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Corporate business hubs as a form of MNC's open innovation endeavours. The case of Henkel DX

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Abstract

This dissertation aimed to find out why multinational corporations set up corporate business hubs along with the identification and examination of factors influencing the relationship of a corporate business hub to its parent company with regards to the hub's innovation success. Considering this, a leading multinational corporation, Henkel, with its corporate business hub Henkel DX innovation hub, was selected and in the form of a single case study investigated. Therefore, existing literature was considered and primary research in the form of semi-structured interviews was conducted with employees from the parent company as well as from the hub's management team. The empirical findings show, that the main reasons for multinational corporations to set up corporate business hubs are the generation of synergies and cost savings, the assurance of a clear allocation and responsibility regarding a corporation's innovation leaders, the addition of a new marketing and communication dimension as well as the addition of another open innovation unit driving overarching innovation endeavours. The main influence factors on the relationship between hub and parent company leading to innovation success from hub perspective are budget, budget management, strategy, perception, and responsibility of the hub, employees, diversity, and communication. From the parent company perspective the main influence factors on the relationship to the hub leading to innovation success are also strategy, budget, communication, and responsibility, but also the quality level of the hub's activities and corresponding KPI's.

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Abstrato

O objectivo desta dissertação era descobrir o porquê das empresas multinacionais criarem centros de negócios empresariais juntamente com a identificação e análise dos factores que influenciam a relação de um centro de negócios empresariais com a sua empresa-mãe no que diz respeito ao sucesso da inovação do centro. Considerando isto, a MNC Henkel com o seu núcleo empresarial foi investigada sob a forma de um único estudo de caso. Assim, a literatura existente foi considerada e a investigação primária sob a forma de entrevistas semi-estruturadas foi realizada com funcionários da empresa-mãe, bem como da equipa de gestão do pólo. As conclusões empíricas mostram que as principais razões para as empresas multinacionais criarem centros de negócios empresariais são a geração de sinergias e poupança de custos, a garantia de uma clara atribuição e responsabilidade relativamente aos líderes de inovação de uma empresa, a adição de uma nova dimensão de marketing e comunicação, bem como a adição de outra unidade de inovação aberta que impulsiona os esforços de inovação globais. Os principais factores de influência na relação entre o centro e a empresa-mãe que conduzem ao sucesso da inovação na perspectiva do centro são o orçamento, a gestão orçamental, a estratégia, a percepção e a responsabilidade do centro, os empregados, a diversidade e a comunicação. Da perspectiva da empresa-mãe, os principais factores que influenciam o sucesso da inovação são a estratégia, orçamento, comunicação e responsabilidade, mas também o nível de qualidade das actividades do centro e os respectivos KPI's.

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Introduction

These days multinational corporations face increasing market pressure and competition from young, digitized companies, which offer future-oriented services and products. In order to obtain their market shares, big corporations need to go with the time and stay innovative. Having worked for a consulting company on a bank transformation project, I experienced the power of fintechs in terms of innovation and competitiveness. Fintechs are the perfect example of those new threats to big corporations. By establishing innovation-friendly environments and structures, they attract customers and hence attack the market shares of big corporations.

Consequently, multinational corporations need to deal with those new threats. This can be executed by either getting that innovative itself or by somehow connecting and linking its business and corporations to the new companies.

Innovation "from inside", via the classic R&D department, is a first form of producing innovation and hence keep up with new market entrants. However, the extant literature and economic developments showed, that no big corporation should lack the second form, which is called corporate open innovation. Corporate open innovation initiatives can be described as initiatives resulting in innovations, which are being created outside traditional R&D departments of multinational corporations. Extant literature identifies five different kinds of corporate open innovation initiatives: Corporate Business Labs, Corporate Business Incubators, Corporate Business Accelerators, Corporate Venture Capital, and Corporate Business Hubs (Blume, 2020). As being stated in the following thesis, all five types of corporate open innovation can result in significant advantages and improvements for big multinational corporations. However, they also go along with certain risks, including financial, brand, reputation, and other risks (Blume, 2020).

Therefore, it is useful to examine the different types of corporate open innovation in more detail to ensure their suitability and success in a company's specific case. This research focuses on the least examined form of corporate open innovation, which is business hubs. Only limited literature is being available on business hubs, their current importance, and determinants of success.

Taking a closer look at Business Hubs one interesting aspect, being probably outstandingly important for the innovation success, is the relationship of the hub to the parent company. Which factors influence this relationship in which way? Prior academic literature covers mainly the reasons for setting up a business hub as well as the chosen locations and working environments of Business Hubs in the German Market (Blume, 2020).

However, no extensive research is being made about the influence factors on the relationship between the hub and the parent company. This thesis addresses precisely these shortcomings by investigating the influence factors of the relationship of business hubs to its parent companies leading to innovation success. Thus, the following research questions are addressed in the study:

1. **Why MNCs decide to choose corporate business hubs as tool enhancing their open innovation endeavours?**
2. **Which factors and how are influencing the relationship of a business hub to its parent company, leading to innovation success?**

The research proceeds by giving an extensive literature overview about the 5 forms of corporate open innovation in a first step. Additionally, it takes into account the determinants of successful implementation of corporate open innovation in MNC's and reviews the current status of research regarding the relationship of business hubs to its parent company. Taking into account the fact, that companies themselves often struggle to classify the form of corporate open innovation they pursue, the understanding of the differences between the five forms of corporate open innovation is not necessary, but crucial for the second part of the research. This part investigates the importance of business hubs as a corporate open innovation tool firstly. Based on that, it determines the factors influencing the relationship between the hub and the parent company and evaluates their influence. Last but not least the qualitative research has the aim to find out how important the relationship to a parent company is to be a successful corporate business hub.

1. Open innovation and its forms within MNC's – literature review

The literature review begins with an introduction to innovation within companies, defining entrepreneurship, corporate entrepreneurship, and open innovation. Having dedicated this research to one form of open innovation, it moves on to review the requirement corporate motivation in order to implement open innovation approaches. Based on that, it digs deep regarding the different forms of open innovation as well as its specific characteristics. After having gained more detailed knowledge about the different forms of open innovation, special attention is being given to the determinants of successful implementation of open innovation within multinational corporations. This is closely linked to the research gap, which deals with the relationship of a corporate business hub with its parent company. Hence, the next section of the literature review covers determinants of successful cooperation between corporate business hubs and their parent companies. In the last section, an overview of the literature review is being given, focusing on the findings related to the defined research field and questions.

1.1 Innovation within companies: entrepreneurship, corporate entrepreneurship, open innovation

As Zhao (2005) found out, entrepreneurship and innovation are positively related and closely linked to each other. Their interaction helps an organization to flourish and achieve organizational success (Zhao, 2005). Consequently, entrepreneurship**,** which can be defined as the pursuit of opportunity beyond resources controlled (Eisenmann, 2013), is a crucial element for companies in order to achieve innovation.

One field of entrepreneurship is corporate entrepreneurship, which is important to companies being confronted with rising challenges with regards to their market environment, technological progress, globalization and others. In order to remain competitive and generate competitive advantages, one key element is the thrashing of innovation potential. In this context two main approaches are being discussed in the literature: the already mentioned approach corporate entrepreneurship and open innovation (Allmendinger & Kuckertz, 2016). Past definitions of corporate entrepreneurship have been defining the term as primary act underpinning innovation, linking entrepreneurial activity almost only to radical change

mechanisms (Amit, Glosten, Muller, 1993; McGrath, 1996). However other academic research provided evidence that corporate entrepreneurship is not solely linked to radical change, but also to the implementation of entrepreneurial behaviours within organizations. Barringer & Bluedorn (1999) state, that these entrepreneurial behaviours make individuals challenge bureaucracy and encourage innovation. Innovation is being attained by investigating potential new opportunities on the basis of acquired attitudes, which enhance a company to take risks, seize opportunities and innovate (Zahra & Covin, 1995).

