucial elements of success. As a way of addressing this structural disadvantage, certain corporations (e.g. Alphabet, Inc.) are rewarding their CVC fund managers in accordance with the venture capital principles (management fee plus carried interest). It should be noted, however, that the CVC fund’s incentive structure can also be seen as an advantage, because unlike in the venture capital industry, the manager does not get replaced every time he/she makes a wrong investment decision. The right answer should therefore combine the venture capital principle with the advantage of the CVC fund and align the incentives of the corporation, the CVC fund managers and the startups they invest in (a strategy also employed in the venture capital industry). Such an alignment would include rewarding the CVC fund managers, but tying that to the long-term objectives of the corporation and the performance of the startup. Academic research has shown that linking the salary of the CVC fund managers to the success of their investments, leads to more successful future investments and investments into early-stage startups and not only investing at a later stage when the risk is reduced. What is more, research shows that aligning the long-term objectives of the corporation with its investment portfolio benefits not only the corporation, but also the startups in the form of a higher stock price. Links to the corporate ‘parent’ do offer certain other advantages. Firstly, contrary to the limited partnerships of venture capital, corporations have an indefinite lifespan, allowing them to invest in and sustain long-term projects. In turn, this leads to a far more understanding partnership with the startups, for the CVC fund does not have a need to push them into a sale or an IPO (exit). Secondly, they can offer the startups more than just capital, meaning they grant them access to their resources, knowledge, experience, complimentary technologies, etc. (further explored below). Lastly, as noted above, the managers of the CVC funds do not risk losing their position every time they make a bad investment, which could in turn provide them

with the opportunity to take more risks (Lerner, 2013; Chesbrough, 2000; Bielesch et al., 2012; Park & Vermeulen, 2015).

Strategy or objective is seen by Chesbrough (2002) as one of the two main characteristics of corporate venture capital, the second of which being the degree to which the operations of the corporation and the startup are linked. There are two main objectives that corporations are pursuing by engaging in corporate venture capital - strategic and financial. The corporations that are pursuing strategic objectives want to increase the sales and profits of their core business by identifying startups with which they have synergies and by exploiting those synergies. The corporations that are pursuing financial objectives, on the other hand, only want to receive good returns on their corporate venture capital investments. The main reasons for most corporations to engage in corporate venture capital are strategic, due to the numerous advantages that stem from it (further explored below). The latter usually prevail over the financial objectives of good returns on the investment, because these are typically not significant enough to make a difference to the corporation, although they should not be ignored. Emphasizing financial objectives shows the startups that the true intentions of the corporations are those of partnership and collaboration, hence their founders will not be removed in the pursuit of strategic objectives of the corporation. The two objectives can even reinforce one another. For instance, focusing on financial returns results in a higher deal flow of the CVC fund, which in turn gives it a better overview of the industry and new opportunities. Unfortunately, pursuing strategic objectives can also be a source of conflict between the internal goals of the startup and the strategic objectives that the corporation is trying to achieve by investing in it, contrary to the financial returns pursuing and thus conflict free venture capital (Chesbrough, 2000, 2002; Park & Vermeulen, 2015). The second main characteristic of corporate venture capital according to Chesbrough (2002) is the degree to which the operational capabilities of the corporation and the startup are linked. Tightly linked operations are if the startup is utilizing the resources and processes that the corporation has given it access to, like distribution and sales channels. If, however, the startup has completely different and new capabilities, these could pose a threat to the corporation, so it prefers to remain separated from them, thus making the operational links loose.

In sum, the best way to structure the external corporate venturing unit and make it successful is not by simply imitating the venture capital model, but recognizing both the disadvantages as well as the advantages of the CVC fund structure and leveraging them, for only such a structure will enable the CVC fund to produce strategic benefits for the corporation (Lerner, 2013; Chesbrough, 2000).

The main advantages of corporate venture capital are that it helps address the core problems that corporations are facing in the innovation landscape today and that is, the rising cost of internal R&D, the rapid pace of innovation and intense competition. Corporate venture capital gives the corporations the opportunity to gain a competitive advantage, because it serves as a source of intelligence gathering. The corporation gains the access to and an overview of the industry as well as the latest, cutting-edge, disruptive technologies, which allows it to detect and protect itself from emerging threats (competitors), and detect and respond better to market

changes. The access and potential ownership over the latest technologies also give the corporations the chance to be a part of the next great breakthrough. Additionally, corporate venture capital gives the corporations the access to technologies that are complimentary to their own, thus reducing their need to perform extensive internal R&D, which in turn reduces costs and raises the profits of the corporation. What is more, developing complimentary technology increases the demand for the corporation's own products, which hence results in even higher profits. The described advantages are also the strategic objectives of and reasons for the corporation's engagement in corporate venture capital (Vanhaverbeke, Van de Vrande, & Chesbrough, 2008; Lerner, 2013; Chesbrough, 2000).

Cooperation between the corporations and the startups does not positively affect only the former, but provides numerous advantages for the startups as well. Through corporate venture capital the corporations give startups access to their assets and capabilities, like their vast development resources, thus enabling them to bring an idea from the prototype phase into a fully formed product, which they perhaps could not achieve with their own resources. Additionally, corporate venture capital allows startups to innovate faster, because they can build their technology on the corporation's own technological platforms or complimentary technologies. Moreover, startups gain access to the corporation's commercialization resources with sales and distribution channels, their knowledge and industry experience, and their intangibles, like the corporation's brand and reputation (Chesbrough, 2000; Devash, 2011; Lerner, 2013). Despite the described advantages of such partnering between the corporations and the startups, the latter have been reluctant to work with big corporations. Partly, this is due to the conflicting culture and nature of the parties involved. On one hand, there are the rules oriented, risk averse, bureaucratic corporations and on the other, dynamic, flexible and risk loving startups. As noted above, this corporate culture in addition to the long and bureaucratic approval process can signal that the CVC fund is inefficient, thus even lowering its attraction to startups. Secondly, there is a significant mistrust between the corporations and the startups, because startups fear that such a partnership is in fact an acquisition attempt and that the corporation will steal their knowledge and technology (intelligence gathering) (Chesbrough, 2000; Devash, 2011; Grill, 2014; Lerner 2013).

In terms of investment options and corporate venture capital advantages for startups, CVC funds have the ability to fund long-term projects (patient investors) contrary to venture capital, otherwise a commonly used source of capital for startups. Another important advantage over the venture capital option is that it provides more than a simple financial investment for the startup, as described above it entails cooperation and an exchange of resources, therefore more closely resembling a true partnership that results in numerous advantages for both parties. Furthermore, accepting corporate venture capital also attracts other relevant market investors to invest in the startup, because it reduces the uncertainty and risk usually associated with investments into startups. New potential investors see corporate venture capital as a signal that either the CVC fund's startup will likely be acquired by the corporation, which increases its valuation on the market, or they assume the quality of the startup based on the reputation or brand of the

corporation. Research has shown that such corporate venture capital backed startups, in the event that they go public, have a better stock price performance and release more patents. The downside of accepting capital from large corporations is that they are traditionally very risk averse, resulting in investments at a later stage (last to come in) and early exits (first to go out), giving them a bad reputation on the investment market and making startups disinclined to accept their funding. Furthermore, an early exit from a large reputable corporation can also send the wrong signal to the market that the startup's future is not promising, thus discouraging other investors, which is yet another reason why startups refuse corporate funding (Lerner, 2013; Chesbrough, 2000, 2002).

All in all, corporate venture capital increases the flow of knowledge, ideas, technologies and experience, which is not only beneficial and produces numerous advantages for the organizations involved in it, but it is also of vital importance to the overall innovation. Both the corporations and the startups should therefore commit their efforts and resources into successful corporate venture capital endeavors and overcoming the challenges associated with it.

2.3.1 How do firms pursue corporate venture capital

As noted above, corporate venture capital has two main characteristics, the strategic/financial objectives that the corporation is pursuing through corporate venture capital and the degree to which the operations of the corporation are linked with the startup. Based on this distinction, there are four theoretical types of investments that corporations make through their CVC funds (Chesbrough, 2002).

Firstly, the corporations can pursue the so-called driving investments. The aim of such investments is to pursue the strategic objective of advancing the corporate strategy of enhancing and growing their existing core business. In order to achieve this, the resources and capabilities (operations) of the corporation and the startup are closely linked. In a sense, driving investments cannot fail, because if they succeed they will enhance the core business of the corporation. If the investment and with it the idea of the startup does not prove viable, the corporation will learn which options for the development of its core business do not work or how to avoid making mistakes in achieving growth for the set core business. The downside of making such 'risk free' investments is that they miss the main strategic objective and with it the reason why the corporations are engaging in corporate venture capital today and that is disruptive technologies. Investing only in startups that are working on projects that enhance the existing business of the corporation, means that the latter will not have a complete overview of the industry and the latest technological innovation. The corporation will hence be completely unprepared in case there is a disruption in their business and industry. An example of a driving investment is Agilent Technologies, the spin-off of Hewlett-Packard. Firstly, Agilent Technologies identified the crucial areas of growth for its core business (being a premier laboratory partner), which were life sciences, wireline/optical communications and wireless communications, and then invested in startups working in those areas via their CVC fund, Agilent Ventures (Chesbrough, 2002; Agilent Ventures, 2016; Agilent fast facts, 2016).

Secondly, the corporation can also use corporate venture capital to pursue strategic investments into startups that are developing complimentary technologies to those of the corporation which in turn increases the demand for its core products and with it, its profits. Additionally, this means that there is no need to link the startups so tightly with its own operational capabilities, since the corporation is investing in complimentary not core business. These are the so-called enabling investments, because they enable the strategic objective of developing complementary technologies and are characterized by looser operational links between the corporation and the startups. Through enabling investments the corporation is thus funding the development of an ecosystem surrounding its core business, which comes with the risk of increasing also the demand for the products of its competitors. If the corporation engages in such investments, it must hence make sure it can capture a substantial portion of the market growth by having a dominant position. For example, the Intel Corporation invested in startups developing video, audio or graphics hardware and software through Intel Capital (their CVC fund), thus increasing the demand for its microprocessor products (Chesbrough, 2002).

One of the main strategic objectives of corporate venture capital is identifying and exploring new opportunities, markets and technologies, hence engaging in intelligence gathering and obtaining an overview of the industry. Exploring potential new markets and customers is both very difficult and costly for the corporation, as its main focus has to be on its core business. A simpler solution is, therefore, to invest in startups that are engaging in such explorations, and in the event there is potential in any of these new opportunities, the firm can use this knowledge and change its business or its strategy. To help startups in exploring and developing these new opportunities, the corporation establishes strong operational links with the startups, allows them to use the corporation's technologies, platforms, products, etc. Investments, which are developing neither core nor complimentary business, but brand new opportunities with immediate financial returns and the potential for strategic returns and with strong operational links between the corporation and the startup, are emergent investments. Since there is a high probability that these investments will not become viable, it is important for the corporation to balance the financial returns and potential strategic returns of the investments in its CVC fund portfolio (Chesbrough, 2002).

Lastly, if corporations engage in corporate venture capital purely for financial returns and there are neither strategic objectives nor operational links, it is engaging in passive investments. Since these are typically not significant enough to make a difference to the corporation and there are no other strategic gains to be obtained from the investment, they often result in early exits (Chesbrough, 2002).

Moving from the theory to the real world, here are some general trends and different organizational structures of corporate venture capital units that can be distinguished from the Global Corporate Venturing's database, the Global Corporate Venturing Analytics and that were presented at the Global Venture Capital Symposium. The Symposium was attended by the CVC fund managers of the Philips Venture Capital Fund, General Motors Ventures, Nokia Growth

Partners and Siemens Venture Capital, who shared their experience and insights into the world of corporate venture capital.

The most notable general trends in corporate venture capital are the growth of the corporate venture capital industry, a sharp increase in corporate venture capital investments at the later stages of the funding cycle, the emergence of investment networks and investment cooperation among firms, a prolonged life span of the CVC units, and a shift in the investment focus both in respect to investments in different sectors as well as different countries (emerging markets) (Bielesch et al., 2012; data derived from Global Corporate Venturing Analytics).

As previously stated, the current corporate venture capital cycle appears to be more permanent than the numerous previous ones and nothing supports this statement more than the data showing that over 1500 corporations have a CVC unit in 2016, corporate venture capital's share of all venture rounds has increased from 45% in 2015 to 60% in 2016, and that both the corporate venture capital investments and well as their deal sizes have more than doubled. This data reveals that not only is the corporate venture capital industry proving to be more stable and permanent, but it is also growing (data derived from Global Corporate Venturing Analytics).

The rapid pace of innovation and the steep innovation curve have prompted firms to change their investment patterns and start investing at the earlier stages of the funding cycle, in order to truly reap the strategic returns granted by intelligence gathering and the potential access to the latest disruptive technologies. For instance, seed and series A investments have doubled between 2010 and 2012. Although series A and B continue to receive the largest portion of corporate venture capital investments, data has shown a sharp increase (295%) in later-stage investments in 2015. The innovation pressures have also made the firms more committed to their CVC funds, which has resulted in their prolonged life-span, visible across different industries (Bielesch et al., 2012; data derived from Global Corporate Venturing Analytics).