Consequently, McFadzean, O'Loughlin, & Shaw (2005) defined corporate entrepreneurship as the effort of promoting innovation from an internal organizational perspective through the assessment of potential new opportunities, alignment of resources, exploitation and commercialization of said opportunities. Furthermore they point out, that the terms corporate entrepreneurship and intrapreneurship can be used interchangeably (McFadzean et al., 2005). However other literature clearly differentiates corporate entrepreneurship and intrapreneurship arguing, that intrapreneurship is more focused on the individual or team, while corporate entrepreneurship deals more with actual entrepreneurial acts or market-oriented results (Sharma & Chrisman, 1999; Simsek & Heavey, 2011)

In contrast to corporate entrepreneurship, open innovation is focused on benefiting from both: created innovation from outside the company and its R&D department as well as from inside the company with focus on how to transport the created innovations profitably to the outside open-innovation-environment parties (Chesbrough, 2003). Furthermore open innovation is not seen as one single procedure but rather as an overall process (Chesbrough, Vanhaverbeke, & West, 2014) including three ways of knowledge transfers: inside-out, reverse, and the combined (Gassmann & Enkel, 2004). The inside-out knowledge transfer can be described as the externalization of knowledge being created inside the corporation but transported outside due to different reasons. One of them is the non-alignment of the created innovation with the corporations overall strategy. The reverse knowledge flow is the outside-in process, where external knowledge is integrated into the innovation process of the corporation. Lastly, the coupled process combines the previous two knowledge transfers, mixing internal and external developments in order to achieve innovation (Gassmann & Enkel, 2004).

Due to the fact that in opposition to corporate entrepreneurship, open innovation is perceived as basis concept rather than an autonomous field of research, limited research is available about the connection of corporate entrepreneurship and open innovation. Solely Allmendinger & Kuckertz (2016) executed an extensive literature review concluding how both concepts overlap and stimulate each other. By defining six analytical categories (e.g. the

conceptual framework, the individual level or the forms of activities and instruments), they were able to identify the most relevant overlaps and differences between the two as well as the shortcomings of current literature regarding both concepts. For example, they found out, that there is the need for theoretical justified diagnostic and measurement models involving both, corporate entrepreneurship and open innovation, measuring among others the degree of openness of a corporation (Allmendinger & Kuckertz, 2016).

1.2 Corporate motivation to implement open innovation approaches

Extant literature has examined and identified the motivations of multinational corporations to implement open innovation. Majority of big corporations have the goal and task to maximize shareholder`s value, which implies steady growth. The bigger a corporation gets, the harder it is for the corporation to achieve the set growth target (Huston & Sakkab, 2004). There is a countless number of organizations, which reached the point they realized, that innovation from inside (from the R&D department) is not sufficient and efficient enough to reach the proclaimed growth targets. Examples are GE and Procter & Gamble (Immelt, Govindarajan, & Trimble, 2009).

Despite the pressure to achieve defined growth targets, companies find oneself constrained with significant competitive disadvantages, if open innovation has entered their specific industry and they don't participate. This can be attributed to the fact, that joint innovation reverts to joint resources, while closed innovation reverts to one company's resources. In a long-term, closed innovation without cooperation and exchanging knowledge can potentially result in losing the ability to interact with other companies. Hence, companies are motivated to implement open innovation in order to increase their innovativeness along with reducing their time to market (Enkel, Gassmann, & Chesbrough, 2009).

These findings are consistent with findings from Mortara, Napp, Slacik, Minshall (2009) from Cambridge University, who interviewed 26 managers from large multinational companies asking them which advantages they saw in adopting open innovation compared to the traditional model of closed innovation. Shorter time to market, the identification of new technologies and ideas as well as the access to additional competence were declared as most important reasons to adopt open innovation. Furthermore, they named cost reduction and efficiency, access to new and other markets, the possibility to influence innovation in an

ecosystem, access to vital information for decision making and the flexibility of skills as benefits of open innovation. Depending on the industry those managers are working in, they identified and ranked main advantages of open innovation differently. For instance, the reduction of time to market was identified as an especially important advantage by managers from FMCGs and electronics companies while the availability of new technologies was identified as especially important for the chemical industry companies (Mortara et al., 2009).

The exploratory case study of Frankenberger, Weiblen, Gassmann (2014) can serve as a theoretical basis and further explanation, where the corporate motivation of big corporations to implement open innovation derives from. By pursuing a multiple case study approach the paper identified five main antecedents of implementing open business models: business model inconsistency, the need to create and capture value, previous experience with collaboration, open business model patterns and industry convergence. The five antecedents refer to specific issues which in turn are closely linked to a corporate's motivation to implement open innovation approaches.

Business model inconsistency implies the lack of specific resources and capabilities within a company, which in turn leads to the motivation to open its business model to get access to the lacking resources and capabilities from outside. Consequently, this results in the improvement of a company's competitiveness. Furthermore the need to create and capture new value is especially for multinational corporations of particular importance. As stated before, companies are increasingly under pressure facing increased competition, price wars, commoditization as well as higher costs. Especially companies lacking internal innovativeness and external pressure in their industry are hence motivated to approach open innovation. Thirdly, previous positive experience with collaboration is a strong antecedent and motivation to open innovation. Fourthly, open business model patterns facilitate and motivate a company's path to open innovation. P&G is a great example, developing now around 50% of its products with open innovation approaches, having mainly opened its business model in 2000 due to observing the success of open innovation at IBM and Eli Lily. Lastly industry convergence can boost a company's motivation to open innovation. This is especially the case, if convergence results in the loss of required technological skills of the company (Frankenberger et al., 2014).

Finally, it needs to be pointed out, that the motivation to implement corporate open innovation was only examined on the level of open innovation in general and not on the level of corporate business hubs as a form of open innovation. No extensive literature is available examining the motivation to implement corporate business hubs as a form of corporate open innovation.

1.3 Forms of corporate open innovation

This research deals with the so-called business hubs. Before being able to quantify their current importance within the economy, a clear distinction from every other form of corporate open innovation must be ensured. The importance of the definition of business hubs and its clear distinction from other forms of corporate open innovation turn out, when reviewing extant academic literature about it. It can be monitored, that due to the fact, that corporate open innovation is being connected to different fields of research no explicit research stream exists (Blume, 2020). Blume (2020) took this issue up by developing a taxonomy of corporate open innovation initiatives. He identified the research fields corporate venturing, corporate entrepreneurship, radical innovation, management fashion, the incubator literature stream and the science park literature stream as influential and connected them to corporate open innovation. Based on those research fields he developed the following taxonomy for corporate open innovation:

- Corporate Business Lab
- Corporate Business Incubator
- Corporate Business Accelerator
- Corporate Venture Capital
- Corporate Business Hub

In order to ensure a correct classification of open innovation forms in the second part of the research, the following section will give definitions as well as a review of the enumerated corporate open innovation forms. The importance is being highlighted by the fact, that companies themselves often can't correctly define and name their undertaken corporate open innovation approaches and initiatives.

Consequently, in order to examine the importance of corporate business hubs, this research reviews and defines the different forms of corporate open innovation. Table 1 summarizes key characteristics and identifies unique features of the five forms that are further analysed in the following subsections.

Table 1. Overview forms of corporate open innovation

	Definition and key characteristics	Unique features
Corporate Business Lab	• Physical environments or facilities with collaborative workspaces in which groups and teams of employees can engage with each other in order to explore and extend their creative thinking beyond and above normal boundaries (Magadley & Birdi, 2009)	• Unique architecture and equipment of office spaces in order to achieve out-of-the box thinking • Offices designed for spatial reconfiguration and participant observation
Corporate Business Incubator	• A corporate business incubator is an arrangement of a company in a shared office space environment, that aims to foster the creation of business ideas by creating a flourishing environment equipped with all necessary assets (Blume, 2020) • Professional business support giving advices and coaching • Internal and/or external network provision	• Fixed duration • A shared office space, which is rented to incubates • Shared support services in order to reduce overhead costs • Existence of different forms of incubators aiming for different "exits": fast-profit incubators, leveraging incubators, market incubators, insourcing incubators,
Corporate Business Accelerator	• Accelerators can be defined as organizations aiming to accelerate successful venture creation by providing specific incubation services, focused on education and mentoring during an intensive program of limited duration (Pauwels, Clarysse, Wright, & Van Hove, 2015) (Cohen & Hochberg, 2014; Pauwels et al., 2015)	• Short-term process • Cohort-based • Focused on Return on Investment (ROI) and in general very profit-oriented • Existence of different forms aiming for different goals: Deal flow makers, welfare stimulators and ecosystem builders
Corporate Venture Capital	• Being a specific form of venture capital investments, corporate venture capital can be defined as minority equity investments by corporations in privately held entrepreneurial ventures (Dushnitsky, 2011). • Differentiation between strategic and financial CVC investments	• Link to operational capability of the investor can range from very loose to very tight • Different forms based on goals the investor aims for: driving, emergent, enabling and passive CVC investments
Corporate Business Hub	• Corporate business hubs are some kind of intermediary or connector of different corporate open innovation initiatives' activities and are able to offer cooperation possibilities, which are not limited to one development step of a new venture.(Blume, 2020) • Business hubs are platforms, which are functioning as connector between idea-hunters and idea-gatherers. The hubs have not only the task to connect those two types, but also to structure the ideas and to process it in order to bring the innovation to the parent company (Leifer, O'connor, & Rice, 2001)	• Central part of digitalisation strategy of parent company • Strong linkage to parent company's middle management • Not managed via traditional KPI's • Often maintaining relationship to universities in order to have access to leading researchers and research • Different research streams • Despite different definitions function corporate business hubs as a type of connector of various corporate open innovation initiatives' activities

Source: Own elaboration based on literature.

Weiblen, Chesbrough (2015) have also examined forms of open innovation, but compared to Blume (2020), they set the focus mainly on the engagement with start-ups. They found out, that newer models of engaging with start-ups have evolved recently. Similar to Blume's classification, they defined corporate venture capital as an established form of corporate open innovation giving companies the possibility to engage in entrepreneurial activity by purchasing equity stakes in those promising, external start-ups. Furthermore, they defined corporate incubation (inside-out) as the second established form of engaging with start-ups. However in their definition a more in-depth distinction between different forms of incubators is not being made.

Linking it to Becker & Gassmann's (2006) classification of incubators, their incubator definition is closest to the fast-profit incubator. Reason for that is, that Weiblen and Chesbrough attribute the role to develop ideas being born in the corporate environment, but not fitting with the current core business or business model, to the incubator.

Coming to the identified, new models of engaging with start-ups, it can be differentiated between two types of programs. The so-called outside-in start-up programs serve to achieve outside-in innovation, while the so-called inside-out platform start-up programs serve to establish the use of the corporation's technical platform by start-ups. The main differences to the "old" models are, that corporate ownership is typically not involved and that the programs are generally established in a way, that the corporation can engage with a larger number of start-ups at the expense of a limited scope. Furthermore, the new models are designed as complements to existing start-up support ecosystems and don't include incubator-like level of services, which in turn leads to an easier governance process, giving the corporation the possibility to move faster and more adaptable with start-ups (Weiblen & Chesbrough, 2015).

Trying to link and compare the new models after Weiblen and Chesbrough (2015) to Blume's classification of open innovation forms, it can be observed, that the information flow is key to allocate and link the classifications to each other. The new form of outside-in start-up programs can occur in all forms of Blume's classification due to the fact that an outside-in knowledge flow is being possible and foreseen in corporate business labs, corporate business incubators, corporate business accelerators, corporate business hubs as well as corporate venture capital investments. The inside-out flow start-up programs, implying the corporation to get a platform provider for their start-ups and in the economy in general, are not really mentioned in Blume's classification. However, it can be logically derived, that corporate business labs and corporate business hubs can evolve into a platform provider with an inside-out knowledge flow. In contrast, corporate business incubators, corporate business accelerators

as well as corporate venture capital investments are mostly based on external knowledge from the beginning, which implies an outside-in knowledge flow.

1.3.1 Corporate Business Labs

On the basis of Blume's taxation this research uses the terms innovation laboratories and business laboratories synonymously (Blume, 2020). It is important to send this information ahead due to the various definitions and understandings of innovation/business labs in extant academic literature.

Identifying and analysing extant academic research about corporate business labs, it can be observed that limited research addresses this form of corporate open innovation. Lewis and Moultrie (2005) were among the first ones, to develop a theoretical explanation for the phenomenon innovation laboratories on the basis of 3 UK-based laboratories. Building on Lewis' and Moultrie's definitions and findings, Magadley and Birdi examined the effectiveness of a major UK-based innovation lab using a mixed-method approach (Magadley & Birdi, 2009).

In general, corporate business labs can be defined as physical environments or facilities with collaboratives workspaces in which groups and teams of employees can engage with each other in order to explore and extend their creative thinking beyond and above normal boundaries (Magadley & Birdi, 2009).

Furthermore business labs can be characterized along two dimensions: its structure and its infrastructure. The structural dimension defines corporate business labs as physical research settings, which are designed for spatial reconfiguration and participant observation (Griffin & Kacmar, 1991). Along with the functionality, the architecture of the rooms is key to achieve out-of-the-box thinking, consequently influencing participant behaviour positively. Examples for architecture variation is the lighting or décor (Lewis & Moultrie, 2005). The infrastructural dimension defines the equipment being provided in the lab, which in general comprises simple devices (e.g. pens post-its etc.) as well sophisticated information communication technology like computers or tablets (Dennis et al., 1988).

Lately rising academic as well as economic attention has been given to corporate business labs in the public sector. However, a clear distinction must be made with regards to innovation in the corporate and the public sector. This can already be observed at the level of defining a corporate business lab. In contrast to the pointed out definition of a corporate business lab, a business lab in the public sector has no upon-agreed definition. Furthermore,

similar to the corporate sector, public institutions use a vast of terms referring to the same labs. The terms change lab, social innovation lab, public policy lab and others are being all used describing the same type of lab (McGann, Blomkamp, & Lewis, 2018). However this research solely focuses on corporate open innovation, which consequently excludes forms of innovation in the public sector.

1.3.2 Corporate business incubators

As stated in the introduction researchers and practitioners struggle with the definitions and vocabulary in the field of innovation in general and also with the term of corporate business incubators (Gobble, 2016). In order to define this form of corporate open innovation correctly as well as differentiating it from other forms of corporate open innovation, a closer look at its linguistic definition is useful. An incubator is defined as 'a piece of hospital equipment which helps weak or small babies to survive' or 'a piece of equipment used to keep eggs or bacteria at the correct temperature for them to develop' (Collins, 2020). Linking this linguistic definition to business it can be logically derived, that the baby, eggs and bacteria are synonyms for companies. Reviewing academic papers, addressing corporate business incubators, it can be observed that majority of them links the definition of incubators to the following characteristics (Bergek & Norrman, 2008):

- a shared office space, which is rented to incubates
- shared support services in order to reduce overhead costs
- professional business support giving advices and coaching
- internal and/or external network provision

To illustrate the occurrence of the mentioned characteristics Blume's definition of corporate business incubators is being replicated, defining a 'corporate business incubator as an arrangement of a company in a shared office space environment that aims to foster the creation of business ideas by creating a flourishing environment equipped with all necessary assets (Blume, 2020).

Furthermore corporate business incubators have their focus on early stage start-ups, which are in their first stages of development and growth (see table 2). Therefore, in most cases, they function as subsidiaries or own business units of the incubator (Becker & Gassmann, 2006b; Weitnauer, 2018).

With regards to different types of incubators various researchers developed different typologies of incubator types. Barbero et al. give an extensive overview about developed typologies including the ones of Allen and McCluskey, Aernoudt, Grimaldi and Grandi, Becker and Gassman and von Zedtwitz and Grimaldi (Barbero, Casillas, Wright, & Ramos Garcia, 2014). Table 2 gives an overview about the types of incubator being defined as well as the variables being used in order to do so.