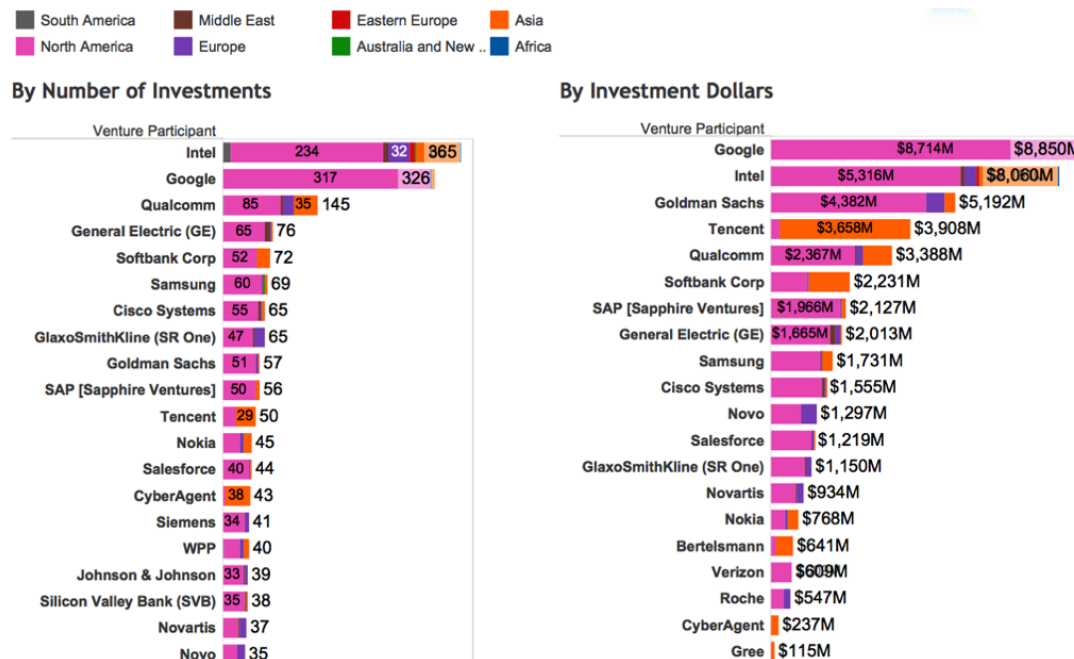
Furthermore, the links and connections between firms are growing and forming a dense investment network. Firms are co-investing into disruptive technologies that have the potential for 'across-the-board' disruptions. The firms are co-investing with partners from different industries, which not only bring specialized knowledge and industry experience, but such co-investing builds the potential for developing complimentary products. One of the most active co-investors has been General Electric (hereinafter: GE), America's greatest corporate survivor. GE co-invested with fourteen different firms, eight of which have been from different industries and include Alphabet, Inc., Intel Corporation and Chevron (Bielesch et al., 2012).

The investment focus of the CVC units has widened, leading to investments beyond the core business and industry of the firm and into different, usually adjacent sectors. Meanwhile, clean technology, which collected an astonishing 1.9 billion dollars of investments, is proving to be a trend on its own (Bielesch et al., 2012). The CVC fund managers argue, however, that clean technology is 'over-hyped' and that there are serious drawbacks in investing into such sophisticated technologies. Namely, it is hard to identifying the truly viable projects among them and such sophisticated technologies are usually hard to develop and operationalize (scale, relative cost, etc.). Another very attractive area for corporate venture capital is software as a

service (e.g. Uber), because the costs of the investment are low, there are only a few rounds of investing, a pay-as-u-go system and a low barrier to entry and exit. However, since there are a lot of projects and startups in these areas it will become overheated at some point. Interestingly, the CVC fund managers pointed out that oil is also a sector that is experiencing an increase of investments, because although a lot of CVC funds are investing into clean technology in the pursuit of sustainability, firms like the BP plc., cannot be sustainable without investments into their core business (Global Corporate Venturing, 2015).

What is more, corporate venture capital investments are shifting to emerging markets (See Figure 6). The People's Republic of China (hereinafter: China) and the Republic of India (hereinafter: India), have experienced an increase in both the amounts invested as well as the number of corporate venture capital deals. China's domestic corporate venture capital investments have increased from \$19 million to \$15.688 million between 2012 and 2015. Despite this trend, the United States of America (hereinafter: US) is still leading in both foreign (\$9.045 million) as well as domestic (\$24.171 million) corporate venture capital investments and has experienced a significant increase in the later. In terms of the foreign/domestic structure of the corporate venture capital investments, the US has retain virtually the same 50% domestic/ 20% foreign corporate venture capital investment structure between 2012 and 2015. China, on the other hand, has witnessed a complete transformation in the set structure, going from 80% foreign corporate venture capital investments in 2012, to 62% domestic in 2015 (Bielesch et al., 2012; data derived from Global Corporate Venturing Analytics). Although the rise in global corporate venture capital investments was confirmed also at the Global Venture Capital Symposium (Global Corporate Venturing, 2015) by the CVC fund managers, the latter pointed out that there are significant risks involved in investing into China and India, especially in regards to exits. India, in particular, proved to be a difficult market due to the uncertainty of what will happen, when the billions of dollars of current investments in that market will be pulled out. Exits were also a point of concern prior to large investments into China, however the Chinese market proved it can withstand the billion dollar exits (Global Corporate Venturing, 2015).

Figure 6. CVC League Table 2011-2014



Source: B. Park & E.P.M. Vermeulen, *Debunking Myths in Corporate Venture Capital: What Works, What Doesn't, and How To Make It Happen*, 2015, p. 4.

The data results also show that the majority of corporations engage in corporate venture capital for strategic objectives (71%), namely intelligence gathering and strategic decisions, followed by the pursuit of financial returns (44%) and acquisitions (29%), offering us insights on the academic debate over which objectives should prevail. In practice, the scales are clearly tipped on the side of the strategic objectives. The second set of data results, relevant for this thesis, showed that the majority of CVC funds report to the chief executives officers and the others either to the head of strategy, the chief innovation officer or the chief financial officer, thus offering us insights into the likely organizational structure of these CVC funds (data derived from Global Corporate Venturing Analytics).

Lastly, in terms of specific CVC funds the data shows that Intel Capital is leading the GCV Power Index, followed by Google Ventures and Qualcomm Ventures (data derived from Global Corporate Venturing Analytics).

The Global Venture Capital Symposium also brought together CVC funds, which are organized in completely different ways and are pursuing completely different objectives. All of this gives us an insight into the wide range of possible organizational structures for CVC funds and how much they, as well as the objectives they pursue, vary in real life. For example, the Philips Venture Capital Fund is aimed at pursuing investments into technologies that can improve the performance and sustainability of Philips's core business, and also serves as an intelligence gathering unit, giving Philips an overview of what is coming next. Philips is therefore pursuing strategic objectives through its Philips Venture Capital Fund. On the other

hand, Nokia Growth Partners has a financially oriented, arms-length CVC fund model, which considerably differs from the most commonly used strategic model employed by Philips, but has proven to be successful and enduring despite entailing less involvement with the startups. The other two participating CVC funds also have completely untraditional organizational models. For instance, in the General Motors Corporation, the Chief Technology Officer is the manager of both the internal R&D department as well as their CVC fund, General Motors Ventures, thus deviating from the theoretically established independent CVC fund model. Siemens Venture Capital goes even so far as seeing itself as service organization vis-à-vis its corporate ‘parent’, in the sense that it helps Siemens AG gain access to external innovation (Global Corporate Venturing, 2015).