Table 2. Classification of incubator types

Author	**Types of incubators**
(Allen & McCluskey, 1991)	(1) For-profit property development incubators, which primarily seek to capture real estate appreciation. (2) Non-profit development corporation incubators, which primarily seek to create jobs as well as enhancing entrepreneurial climate. (3) Academic incubators, which primarily seek to commercialize university technology by setting up a collaboration between faculty and industry. (4) For-profit seed capital incubators, created by seed fund managers, wanting their firms to be located in one location in order to give them maximum attention to capitalize investment opportunities.
(Aernoudt, 2004)	(1) Mixed incubators, which are dealing with business gaps and define the creation of start-ups and employment in all sectors as main objectives. (2) Economic development incubators, which are dealing with regional or local disparity gaps and define regional development and business creation in all sectors as main objectives. (3) Technology incubators, which are dealing with entrepreneurial gaps and define the creation of entrepreneurship and the stimulation of innovation in the technology sector as main objectives. (4) Social incubators, which are dealing with social gaps and define the integration of social categories and employment creation in non-profit sectors as main objectives. (5) Basic research incubators, which are dealing with discovery gaps and define bleu-sky research and spin-offs in high tech sectors as main objectives.
(Grimaldi & Grandi, 2005)	(1) Business innovation centres, which are public incubators offering a set of basic services to tenant companies (2) University business incubators, which are institutions that provide support and services to new knowledge-based ventures. They are similar to business innovation centres, but more focused on the transfer of scientific and technological knowledge to companies. (3) Independent private incubators, which are set up by single or group of individuals, who try to help entrepreneurs to create and grow their business and in return take a portion of equity in the new venture as fees or investments (4) Corporate private incubators, which are owned and set up by large corporations

	with the aim of supporting the emergence of new independent business units within the corporation.
(Zedtwitz & Grimaldi, 2006)	(1) Regional business incubators, which are national or public not-for profit incubators with the mission to develop the regional economy. (2) University incubators, which are not-for-profit incubators promoting academic entrepreneurship and are funded regionally or by the public. (3) Independent incubators, which are privately funded for-profit incubators with the mission of creating successful start-ups in the industry (4) Company internal incubators, which are privately funded for-profit incubators with the mission of exploiting or leveraging internal ideas. (5) Virtual incubators, which are privately funded for-profit incubators with the mission to support would-be entrepreneurs focusing on the internet and ICT industry.

Source: Barbero et al., (2014, p. 154.)

Regardless of the types and naming of incubators by different researchers various types of incubators are quite similar. Therefore Gassmann and Becker differentiate between four different forms of corporate business incubators all having different missions, as well as exit-strategies:

- *Fast-profit incubators*, which underly the thought of leveraging and maximizing the value of a company's intellectual property by giving financial support and in turn outsourcing this property if not in line with the company's strategy. Consequently this incubator type incubates for profit with a fast spin-off in order to generate this profit. Logically, this incubator acts as a matchmaker with external markets (Becker & Gassmann, 2006a)
- *Leveraging incubators*, which are focused on internal procedures and operations assuming, that an underutilization of core technologies occurs within large companies. This is due to the fact that large corporations fall victim to complex structures and consequently innovative products and services would not reach markets via the established complex company structures and procedures. Followingly leveraging incubators have the mission of incubation for growth serving as an internal matchmaker between business units integrating new products and services into core business in the end (Becker & Gassmann, 2006a)

- *Market incubators*, which have the mission of incubation for market development by focusing on products, services and technologies that are closely related to a company's core strategy but not part of it. Taking into account, that it goes along with market development, market incubators can be also described as a tool of vertical strategy (Becker & Gassmann, 2006a; Blume, 2020)
- *Insourcing incubators*, which in contrast focus on products, services and technologies, that are part of a company's core strategy. However, as the term insourcing already states, this innovation was created externally and consequently it is the goal of insourcing incubators to search for potential innovation outside the corporate in order to acquire it. In turn the exit is an integration into the corporation (Becker & Gassmann, 2006a).

1.3.3 Corporate accelerators

Closely connected to the corporate open innovation form of corporate business incubators are corporate business accelerators. In fact, it can be observed that a number of extant academic papers don't differentiate between corporate business incubators and corporate business accelerators. For instance Becker and Gassmann used the term accelerator in the same breath with the term incubator when having analysed the kind of knowledge that facilitates hatching and leveraging of technologies through the incubation process (Becker & Gassmann, 2006b).

Nonetheless, recent research dug deep regarding the definition of accelerators in general as well as its connection with incubators. Accelerators can be defined as organizations aiming to accelerate successful venture creation by providing specific incubation services, focused on education and mentoring during an intensive program of limited duration (Cohen & Hochberg, 2014; Pauwels et al., 2015). The evolution of accelerators can be traced back to shortcomings of incubation models, which primarily took care of the provision of office space as well as in-house business services (Bruneel, Ratinho, Clarysse, & Groen, 2012). In order to set accelerators apart from incubators the elaboration of their main differences is helpful (see table 3). Besides the fact that the focus on providing physical resources is less pronounced, their legal status differs in most cases. Incubators are in general not-for-profit organizations, while accelerators are in general for-profit organizations. Furthermore, accelerators focus on next stage, high-growth firms operating primarily in sectors with a short time to market giving them

the possibility to execute a short-term project (A. Isabelle, 2013). Table 3 presents the described differences in an overview.

Table 3. Differences between incubators and accelerators

Incubator	**Accelerator**
For early-stage start-ups	For next stage, for high-growth forms
Long-term process	Short-term process
Sectors with longer time to market	Sectors with shorter time to market
An institution	A program within an institution
Building sustainable firms	Short-term horizon, cohort-based
More focused on economic development	More focused on growth and ROI
Generally not-for-profit	Generally for-profit
Older establishments	Newer establishments or programs

Source: Isabelle (2013, p. 19)

In order to provide a complete overview and gain an extensive understanding about the corporate innovation form business accelerators another classification is being provided. Pauwels et al. (2015) found out, that accelerators can be, in turn, subdivided into three types of accelerators:

- *Deal flow makers*, which have the goal to identify investment opportunities for investors, consequently are funded from private investors as business angels, venture capital funds and/or corporate venture capital
- *Welfare stimulators*, which are aiming to stimulate start-up activities and economic development.
- *Ecosystem builders*, which are aiming to match customers with start-ups in order to build a corporate ecosystem (Pauwels et al., 2015)

1.3.4 Corporate Venture Capital (Corporate venturing)

Another form of corporate open innovation being used by multinational corporations are corporate venture capital (CVC) investments. Being a specific form of venture capital investments, corporate venture capital can be defined as minority equity investments by

corporations in privately held entrepreneurial ventures (Dushnitsky, 2011). This form of open innovation is used to attain knowledge and innovation created outside the corporation from companies being not listed on the stock market yet (Dushnitsky & Lenox, 2005). It is important to point out, that the definition of corporate venture capital investments this research follows, excludes "indirect" investments, which are investments made by external funds not being managed by the specific corporation (Chesbrough, 2002).

In order to differentiate between different forms of corporate venture capital investments, a classification along two characteristics can be executed. The first characteristic is the objective of the investment, which can either be strategic or financial. A corporation following strategic objectives tries to leverage its own sales, revenues and operations by identifying synergies between the own company and the new venture. In contrast a corporation following a financial objective mainly focuses on high financial return of the new venture, which is not necessarily related or connected to the corporation itself (Chesbrough, 2002). The second characteristic is the link to operational capability, what is the degree to which the operations of the investing corporation to the start-up is linked. This degree can be measured on a scale from very tight to very loose. Depending on the specific situation the new venture can profit from the corporation, for instance by using the corporation's manufacturing plants, but also the corporation can benefit from the new venture. An example for this "knowledge flow" is the implementation of new venture's operational activities (Chesbrough, 2002).