2.3.2 Differences in corporate venture capital across industries

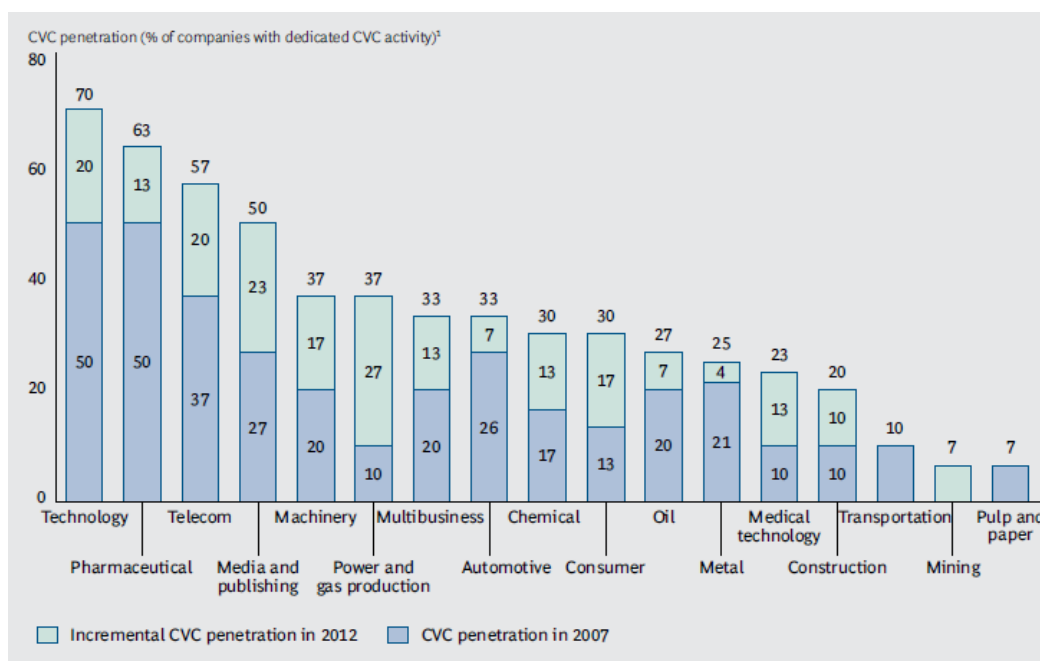
Today corporate venture capital is more widespread than ever, not only do more than 1500 corporations have a CVC unit, but it has even spread to non-traditional corporate venture capital industries like the consumer goods, construction, machinery, and power and gas industries. In addition to the more general trends described above, the growth of the corporate venture capital industry, the widened investment focus both industry-wise as well as geographically-wise, the prolonged life-span of the CVC funds, late seed investments and investment networks, there are also certain industry trends that are discernible from the Global Corporate Venturing’s database and are worth noting (Bielesch et al., 2012).

Technology and innovation-sensitive industries have traditionally engaged in corporate venturing by establishing CVC units, since the origins of corporate venture capital in the 1960’s. Today, these traditional corporate venture capital industries, technology, pharmaceutical, telecommunications, and media and publishing, not only remain the most heavily committed industries in terms of corporate venture capital investments, but the percentage of their top thirty corporations with CVC units has been steadily rising since 2007 and has more than doubled in most of them. Considering the implications of the technological revolution and the rapid pace of innovation, it is evident that these technology sensitive industries are engaging in corporate venture capital for the strategic objectives of enhancing and complementing their innovation capabilities. This trend is confirmed also by the data from the Global Corporate Venturing’s database showing a correlation between the decreases of internal R&D spending and increases in corporate venture capital penetrations in corporations from the technology and pharmaceutical industries. As far as the investment trends go, the traditional corporate venture capital industries, apart from health care and clean technology, have shown a widening investment focus with investments into the adjacent industries. For example, the CVC units of the service industry are investing mainly in the consumer, media and publishing and IT sectors, and the CVC units of the chemical industry are investing mainly in clean technology, health care and the industrial sectors. The CVC units of clean technology and health care, on the other hand, continue investing in their own sector due to the fast changes in these two industries. The CVC units of the health care industry, for example, commit 96% of their investments back to the health care industry. The

overall leading sectors for corporate venture capital investments are the IT, media and publishing, health care and clean technology sectors. The geographical trends vary across different industries and among the traditional corporate venture capital industries, IT is investing the most into emerging markets, namely Israel, both in the number of corporate venture capital deals as well as in the investment amounts. Because these industries are highly innovation-sensitive and the overall pace of innovation development is only increasing, they are also more prone to early seed investments to truly capture and capitalize on the latest disruptive technologies. Furthermore, among the traditional corporate venture capital industries, clean energy, IT, telecommunications and the chemical industry are the most networked and engage in the most co-investment deals. As for the last remaining general trend, the prolonged life-span, the pharmaceutical industry has noted an increase of over 50% in the life span of its CVC units from 2002 onwards and the technology industry a six year increase between the years of 2002 and 2012 (Bielesch et al., 2012).

The latest corporate venture capital cycle has brought even some non-traditional corporate venture capital industries to its market, including the consumer goods, construction, machinery and power and gas industries, although their overall commitment and total number of participants remain far below those of the traditional corporate venture capital industries as seen in the Figure 7 below (Bielesch et al., 2012).

Figure 7. CVC concentration by industry



Source: F. Bielesch et al., *Corporate Venture Capital: Avoid the Risk, Miss the Reward*, 2012, p.6.

The reason why these non-traditional corporate venture capital industries are considered newcomers to the corporate venture capital world is that they did not typically have to rely on

innovation for growth of their business. However, in the wake of the technological revolution they too have been put under pressure for cleaner and more sustainable business models and are thus exploring external R&D opportunities to complement their internal R&D. In line with this trend, their level of CVC investments has been increasing steadily between the years of 2007 and 2012. Even the investment focus of the non-traditional corporate venture capital industries has expanded past their core business and into new and emerging markets. For example, the CVC units of the industrial sector are investing into clean technology, IT, health care and transport, and the consumer industry's investments into are steadily China are increasing. Furthermore, the above mentioned sharp increase in the late seed (D, E and beyond) investments was made mainly in the transport and consumer industries. As for the prolonged life span of the CVC funds, it can be noticed in several of the non-traditional corporate venture capital industries, e.g. machinery, consumer goods and gas and construction, however it remains lower than that of their traditional corporate venture capital counterparts (Bielesch et al., 2012).

2.3.3 Challenges

The cyclical nature of corporate venture capital, signified by the many booms and retreats, coupled with the traditionally short life spans of most corporate venture capital endeavors, most do not last over one year, show that the corporate culture does not possess the necessary agility required in the high risk and fast environment of entrepreneurship, which further diminishes the already poor reputation of corporate venture capital in the investment community. Further evidence to support this theory is that an overwhelming majority of corporate venture capital endeavors either fail (yield no strategic and financial returns) or remain inactive. Data shows that out of the 419 CVC funds, 202 of them either failed or remained inactive between the years of 2010 and 2014 (Lerner, 2013; Chesbrough, 2002; Park & Vermeulen, 2015). So why does corporate venture capital fail, when there are seemingly so many potential benefits for all the parties involved and the data shows a substantial growth of the corporate venture capital industry? The central reasons for their failure are proving to be the structural disadvantages of the CVC units, inadequate corporate governance regulation designed on the basis of the 20th century firms and establishing trust in the contractual relationship between the CVC unit and the startup.

Structural disadvantages

To quickly revise what has been examined in the chapter on corporate venture capital, the structural disadvantages of corporate venture capital originate from the links between the CVC fund and the 'parent' corporation. These links draw implications for and thus result in the challenges in the incompatibility of the corporate and startup nature, the corporation's risk averse culture, leadership support and participation, managerial compensation, balancing strategic and financial objectives and harnessing and extracting valuable information and knowledge.