Based on those two degrees, table 4 visualises the four forms of corporate venture capital, which can be differentiated. The first form are driving investments, which are characterized by close ties of the new venture to the parent company as well as a strategic corporate investment background. This form of corporate venture capital is often used if a corporation tries to extend the current portfolio and consequently develops and advances the strategy. The second form of corporate venture capital investments, enabling investments, are also characterized by a strategic investment objective, but in contrary with a loose connection to the parent company (see table 4). This loose connection doesn't mean, that no benefitting from the parent company takes place. It rather promotes the new ventures management by giving it a high degree of decision freedom. Consequently, enabling investments are being chosen if a corporate tries to complement the strategy of the current business, when it tries to build an ecosystem (Chesbrough, 2002). In contrast emergent investments are being executed, if the new venture has little to extend the strategy, but the parent company sees a financial opportunity. It builds strong ties to the new venture, letting it benefit from its operational capabilities. However, the parent company always keeps in mind, that with a shift of strategy

emergent investments could get valuable and hence develop to driving investments (Chesbrough, 2002).

Lastly passive investments are not connected strategically to the corporation and furthermore characterized by a loose connection to the corporation's operational capabilities. Followingly, this form of corporate venture capital puts the corporation in the position of being an investor without gaining any other advantage (Chesbrough, 2002).

To sum it up corporate venture capital investments, as a form of corporate open innovation, can take on different forms, which in turn, dependent on certain characteristics, can lead to innovation. Table 4 summarizes those different forms of corporate venture capital investments.

Table 4. Classification of Corporate Venture Capital

	Corporate investment objective: strategic	Corporate investment objective: financial
Link to operational capability: tight	**Driving**: advances strategy of current business	**Emergent**: allows exploration of potential new businesses
Link to operational capability: loose	**Enabling**: complements strategy of current business	**Passive**: provides financial returns only

Source: Chesbrough (2003, p.7).

1.3.5 Corporate Business Hubs

Finally the last form of corporate open innovation, corporate business hubs, is being examined. As already stated in the introduction, only very limited literature about corporate business hubs is being available. Furthermore, the available literature is inconsistent in terms of defining this form of corporate open innovation and further background. A reason for that can be the fact, that open innovation is still not perceived as an autonomous research stream.

Consequently researchers, focusing on different research streams, address and connect corporate business hubs to "their" research streams. For instance, German researchers from the field of economic geography try to put innovation and creativity labs in context with corporate business hubs. They define them as physical spaces for testing innovative ideas, alternative business models, new economic practices or flexible cooperation (Schmidt, Brinks, & Brinkhoff, 2014). In contrast Chan & Lau (2005) and Chan, Oerlemans, & Pretorius (2010),

who do not differentiate between corporate business hubs and science parks, define hubs as physical zones where technological facilities and service-related assets are present, which can accelerate the development of settled-down companies (Blume, 2020). They observed, that hubs are often created by governments, who give the control to private companies in order to foster specific important trends like e-mobility, for instance. Furthermore, those hubs are often maintaining relationship to universities in order to have access to leading researchers and research (Chan & Lau, 2005).

Another type of corporate business hubs is being defined in the radical innovation literature. On the basis of a six-year longitudinal study of 12 radical-innovation projects in 10 large, mature companies, (Leifer et al., 2001) formulated seven key strategic imperatives to implement radical innovation in big corporations. In their model, they define idea-gatherers and idea-hunters, which are both connected to a radical innovation hub. Idea-hunters are internal or external employees which actively search for innovation and idea-gatherers are alert and ready to react to promising radical ideas (Leifer et al., 2001). Consequently, they define hubs as platforms, which are functioning as connector between the mentioned idea-hunters and idea-gatherers. The hubs have not only the task to connect those two types, but also to structure the ideas and to process it in order to bring the innovation to the parent company. Furthermore Leifer et al. (2001) realized that different companies used different names for this kind of corporate open innovation and that there is no literature available about the management approaches regarding this kind of hub (Leifer et al., 2001).

However, while creating a new taxonomy for corporate open innovation initiatives in 2020, Blume studied among others corporate business hubs and why and how multinational corporations should create and run them. He defines corporate business hubs as some kind of intermediary or connector of different corporate open innovation initiatives' activities, which are able to offer cooperation possibilities, which are not limited to one development step of a new venture. Furthermore, he explored the motivation and expectations, location and working environment, the new venture target selection process, the investment period, financing strategies as well as management best practices of corporate business hubs.

His definition of corporate business hubs along with the characteristics of the corporate business hubs he defined, which are illustrated in table 6, are being applied as the basis for this thesis. Reason for that is the currency of his book along with the fact of his research being most in-depth with regards to corporate business hubs.

To sum it up, as table 5 presents, different research streams define corporate business hubs in different ways. Furthermore, there is limited literature regarding them, among others

regarding successful management practices. Nonetheless it can be concluded, that corporate business hubs function as a type of connector of various corporate open innovation initiatives' activities (Blume, 2020).

Table 5. Overview definitions of corporate business hubs

Research paper(s)	**Definition**
Innovation and creativity labs in Berlin (Schmidt et al., 2014)	Physical spaces for testing innovative ideas, alternative business models, new economic practices or flexible cooperation.
Assessing technology incubator programs in the science park: the good, the bad and the ugly (Chan & Lau, 2005); Knowledge exchange behaviours of science park firms: the innovation hub case (Chan et al., 2010)	Physical zones, where technological facilities and service-related assets are present, which can accelerate the development of settled-down companies.
Implementing radical innovation in mature firms: The role of hubs (Leifer et al., 2001)	Platforms, which are functioning as connector between idea-hunters and idea-gatherers. The hubs have not only the task to connect those two types, but also to structure the ideas and to process it in order to bring the innovation to the parent company.
New taxonomy for corporate open innovation initiatives (Blume, 2020)	Corporate business hubs are some kind of intermediary or connector of different corporate open innovation initiatives' activities and are able to offer cooperation possibilities, which are not limited to one development step of a new venture.

Source: Own elaboration based on literature

Table 6. Characteristics of corporate business hubs

Characteristic group	**Characteristics**
Motivation & expectations	Central part of digitalisation strategy of parent company; implemented top down and to identify relevant trends for the parent company; implemented to assure long-time development of parent company; expected to create surrounding, which is open for experimental business models; expected to create profit for parent company by using existing assets for open innovation; expected to create sub-initiatives, which should give the parent company an innovative image.
Location & environment	Close to the parent company's headquarters or in a start-up ecosystem city like Berlin; designed as open offices with self-made elements incl. meeting and workshop rooms with creativity fostering elements; employs different in-house experts globally depending on strategy; flat hierarchies with shared tasks and project based, but final decisions taken jointly by corporate business hub's and parent company's management.
New venture target selection process	Active scouting activities around globe via scouting agencies; active in pre-defined research fields aligned with parent company's strategy; parent company's management can influence corporate business hub's decisions
Investment period	Depending on strategy in different development stages and situation-based exit.
Financing strategies	Pre-defined budget; in case of investment in external start-up at least blocking minority stake; minimize risk via focusing on known industries
Management best practices	Corporate business hubs give guidance to parent company's assets to up-scale; organisationally and culturally clearly separated from parent company; strong linkage to parent company's middle management; not managed via traditional KPI's; culture of failure acceptance with agile and flexible structure of the initiative

Source: Blume (2020, p.272).

1.4 Determinants of successful implementation of corporate open innovation's initiatives in MNC's

Besides the choice of the form(s) of corporate open innovation being implemented by multinational corporations, it is crucial to examine the influence factors on the process and success of corporate open innovation initiatives. Hence, it must be examined how companies implement corporate open innovation initiatives and what factors must be taken into account in order to ensure a successful implementation and outcomes.

Before identifying and classifying significant influence factors on the success of open innovation, it needs to be defined what is understood by success through open innovation. The reasons to implement open innovation differ from company to company, though certain reasons for implementation can be monitored across the board. Companies take part in open innovation activities in order to increase innovativeness and reduce time to market (Enkel et al., 2009). For example Procter & Gamble announced an increase of their product success rate by 50 % as well as an increased efficiency of its R&D by 60 % (Huston & Sakkab, 2004). Consequently successful implementation of open innovation can be traced back to more innovation efficiency as well as product success and time to market reductions.

In order to achieve successful open innovation implementation, various determinants are influential. Prior literature examined this topic and has identified various factors having significant influence on the success of corporate open innovation (Chesbrough & Crowther, 2006; Durst & Stahle, 2013; Katz & Allen, 1982; Kohler, 2016; Lichtenthaler & Ernst, 2006; Savitskaya, Salmi, & Torkkeli, 2010; Schein, 1992; van de Vrande, de Jong, Vanhaverbeke, & de Rochemont, 2009). Table 7 visualises a broad classification of these factors into the following groups: internal factors, external factors and form, design of open innovation.

Table 7. Determinants of successful implementation of corporate open innovation

Group	Selected factors
Internal factors	Resources, human capital, internal knowledge flow, overall company's strategy, entrepreneurial mindset (intrapreneurship), Cultural differences and attitudes (e.g. NIH attitude, diversity in terms of gender, age education etc., commitment), relational issues (e.g. trust, open communication, openness or understanding the nature of collaboration), motivation and leadership (Ades et. al., Buganza and Verganti, Mortara & Minshall, Schein, Van de Vrande et al., Olokundun et al., Lichtenthaler)
Form & design of open innovation, identification of right partners	Choosing the form, identification of the right collaboration partners, understanding different stages of the process, timing (Mortara & Minshall, Chesbrough, Chesbrough and Weiblen, Prashantham & Birkinshaw)
External factors	Governance, Legal conditions, Institutional conditions, access to external information and knowledge flow (Savitskaya et al., Feller et al., Van de Vrande et al.)

Source: Own elaboration based on literature

The division of determinants into the three above groups is being executed under the promise to give a better overview, however majority of them are linked and dependent on each other, not only within a group, but also in-between the groups. A good example for this dependency is the internal factor cultural differences, which is directly linked to the internal knowledge flow, resources or institutional conditions, for example.

Mortara & Minshall, (2011) were among the first ones to examine the process of implementing corporate open innovation in more than 40 multinational companies. By reviewing 43 multinational firms across a wide range of sectors, they identified 3 deciding factors influencing the path of those companies to move from closed to open innovation (L Mortara & Minshall, 2011).

The first factor, innovation needs, is connected to a corporation's strategy, which is an internal factor. Does a corporation want to achieve both, evolutionary and revolutionary change simultaneously, or not? Based on that, it needs to carry-out just inbound or inbound as well as outbound activities (L Mortara & Minshall, 2011). With regards to other internal factors, the available resources and human capital are further crucial determinants of successful implementation of corporate open innovation. A company needs to have employees at its

disposal, which provide a set of abilities, that allow them to access and assess capabilities and external opportunities in order to seek for open innovation successfully (Ades et al., 2013). Dependent on and closely linked to the human capital of the available employees are cultural differences, for example the so called NIH, the Not-Invented-Here attitude (Schein, 1992). Also other factors like trust, open communication as well as openness or understanding of the nature of collaboration in general refer to cultural differences and culture. Mortara & Minshall, (2011) define culture as the second deciding factor and relate it to the company's ability to execute inbound, outbound or both types of activities. Based on a long-time evolved culture, some multinational firms struggle implementing corporate open innovation due to the fact, that they are not able to execute outbound activities. However, a number of big corporations have managed to implement outbound activities into their culture and identity. For example, IBM has reported licensing revenues of more than $ 1.2 billion in 2004 illustrating the importance of outbound open innovation activities (Lichtenthaler, 2009).

Additionally the employees` motivation has significant influence on successful implementation of corporate open innovation initiatives (Ades et al., 2013). Defining motivation as the employee's ability of low resistance to the introduction of corporate open innovation, a clear connection to culture and the NIH can be drawn. The resistance can be tackled by involving employees in the decision making process as well as transparent internal and external communication during all stages of the open innovation process. Another, directly linked, internal factor is the existence of an entrepreneurial mindset, which is often referred to intrapreneurship. As Olokundun et al., (2018) found out, the development and promotion of intrapreneurship plays, along the creation of platforms for employees to express their visionary and creative abilities, a major role to promote corporate open innovation (Olokundun et al., 2018).

The timing of implementation, being the second factor defined by Mortara & Minshall, relates to the pioneering model of Chesbrough in 2003. It can be observed, that multinational firms having implemented corporate open innovation before 2003, tended to have centralized corporate open innovation efforts and structures, while companies having established open innovation after 2003 rather had decentralized open innovation activities (Mortara & Minshall, 2011). The timing of implementation can be understood as part of the form & design of open innovation group.

Having already addressed the timing of implementation as a factor, the form of corporate open innovation is also a decisive determinant of successfully implementing corporate open innovation (Weiblen & Chesbrough, 2015). Differentiating between four

models of engaging with start-ups Weiblen & Chesbrough identified different determinants of successful corporate open innovation implementation for each model. Exemplary, having chosen the corporate open innovation form of corporate incubation the autonomy from corporate guidelines, influence and standard procedures is a decisive determinant of success, while in corporate venturing clarity about the strategic mission along with clear positioning towards the start-up world is crucial (Weiblen & Chesbrough, 2015).

Independent of the form of corporate open innovation, the identification of the right partners is another determinant of the successful implementation of corporate open innovation (Prashantham & Birkinshaw, 2008).

Furthermore, referred to external factors, institutional differences set by economic regimes also have an extensive influence on corporate open innovation. Especially different legal conditions regarding intellectual property rights protection can have significant effects on the participation and behaviour in general of companies with regards to corporate open innovation. Taking a country protecting intellectual property exemplary, it can be observed, that innovation is being leveraged as well as foreign direct investment increased (Savitskaya et al., 2010).

Lastly, with regards to the structure of corporate open innovation initiatives and its accompanying relationship to the classic R&D department, extant research focused on the evolution of the classic R&D department to open research & development. This open R&D approach involves not only the outside-in process of open innovation, but also the inside-out and coupled process (Enkel et al., 2009). However the current academic literature lacks research and knowledge about the intra-firm bargaining processes concerning the handling of identified innovation and the related resource allocation.

1.5 The relationship between corporate business hubs and their parent companies: determinants of successful cooperation

As stated the current status of academic research regarding corporate business hubs is limited. Consequently there is very limited academic in-depth research about factors having an influence on the relationship of a business hub to its parent company available. Logically, the way these unexplored factors influence the relationship is also not examined in-depth.

Looking at it from a broader perspective, which is the relationship of a corporation (the parent company) to its departments, initiatives and partners focusing on innovation, extant academic literature put the focus on network formations (Cantwell, 2013; Munoz & Lu, 2011).

It mainly observes, that the tendency towards open networks for innovation tended to increase a both-sided knowledge flow as well as an organizational restructuring of multinational corporations. However, this also leads to new intra-firm conflicts being not existent before. Besides the issue of overlapping networks (some individuals belong to a specific network while others from the same group don't belong to it), it also generates the issue of resource allocation within the corporate group (Cantwell, 2013).

Narrowing it down from the relationship of a corporation to its departments to the relationship of innovation hubs to their parent companies, a study from Berger & Brem (2016) can give further insights. Their best practices study about the set-up of innovation hubs of European multinational corporations in the silicon valley identifies several determinants of successful cooperation between innovation hubs and their parent companies (Berger & Brem, 2016). They observe, that successful communication within an organization as well as external communication is crucial. This includes a proper handling of the innovation hub staff by building strong network ties along no envy and refusal. Furthermore, the handling of threats from within a MNC is key to the success of the hub in general as well as an important determinant of the parent-hub relationship. By handling of threats from within, the internal resistance towards rapid change is meant, which is often underestimated and existent in every hierarchy level of a multinational corporation (Berger & Brem, 2016).