The two main areas that are affected by the inherently incompatible nature of the corporations and the startups are the investment approval process and with it the investment patterns and the expectations regarding the performance of the investment. As previously explained, the rules

oriented and bureaucratic nature of the corporation results in lengthy and slow decision-making and approval processes, which is incompatible to the fast moving and uncertain markets in which the startups operate, leading to wrong investment patterns. Secondly, the corporations expect their investment portfolio startups to perform based on the benchmarks created for stable and developed markets such as their own, clearly not realizing that the emerging and new markets of startups are anything but the latter. Of course this causes a significant disconnect between the expectations and the investment's performance, leaving the managers of the CVC fund with the task of managing the set expectations and readjusting them in line with the startup world (Lerner, 2013; Chesbrough, 2000; Bielesch et al., 2012; Park & Vermeulen, 2015). The experience of CVC fund managers supports this stipulation. The CVC fund managers identified managing the expectations of the top management as one of the crucial components to successful corporate venturing, because ultimately the decisions are in the hands of top management, the projects 'live and die' with them, since it is after all corporate capital that is invested. The CVC fund managers need to manage the expectations, largely because the rationale of the top management is often that if a project is not strategic, why is it being funded. Managing expectations requires educating top management and informing them on which projects are being funded, why are they being funded, and more importantly, educating them about the fact that corporate venture capital is not venture capital in the sense that it not simply a capital investment, but it entails financing business partners. The latter also means, that corporate venture capital is not always about returns, the CVC fund manager needs to educate the top manager that in order to be a good partner to a startup, the CVC fund needs to stay with the startup even in bad times and follow on investing (Global Corporate Venturing, 2015).

Secondly, the risk averse corporate culture results in investments at a later stage (last to come in) and early exits (first to go out), giving the corporations a reputation of a bad investor. Such investments also result in the loss of any strategic returns (information on the latest disruptive technology has been obtained by earlier investors) and the disappointing performance of the CVC fund and thus making startups disinclined to accept their funding (Lerner, 2013; Chesbrough, 2000; Bielesch et al., 2012; Park & Vermeulen, 2015).

All of the above increases the need for open minded corporate leadership that will provide support, be risk tolerant and committed to long-term investments and will play an active role in streamlining the approval process. The reality, however, shows that although the leadership support is essential it is not so freely given (Lerner, 2013; Chesbrough, 2000; Bielesch et al., 2012; Park & Vermeulen, 2015). In the corporate venture capital world providing financial returns for the corporate 'parent' is not a sufficient indicator of success, the CVC fund needs the approval and support of the senior leadership. The experience of CVC fund managers shows that in order to gain the leadership support the managers need a strong investment vision, which they then communicate to the senior leadership. Furthermore, the investment vision should entail striving to be the best investor into startups, because through such investments the corporation will improve its performance or fill the gaps in its core business. The CVC manager needs to

reinsure the senior leadership that he/she is aware of the core business and gaps in it (Global Corporate Venturing, 2015).

Managerial compensation issue and with it the CVC fund's problematic incentive strategy, extensively described above, in essence stem from the fact that the CVC fund managers, unlike their venture capital counterparts with large profits from investments, are paid a fixed corporate salary, which reduces their motivation, makes them risk averse (poor investment choices) resulting in a disappointing performance of the CVC fund and talent retention issues for the corporation. The latter further diminishes the already poor performance of the CVC fund, because the world of entrepreneurship and the investment industry are highly networked, meaning that the most successful investments are made based on connections and reputation (Lerner, 2013; Chesbrough, 2000; Bielech et al., 2012; Park & Vermeulen, 2015).

The corporations engage in corporate venture capital to pursue strategic or financial objectives. The prevalent of the two is the pursuit of various strategic objectives, but this motivation can lead to a conflict of interest between the goals of the startup and the goals that the corporation is trying to achieve by investing in it. Furthermore, investing into startups for only strategic reasons, like intelligence gathering, protection from emerging threats or acquisitions, more often than not effectively kills the startups, thus putting an end to the partnership, which is supposed to be a core characteristic of corporate venture capital (Chesbrough, 2000, 2002; Park & Vermeulen, 2015). Vermeulen and Park (2015) argue that the corporations should therefore pursue financial objectives or at least a balance of both objectives, since they are not mutually exclusive. The CVC fund managers however, argue that although the corporation needs to define the exact objectives it aims to accomplish through the CVC fund and that in the past the financial returns have prevailed, today corporate venture capital needs to be about more than money and should therefore strive for improvements and the development of innovation and advanced technology.

Engaging in corporate venturing does not mean that the benefits of this open innovation mechanism come automatically. Knowledge, information and technology does not flow automatically from the startup to the corporation, since the barriers to this flow are numerous from their conflicting cultures, physical and organizational boundaries, to the fact they each focus on their own activities. However, failing to transfer and harness the knowledge and technology from the startups, defeats the entire purpose for engaging into corporate venture capital in the first place. The corporation must therefore learn how to harness this knowledge, design routes for the knowledge and technology of the startup to feed into the larger corporate innovation pipeline, have special units in charge of this knowledge transfer and what is more, the corporation needs to be able to embrace this innovation by more closely resembling the 21st century firm and have fluid, porous boundaries and more flexibility (Lerner, 2013; Bielech et al., 2012).

Even initial research on corporate venturing had shown that internal leadership support, managerial compensation and balancing strategic versus financial returns are the core problems which every corporation must address in order to succeed in its corporate venturing endeavors,

meaning that these structural disadvantages have been present in corporate venture capital since its inception (Chesbrough, 2000).

Considering all of the above, the key to overcoming these structural disadvantages is to manage the interplay between the corporation and the startup, finding the right processes, corporate governance structure, compensation policy and objectives, so that these two inherently different worlds can cooperate. The crucial role in the management and mediation of this interplay is performed by the CVC unit, which hence has the ability ensure the success of the corporate venture capital partnership (The Boston Consulting Group, 2014).

Corporate Governance Regulation

The Corporate governance regulation in place today was designed on the model of the 20th century firm. Accordingly, it focuses on ensuring strong internal and external organizational boundaries, fixed hierarchy and most importantly, managing the agency problem. The central focus of corporate governance regulation was protecting the investor's rights by establishing oversight and monitoring for management, which like already discussed, had the centralized control over the firm and hence also the most power, via the board of directors. Overemphasized investor rights and with them corporate short-termism coupled with regulatory compliance also created a risk averse 'nanny culture', because managers cannot afford to take risks that might decrease profits and thus conflict with the interests of the shareholders. Such risk averse corporate culture is still very much present in the corporations today and is consequently affecting their investment and with it corporate venture capital decisions. In sum, the 20th century corporate governance regulation deals with the issues of the organization and governance of firms. Such corporate governance regulation is therefore also designed to support the closed innovation model of the 20th century firms, where the innovation took place in the internal R&D departments of firms and the intellectual property rights and patents served as a source of competitive advantage, which also lead to strong intellectual property rights and patent protection laws. What is more, the overall regulation was based on the logic of 'do it ourselves in our region' and hence focused only on one market and protected the firms within that market (DiMaggio, 2009; Chesbrough, 2003; Fenwick & Veremulen, 2015; Vermeulen, 2015). The end of the 20th century was marked by numerous managerial scandals in large corporations, further fueling not only the anti-corporate sentiment, but even more rules and regulation on the organization and governance of large firms. Increased regulation is always followed by increased compliance requirements and with them compliance costs. The latter were therefore not only a significant burden for the firms, but what is more, such regulation was not addressing the biggest problems that the firms were facing in this new business landscape, namely the increasing pace of innovation, disruptive technologies and a changed competition structure (Vermeulen, n.d., 2015).