Furthermore several academic papers mention the geographical location of an innovation hub as important with regards to talent acquisition, knowledge sharing, networking, reputation building and others (Chan & Lau, 2005; Chan et al., 2010; Schmidt et al., 2014). However, no researcher specifically examined and linked the geographic location to the relationship of a MNC to its innovation hub yet.

In order to sum the determinants influencing the relationship between innovation hubs and its parent companies up, organizational structure, knowledge flow, overlapping networks, internal and external communication, handling of threats as well as geographical location of the innovation hub are influential. However, how these factors are influencing the relationship is not examined yet.

1.6 Summary of the literature review

In order to present the summary of the literature review, the key findings about the researched areas can be found in the mentioned table below. The reviewed studies suggest about open

innovation in MNCs in general, its forms, determinants of successful implementation and the relationship between business hubs and its parent companies the following:

- The motivation of MNCs to implement and apply open innovation approaches arises from the need of innovating and staying competitive. Five main antecedents influence the application of open innovation approaches (Frankenberger et al., 2014)
- In order to apply open innovation in MNCs there exist various forms, which can be differentiated into corporate business labs, corporate business incubators, corporate accelerators, corporate venture capital and corporate business hubs (Blume, 2020)
- There is a vast amount of determinants influencing the successful implementation of open innovation approaches. They can be broadly divided into the following groups: external factors, internal factors and form & design of open innovation along with the identification of the right partners (Durst & Stahle, 2013; Pauwels et al., 2015; van de Vrande et al., 2009)
- The relationship between corporate business hubs and their parent companies is not examined in-depth by now. However, on the level of corporate open innovation in general, knowledge-flow as well as the organizational structure influence the relationship. Additionally, on the level of innovation hubs, internal and external communication, handling of threats in the parent corporation as well as the geographical location are influential (Berger & Brem, 2016; Cantwell, 2013)

Table 8. Summary of key findings and knowledge gaps

Area	**Main paper(s)**	**Key findings**	**Key findings and knowledge gaps concerning MNC-corporate business hubs**
MNC motivation to apply/implement open innovation approach	**Frankberger et al., 2014,** The antecedents of open business models: An explorato-ry study of incumbent firms	• Multiple case study approach identified five main antecedents of open business models: business model inconsistency, need to create and capture new value, previous experience with collaboration, open business model patterns and industry convergence • Need to create and capture new value is of outstanding importance	• No research regarding the motivation to implement open innovation, if the innovation approach is via corporate business hub, available
Forms of corporate open innovation	**Blume, T., 2020,** New taxonomy for corporate open innovation initiatives	• Classification along five different forms with specific features and characteristics possible: Corporate	• Different research streams dealing with corporate

		business labs, corporate business incubators, corporate accelerators, corporate venture capital and corporate business hubs • Various naming and descriptions depending on researcher and institute of research • All follow the overall goal of achieving added value for the investor	business hubs as open innovation form • Different forms imply different definitions • Overall very limited research about corporate business hubs available
Determinants of successful implementation of open innovation approaches	**Van de Vrande et al., 2009,** Open innovation in SMEs: Trends, motives and management challenges **Durst S. & Stahle P., 2013**, Success factors of open innovation – A literature review	• Durst & Stahle highlight eight different success factors for the open innovation process (relational aspects, people involved in the process, governance, facilitators, provision of resources, strategy, process management, leadership and culture • Van de Vrande et Al. define organizational and culture issues as most challenging determinants when trying to successfully implement open innovation approaches • Hence, a possible classification of determinants into the following groups can be concluded: external factors, internal factors, human factors and form of corporate open innovation along with identification of right partners	• No specific research available on the level of the corporate open innovation form business hubs • Availability of research only on the level of open innovation in general
Relationship between business hubs and its parent companies	**Berger A. & Brem A., 2016,** Why do European companies have innovation hubs in silicon valley – best practice examples and key takeaways	• On a broader open innovation level: tendency towards open networks for innovation tended to increase a both-sided knowledge flow as well as an organizational restructuring of multinational corporations • New conflicts arise from open innovation initiatives (e.g. issue of overlapping networks or resource allocation)	• Internal and external communication, flatter and more decentralised organizational structure, handling of threats as well as geographical location (not confirmed) on the level of innovation hubs • No research about how factors influence the relationship

Source: Own elaboration based on literature

2. Methodology

This chapter covers the primary research and its conduction methods. Deriving a research gap from the literature review, this chapter defines two research questions to address the identified research gap. In a first step the methodology defines the research questions and objectives. Thereupon, the chosen research approach, a qualitative approach, is being presented and explained. Afterwards criteria for the case selection are being defined and it is shown why the multinational corporation Henkel fits exactly these criteria and consequently was picked as a representative company of interest. In a last step the way data was collected is being presented.

2.1 Research questions and objectives

The main objective of the study is to examine the importance of business hubs as an open innovation tool for multinational corporations as well as the identification of factors influencing the relationship between a business hub and its parent company. Furthermore, the way these factors are influencing the relationship is investigated. Consequently, these two research questions can be derived:

- **Why MNCs decide to choose corporate business hubs as tool enhancing their open innovation endeavours?**
- **Which factors and how are influencing the relationship of a business hub to its parent company, leading to innovation success?**

The research questions are based on the research gap, which was identified in the literature review. Deriving from the literature, there exists an extensive research gap regarding corporate business hubs. Only few researchers have specifically addressed corporate business hubs as a form of open innovation and distinguished it from other forms of open innovation. Especially Leifer et al. (2001), Chan and Lau (2005) and Blume (2020) dealt with corporate business hubs, however even their definition of a corporate business hub is not consistent. Furthermore, no research is currently available addressing the importance and customary use of corporate business hubs. Based on this shortcoming the first research question is being formulated, trying to find out why MNCs use corporate business hubs as tool enhancing their open innovation endeavours.

Also, the role and behaviour of the parent company is of special importance, if trying to create open innovation. Based on this thought and the fact, that no data was gathered addressing this question, the second research question is being formulated.
Consequently, this research proclaims to Blume's (2020) definition and takes a first step in order to close the research gap by investigating two overall questions. It goes without saying, that this research can be understood as a starting point regarding research on corporate business hubs and that there is plenty of room for additional research on corporate business hubs.

2.2 Qualitative approach: case study as a research method

In order to examine the multinational corporation's motives to establish a corporate business hub as a tool enhancing open innovation within the organization, and to identify the factors influencing the relationship of a business hub to its parent company, a qualitative research approach has been selected. To be more specific, a single case study approach was executed.

Reason for the selection of a single case study approach for this thesis is, that case studies are concerned with how and why things happen (Noor, 2008). Yin defines a case study as an empirical inquiry, that examines contextual realities and the differences between what was planned and what occurred. A case study intends to investigate rather a particular issue than an entire organization, which in this case refers to the influence factors as particular issue (Yin, 2009). Additionally, case studies have the advantage of capturing the emergent and immanent properties of life in organizations as well as they are able to provide a round picture since a variety of sources and evidence can be used (Noor, 2008). Furthermore, the research approach adopted in this study builds on Eisenhardt's findings, that are central to building theory from case studies is the replication logic (Eisenhardt, 1999). Going along with the inspiring side effect of exploring an outstandingly interesting multinational corporation, the single case study being conducted, will lead to meaningful conclusions. In order to get to those meaningful conclusions, this study follows Yin's suggestions for obtaining holistic and comprehensive knowledge about a particular phenomenon by building the case study upon interviews with the use of open questions like 'how', 'what' or 'why' (Yin, 2009). Lastly, this study is meant to be of exploratory format with regards to Yin's typology of studies (Yin, 1994).