The current corporate governance regulation can hence be seen as nothing else but a challenge and a barrier for the firms that are attempting to survive in the new business environment by opening their innovation process and engaging in corporate venturing. Open innovation, and with it corporate venture capital, requires corporate governance regulation that will facilitate fluid and

porous internal and external boundaries of the firms and by doing so, enable firms to establish networks and collaborate with one another. In line with all of the above, Vermeulen (n.d.) argues for a new concept of corporate governance regulation, organizing-for-innovation, that would identify and provide the best organizational structures, practices and processes for the facilitation of innovation.

It is therefore not only the corporations and startups that must find the best organizational structure, processes and practices to facilitate their corporate venture capital partnerships (The Boston Consulting Group, 2014), but it is also the regulators who must keep up with the new business environment and provide regulation that will facilitate innovation, thus allowing the firms to capitalize on the strategic returns of their corporate venture capital investments, keep up with the innovation curve, re-capture their old success and survive in the new business environment (Vermeulen, n.d.; Fenwick & Veremulen, 2015).

Establishing trust in the contractual relationship

Essentially, directly investing corporate funds into a startup, like any other business relationship, requires the drafting, signing and implementing of a contract, which of course comes with a lengthy negotiating process. The negotiating process is normally one laced with trust issues, uncertainty and risk, especially in regards to the reasons behind the decisions of both parties to engage in the relationship (interests). Although the power inequality of the negotiating parties is not uncommon (Malhotra, 2004), it is only amplified in the case of corporate venture capital. On one hand, there is the big and powerful corporation with considerable financial capabilities and therefore the best legal team available, and a small startup with limited resources on the other. Establishing trust is therefore of central importance and also a significant challenge, due to the anti-corporate sentiment and the bad reputation of the corporate venture capital and with them corporations in the investment community (Malhotra, 2004; Reinventing the company: Entrepreneurs are redesigning the basic building block of capitalism, 2015; Lerner, 2013) . The anti-corporate sentiment refers to the lack of responsibility and accountability of the corporations for their decisions and actions, and it also refers to their general aptitude for greed and profit maximization as seen by the general public (Reinventing the company: Entrepreneurs are redesigning the basic building block of capitalism, 2015). Secondly, as discussed in more detail above, the corporations have a bad reputation in the investment industry, due to the many cycles of corporate venture capital and their risk averse culture, leading to early exits and investments at the later stages (Lerner, 2013; Chesbrough, 2000; Bielesch et al., 2012; Park & Vermeulen, 2015). If we combine this notion, with the conflict of interest between the startups and the corporations in regards to the pursuit of strategic objectives, not all of which result positively for the startup (intelligence gathering, acquisitions) (Chesbrough, 2000, 2000; Park & Vermeulen, 2015), it is not hard to imagine that establishing trust in this contractual relationship is a significant challenge. Not to mention that by partnering with a corporation, especially in regards to the fact that they are mainly 20th century firms, the startup is effectively negating everything it aimed to avoid by being a 21st century firmly. All of the above means that in today's new business environment and particularly in the case of partnering between startups and

corporations, the role of business lawyers becomes crucial and cannot be overstated. Not only in terms of helping either the corporations or the startups establish the right organizational structure, processes and practices to facilitate their corporate venture capital partnership, but first and foremost by establishing trust among the two contractual partners (Veremueln, 2015).

RECOMMENDATIONS

Innovation has been disrupting the economy and the actors within it throughout the entire history. Let us only think of the industrial revolution and how it fundamentally transformed our lives and the economy of that time. However, the technological revolution that we are witnessing today, with the emergence of the digital and networked technologies, has taken that potential for disruption even further. It has profoundly reshaped our personal lives by changing the way we socialize, communicate and even learn. Its impact on the business world has been even more profound. In the latter, it affected the established competition structure by enabling the rise of the 21st century firms, which reshaped every notion on the ways in which the firms organize, design business models and innovate. The dominant 20th century firms, faced with these competitive pressures, started pursuing various ways of reinventing their business in order to survive in the new business environment. What is more, the implications of these new digital technologies are only just unveiling and the pace of innovation keeps accelerating. The new business environment is therefore characterized by digital technologies (e.g. big data, cloud computing, social media and mobile phones), an accelerating pace of innovation and development, and firms of all possible organizational structures and business models.

So where do we go from here? My research has shown that the question is no longer could corporate venture capital be the answer to the new business environment, it is one of the answers. With over 1500 firms worldwide having a corporate venture capital unit, a 60% share in all venture rounds and presence in almost all the industries across the board, corporate venture capital is increasingly becoming the ‘go-to’ answer of large corporations to the new business realities. Especially in regards to the exponentially increasing pace of innovation, since most of the corporations report the strategic objectives, namely intelligence gathering, as their primary motive for corporate venturing. Investing in many different startups gives the corporations an insight into the latest technologies and an overview of the industry, which is enabling them to respond better to the disruptions caused by these technologies. Corporate venture capital investments also give the corporations access to the latest technological advances, allowing them to innovate faster and stay in line with, if not ahead of, the steep innovation curve of the 21st century.

However, no solution comes without certain challenges and corporate venture capital is no exception. Many corporate venture capital funds remain inactive or fail, largely due to their structural disadvantages. Among the most contentious features of corporate venture capital funds are the managerial compensation policy with fixed corporate salaries and no carried interest, and a failure to capitalize on their intelligence gathering objectives. Although corporate venture capital funds vary greatly in their organizational structure, all of them are investing with

corporate funds and are in one way or another linked and accountable to their corporate ‘parent’. These links draw considerable implications for their structure and affect their investment decisions. Particularly challenging proved to be the risk averse culture of the corporations, which is incompatible with the risk laden world of investing and the uncertainty of the startup markets, leadership support and participation in corporate venture capital investments, balancing the conflict between the strategic objectives of the corporate ‘parent’ and the startup, and lastly, the general incompatibility between the nature of the bureaucratic corporations and the flexible, dynamic startups.

Considering all of the above, the key to overcoming these structural disadvantages is to manage the interplay between the corporation and the startup, finding the right processes, corporate governance structure, compensation policy and objectives, so that these two inherently different worlds can cooperate. This is where the role of business lawyers becomes a crucial part of the answer and cannot be overstated. In fact, 81,4% of corporations have reported that lawyers are the intermediary they need the most in the process of corporate venture capital. The latter do not only serve as trust facilitators, the key element to any successful business partnership, but more importantly, they help either the corporations or the startups identify and establish the right organizational structure, processes and practices to facilitate their corporate venture capital partnership. Seeing how the role of business lawyers today has evolved beyond advising their clients on how best to fulfil compliance requirements, their legal training and with it law schools should also expand their curriculums beyond corporate governance, securities regulation and compliance training.

Furthermore, even the corporate venture capital funds that succeed in finding the ‘magic formula’ of organization, processes and practices that best facilitate the corporate venture capital partnership, then face the next insurmountable challenge to innovation and that is the current corporate governance regulation. The latter was designed to regulate the 20th century firms and their closed innovation models. Furthermore, in its attempts to manage the agency problem and curb managerial scandals, the corporate governance regulation became vastly over-regulated, thus driving the compliance requirements and costs through the roof. Such corporate governance regulation does not only pose a significant burden for the firms, but what is more, it is not addressing the biggest problems that the firms are facing in the new business landscape, namely the increasing pace of innovation, disruptive technologies and a changed competition structure. It is therefore not only the corporations, startups and their business lawyers that must find the best organizational structure, processes and practices to facilitate corporate venture capital partnerships, but it is also the regulators who must keep up with the new business environment. The regulators should provide regulation that will facilitate new organizational structures (porous boundaries, flat hierarchy), networking and collaboration between firms and most importantly, regulation that will facilitate innovation. Only by doing so, will they allow the firms to keep up with the innovation curve and survive in the new business environment or even re-capture their old success and become the drivers of the economy once again.

To conclude, most challenges cannot be solved by a single action of a single player. Problem-solving requires cooperation, collaboration and partnering in order to be successful. Since the latest technological revolution has proven to be the one of the greatest disruptions in history, addressing the implications and challenges it brings, will not only require the cooperation and partnering among the actors in the business world (corporations, startups, business lawyers), but will also require the active participation of the regulators and the governments.

REFERENCE LIST

1. The age of the torporation: Big listed firms' earnings have hit a wall of deflation and stagnation. (2015, October 24). *The Economist*. Retrieved May 26, 2016, from <http://www.economist.com/news/business/21676803-big-listed-firms-earnings-have-hit-wall-deflation-and-stagnation-age-torporation>
2. *Agilent fast facts*. Retrieved May 26, 2016, from <http://www.agilent.com/about/companyinfo/index.html>
3. *Agilent Ventures*. Retrieved May 26, 2016, from <https://www.crunchbase.com/organization/agilent-ventures#/entity>
4. Bergek, A., Berggren, C., Magnusson, T., & Hobday, M. (2013). Technological discontinuities and the challenge for incumbent firms: Destruction, disruption or creative accumulation? *Elsevier*. Retrieved May 26, 2016, from file:///C:/Users/Uporabnik/Downloads/1-s2.0-S0048733313000486-main%20(1).pdf
5. Bielesch, F., Brigl, M., Khanna, D., Roos, A., & Schmieg, F. (2012, October). Corporate Venture Capital: Avoid the Risk, Miss the Reward. Retrieved May 26, 2016, from <http://www.bcg.com/documents/file120517.pdf>
6. The Boston Consulting Group. [The Boston Consulting Group]. (2014, August 15). *BCG's Michael Brigl on Corporate Venture Capital* [Video file]. Retrieved from <https://www.youtube.com/watch?v=R-nsOa90hwI>
7. Browne, J., & Nuttall, R. (2013). Beyond corporate social responsibility: Integrated external engagement. Retrieved May 26, 2016, from <http://www.mckinsey.com/business-functions/strategy-and-corporate-finance/our-insights/beyond-corporate-social-responsibility-integrated-external-engagement>
8. Cassia, L., De Massis, A., & Minola, T. (2011). Selecting corporate venturing forms in high-tech industries: a comprehensive framework. Retrieved May 26, 2016, from <http://poseidon01.ssrn.com/delivery.php?ID=811029101084126105095108103020091027053076059068029030090096092099024083089116003075018124107061016122018113086110113000126095117071001040021126008116008064000084124055058043102125096127088071103008127004075118094096095099026120067086114077021025000119&EXT=pdf>

9. Chesborug, H.W. (2000). Designing corporate ventures in the shadow of private venture capital. *California Management Review*, 42(3), 31-49. Retrieved May 26, 2016, from <http://www.personal.psu.edu/faculty/g/i/gis1/551/Chesbrough.pdf>
10. Chesbrough, H.W. (2002). Making Sense of Corporate Venture Capital. *Harvard Business Review*. Retrieved May 26, 2016, from <https://hbr.org/2002/03/making-sense-of-corporate-venture-capital>
11. Chesbrough, H.W. (2003). The era of open innovation. *MIT Sloan*. Retrieved May 26, 2016, from <http://sloanreview.mit.edu/article/the-era-of-open-innovation/>
12. Chesbrough, H.W., Vanhaverbeke, W., & West, J. (Eds.). (2014). *New Frontiers in Open Innovation*. Oxford: Oxford University Press.
13. Christensen, C.M., Raynold, M.E., & Mcdonald, R. (2015). What is disruptive innovation? *Harvard Business Review*, 44-53. Retrieved May 26, 2016, from <https://hbr.org/2015/12/what-is-disruptive-innovation>
14. Colvin, G. (2015, October 22). Why every aspect of your business is about to change. *Fortune*. Retrieved May 26, 2016, from <http://fortune.com/2015/10/22/the-21st-century-corporation-new-business-models/>
15. Corporate Irresponsibility: There Ought to Be Some Laws - A Study of the Political and Policy Implications of Public Attitudes Toward Corporate America. (n.d.). Retrieved May 26, 2016, from https://www.organicconsumers.org/old_articles/Corp/corprage.htm
16. Devash, T. (2011). An Introduction to Corporate Venturing. Retrieved May 26, 2016, from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2070770
17. Dias, Y.B., Rosenthal, E., & Schiff, R. (2013). Venture capital as a path to innovation in payments. *McKinsey on Payments*. Retrieved May 26, 2016, from [file:///C:/Users/Uporabnik/Downloads/MoP18_Venture_capital_as_a_path_to_innovation_in_payments%20\(1\).pdf](file:///C:/Users/Uporabnik/Downloads/MoP18_Venture_capital_as_a_path_to_innovation_in_payments%20(1).pdf)
18. DiMaggio, P. (2009). *The Twenty-First-Century Firm: Changing Economic Organization in International Perspective*. s.l.: Princeton University Pres.
19. European Commission. [Innovation Union]. (2011, December 15). *Henry Chesbrough on Open Innovation - Innovation Convention 2011 – Brussels* [Video file]. Retrieved from <https://www.youtube.com/watch?v=faXWB9FXq0g>

20. Fenwick, M., & Vermeulen, E.P.M. (2015). The New Firm: Staying Relevant, Unique & Competitive. *Lex Research Topics in Corporate Law & Economics Working Paper No. 2015-5*. Retrieved May 26, 2016, from <http://poseidon01.ssrn.com/delivery.php?ID=696117021029084087115120099080126092003022059077010067123121077126081090018089000124055045059003055045042125119012028010120102061052089087080011088088015022002007052011024125102115096024104102097115082001076088094029070024065108113028126031123083114&EXT=pdf>
21. Foster, R.N. (2012). Creative Destruction Whips through Corporate America: To survive and thrive business leaders must “create, operate, and trade” without losing control. Retrieved May 26, 2016, from http://www.innosight.com/innovation-resources/strategy-innovation/upload/creative-destruction-whips-through-corporate-america_final2015.pdf
22. Foley, J. (2014, April 3). 10 Tech Trends That Will Transform Your Industry. *Forbes*. Retrieved May 26, 2016, from <http://www.forbes.com/sites/oracle/2014/04/03/10-tech-trends-that-will-transform-your-industry/#81df4f91c0eb>
23. The futures company. (2014). *The 21st Century Business Planning for success in a changing world*. Retrieved May 26, 2016, from http://tfcfiles.com/Freethinking/TFC_21st_Century_Business_FP2014.pdf
24. Gbadji, L.A., & Gailly, B. (2009). Corporate venture capital among large corporations: does the industrial sector matter? *Working paper 09/22 CREICS*. Retrieved May 26, 2016, from https://www.uclouvain.be/cps/ucl/doc/iag/documents/WP_22__Da_Gbadji.pdf
25. Global Corporate Venturing. [Global Corporate Venturing]. (2015, July 9). *GCV Symposium 2015 The Tipping Point for Corporate Venturing*. [Video file]. Retrieved from https://www.youtube.com/watch?v=3rM_62T2J_I
26. Grill, J. (2014, September 9). Why corporations and startups are working together. *Chicago Tribune*. Retrieved May 26, 2016, from <http://www.chicagotribune.com/bluesky/hub/chi-yec-why-corporations-startups-working-together-bsi-hub-story.html>
27. Jensen, M.C. (1997). Eclipse of the Public Corporation. *Harvard Business Review*. Retrieved May 26, 2016, from http://papers.ssrn.com/sol3/papers.cfm?abstract_id=146149
28. Kokalitcheva, K. (2015, October 22). This is the tech that's changing the way companies do business. *Fortune*. Retrieved May 26, 2016, from <http://fortune.com/2015/10/22/distributed-mobile-workflow-cloud-computing/>

29. Lerner, J. (2013). Corporate Venturing. *Harvard Business Review*. Retrieved May 26, 2016, from <https://hbr.org/2013/10/corporate-venturing>
30. Malhotra, D. (2004, April 5). Six Ways to Build Trust in Negotiations. Retrieved May 26, 2016, from <http://hbswk.hbs.edu/item/six-ways-to-build-trust-in-negotiations>
31. McClure, D. (2015). Bubble, My Ass: Some Unicorns Might Be Overvalued, But All Dinosaurs Gonna Die. Retrieved May 26, 2016, from <https://500hats.com/bubble-my-ass-some-unicorns-might-be-overvalued-but-all-dinosaurs-gonna-die-fb0ce311a7bd#.yhhmhq24o>
32. Murray, A. (2015, October 22). Six fundamental truths about the 21st Century Corporation. *Fortune*. Retrieved May 26, 2016, from <http://fortune.com/2015/10/22/six-truths-21st-century-corporation/>
33. *Over de Campus*. Retrieved May 26, 2016, from <http://www.hightechcampus.nl/over-de-campus>
34. Park, B., & Vermeulen, E.P.M. (2015). Debunking Myths in Corporate Venture Capital: What Works, What Doesn't, and How To Make It Happen. *Lex Research Topics in Corporate Law & Economics Working Paper No. 2015-3*. Retrieved May 26, 2016, from <http://poseidon01.ssrn.com/delivery.php?ID=174093090115100067025064080094097027052072023065091036126127071087082099005126004086061123008063054013023106083102076098005007041010074040047002099029066126022031046064063083096005101123081118067065115003094064006031085019012029026113017100124021113&EXT=pdf>
35. Puri, R. (2014, May 6). Cloud, Analytics, Mobile, And Social: Convergence Will Bring Even More Disruption. *Forbes*. Retrieved May 26, 2016, from <http://www.forbes.com/sites/oracle/2014/05/06/cloud-analytics-mobile-and-social-convergence-will-bring-even-more-disruption/#79ffacba2621>
36. Reinventing the company: Entrepreneurs are redesigning the basic building block of capitalism. (2015, October 4). *The Economist*. Retrieved May 26, 2016, from <http://www.economist.com/news/leaders/21676767-entrepreneurs-are-redesigning-basic-building-block-capitalism-reinventing-company>
37. Rohrbeck, R, Döhler, M., & Arnold, H. (2009). Creating growth with externalization of R&D results – The spin-along approach. *Global Business & Organizational Excellence*,

- 28(4), 44-51. Retrieved May 26, 2016, from <http://poseidon01.ssrn.com/delivery.php?ID=043105127121026126090075005091091121009036000082061091106020014025111001023081065011120058100122042024053113068113011072110079020090034037034102068124097094069090116058002086072120110088117089095006086001087014112127102027105025126098104084113097006091&EXT=pdf>
38. Shah, C.M., Burgers, H., & Scholten, V.E. (2008). Revisiting Corporate Venturing: Opening Up The Innovation Chain (Summary). *Frontiers of Entrepreneurship Research*, 28, 1-18. Retrieved May 26, 2016, from <http://poseidon01.ssrn.com/delivery.php?ID=600090118106117100070089071096115069101037019087067074070001094094099124010082066124050026032061006034030083069124099076074113029029009051050008066009120021019073022046085012008121026127092117096065072014115090083109072102087113064065073117008001104064&EXT=pdf>
39. Sood, A., & Tellis, G.J. (2010). Demystifying Disruption: A New Model for Understanding and Predicting Disruptive Technologies. *Marketing Science Working Paper Series 2010: Report No. 10-102*. Retrieved May 26, 2016, from <http://poseidon01.ssrn.com/delivery.php?ID=591008092002065092119122085022065024057083047011093057124027026005120011070083112076006012033059126097000024121120076120012000019037091041086077075096031065100064005046063084115096027066084123112017121113113028124002127003102089103114093105115088027&EXT=pdf>
40. Vanhaverbeke, W., Van de Vrande, V., & Chesbrough, H.W. (2008, November 19). Understanding the Advantages of Open Innovation Practices in Corporate Venturing in Terms of Real Options. *Creativity And Innovation Management*, 17(4), 251-258. Retrieved May 26, 2016, from [file:///C:/Users/Uporabnik/Downloads/Vanhaverbeke_et_al-2008-Creativity_and_Innovation_Management%20\(1\).pdf](file:///C:/Users/Uporabnik/Downloads/Vanhaverbeke_et_al-2008-Creativity_and_Innovation_Management%20(1).pdf)
41. Vermeulen, E.P.M. (n.d.). Organizing for Innovation. Retrieved May 26, 2016, from <https://medium.com/@erikpmvermeulen/organizing-for-innovation-65349e92bc50#.lm1z3cik3>

42. Vermeulen, E.P.M. (2015). Corporate Governance in a Networked Age. *Lex Research Topics in Corporate Law & Economics Working Paper No. 2015-4*. Retrieved May 26, 2016, from <http://poseidon01.ssrn.com/delivery.php?ID=170124119105003029101118124001072077122024024079020086078021118005121120108107120081017021040022038009060127031098094112000030055090056092048092123110027038075039093004095071083101022064097080094120027120000083015106104030125074113004119123&EXT=pdf>