2.3 Criteria for case selection

With regards to the case selection, this research proceeded as followed: it selected big multinational corporations based on the presence of the corporate open innovation form of a corporate business hub. However, considering the fact, that multinational corporations do not name their open innovation initiatives in a consistent way, this thesis uses the defined characteristics of corporate business hubs in table 6 to clearly identify multinational corporations having a corporate business hub at its command. Especially the characteristics: central part of digitalisation strategy of the parent company; expected to create sub-initiatives, which should give the parent company an innovative image; close to the parent company's headquarters or in a start-up ecosystem city like Berlin; flat hierarchies with shared tasks and project based; final decision taken jointly by the corporate business hub's and parent company's management; organisationally and culturally clearly separated from parent company; strong linkage to parent company's middle management; not managed via traditional KPI's as well as culture of failure acceptance with agile and flexible structure of the initiative are taken into account in order to declare a multinational corporation's innovation initiative as a corporate business hub. The reason for having chosen the listed criteria can be traced back to the fact, that Blume's (2020) taxation is the most recent and detailed with regards to characteristics of corporate business hubs.

With the help of publicly available information, but especially personal ties to employees from several German multinational corporations it turned out that the German multinational corporation Henkel is predestined to be the company of interest in order to investigate on the level of a single case study. This can be proven by the fact, that other examined potential multinational corporations of interest like Audi with its "Audi Denkwerkstatt" or ProSiebenSat1 with its Accelerator do not show the defined characteristics in order to declare, that they have a corporate business hub at its disposal. However, Henkel with its Henkel DX innovation hub fulfils the defined characteristics of a corporate business hub shown in table 6. The corporation defines the hub as central to further drive the digital transformation of the company, which corresponds with the defined hub characteristic of being a central part of digitalisation strategy of the parent company (Henkel, 2021a). Furthermore, the Henkel DX innovation hub is located in the tech nerve center Berlin working agile on a project level with shared tasks and flat hierarchies. The decision making process is dependent on the involved departments and the KPI's are rather growth related and qualitative than traditional. The factors listed are examples of the totality of defined characteristics, that identify

Henkel's corporate business hub also as a corporate business hub from an academic perspective, which in turn makes Henkel with its hub the selected case for this research.

2.4 Data Collection

This research made use of primary as well as secondary data. In a first step the internet (websites, annual reports, the databases of Kozminski University) was used as a source of secondary data in order to identify multinational corporations having corporate business hubs at its disposal. This was executed on the basis of the defined characteristics, which are explained in the criteria for case selection.

Thereupon the identified company operating a corporate business hub, Henkel, was contacted in order to conduct primary data via the described qualitative approach. The technique being used to gather the data and information for this thesis were in-depth, semi-structured interviews, which helped to gain an extensive overview about the topic.

In order to achieve a holistic view on the relationship between parent company and hub, interviews with two key decision makers, one from the corporate business hub and one from the corporation, were being executed. Representing the hub perspective, the leader of open innovation of the Henkel DX innovation hub was interviewed (in corporate jargon – lead open innovation). He is one of the two leaders of the hub employing more than 140 people and having gained extensive experience in the field of innovation at Henkel and a big number of other Dax companies. From the corporation a senior innovation manager was interviewed, who has experience in various departments and countries at Henkel, and has most recently built the earlier mentioned Fritz beauty lab. Being the key decision maker at Fritz Beauty Lab, Henkel Beauty Care's innovation unit, she is in regular contact and collaboration with the innovation hub, a leading member of Henkel's innovation management team and hence a very suitable interviewee in order to get the view from parent perspective. Furthermore, around 500 pages of internal as well as external company data were analysed and incorporated in the answers to the research questions.

Due to the current Covid-19 pandemic, including lockdown in various countries, the interviews were held virtually via Microsoft Teams. However, switched on webcams replaced the face-to-face component and contributed positively to the fluidity of the exchange. The interviews lasted around 1,5 hours (90-105 min) and in order to be transcribed afterwards,

consent was requested to record the interviews. These transcripts helped to structure the received data and information and consequently the empirical analysis.

As mentioned before, the chosen tool for interview questions were semi-structured interviews. The designed interview questions templates can be found in table 9 and 10. Two different templates were designed in order to address the two perspectives, which are the corporate business hub perspective as well as the parent company perspective. The question catalogue is divided into three sections. The first section covers introducing and general questions like the interviewee's personal history with Henkel and his/her taken journey within the company or general strengths and weaknesses of Henkel with regards to innovation. The second section addresses specifically the first research question, which is why Henkel decided to set up a corporate business hub. The third section addresses the second research question, that deals with the relationship of hub and parent company influencing the hub's innovation success. Additional questions either addressed unclear answers or answers of continuing importance for the thesis. Overall, it must be added, that, generally speaking, there are two types of questions: collective questions and research-specific questions. Collective questions serve the overarching understanding of the company and interrelationships while research-specific questions directly relate to the identified research questions.

Table 9. Questionnaire for corporate business hub

Corporate business hub perspective	**Question**	**Collective question / research-specific question**
General questions	Could you tell me briefly about the corporation and your role in the organization? Where you part of the corporation before working for the hub?	Collective question
	What do you think are the company's key strengths and weaknesses regarding innovation?	Collective question
	Do you use KPI's, if not how do you measure the success of the corporate business hub?	Research-specific question
Motives for setting up a corporate business hub	Tell me about the background and the process of setting-up the corporate business hub, were you already involved?	Collective question
	Why do you think did the parent company establish a corporate business hub?	Research-specific question
	Why do you think did it decide to establish a corporate business hub instead of other forms of open innovation?	Research-specific question
	If, which other forms of corporate open innovation does the parent company have? How do you interact with it/them?	Collective question
	Which goals did the company define for the corporate business hub?	Collective question
Relationship with the corporate business hub	With how many people from which management level from the parent company do you interact?	Research-specific question

	In which frequency do you interact with them and how?	Research-specific question
	Which factors do you think are influencing the relationship of the hub to the parent company?	Research-specific question
	Which of them do you think are of importance with regards to innovation success of the hub?	Research-specific question
	How and in which frequency do you implement innovation from the hub in the parent company?	Collective question
	How is the communication process with regards to implementing innovation from the hub in the parent company?	Research-specific question
	How do you structure your hub, do you work with employees from the parent company on a daily basis?	Research-specific question
	Do you have employees in the parent company solely responsible for the corporate business hub?	Collective question
	Does the relationship between the parent company and the hub imply a both-sided knowledge flow (parent company's ideas realized in the hub and vice versa?)	Research-specific question

Source: Own development

Table 10. Questionnaire for parent company

Parent company perspective	**Question**	**Collective question / research-specific question**
General questions	Could you tell me briefly about the corporation and your role in the organization?	Collective question
	What do you think are Henkel's key strengths and weaknesses regarding innovation?	Collective question
	Could you tell me about the different open innovation initiatives your company has and what goals they specifically serve?	Collective question
	How do you measure the success of your open innovation initiatives?	Collective question
Motives for setting up a corporate business hub	Tell me about the background and the process of setting-up the corporate business hub, were you already involved?	Collective question
	Why do you think did the parent company establish a corporate business hub?	Research-specific question
	Why do you think did it decide to establish a corporate business hub instead of other forms of open innovation?	Research-specific question
	If, which other forms of corporate open innovation does the parent company have? How do you interact with it/them?	Collective question
	Which goals did the company define for the corporate business hub?	Collective question
Relationship with the corporate business hub	With how many people from the corporate business hub do you interact?	Research-specific question
	In which frequency do you interact with them and how?	Research-specific question
	Which factors do you think are influencing the relationship of the hub to you and the parent company?	Research-specific question

	Which of them do you think are of importance with regards to innovation success of the hub?	Research-specific question
	How and in which frequency do you implement innovation from the hub in the parent company?	Collective question
	How is the communication process with regards to implementing innovation from the hub in the parent company?	Research-specific question
	Which factors do you think influence the success of the innovations from the hub in the parent company?	Research-specific question
	How do you structure the cooperation with the hub, do you work with employees from the hub on a daily basis?	Research-specific question
	Do you have employees in the parent company solely responsible for the corporate business hub?	Collective question
	Does the relationship between the parent company and the hub imply a both-sided knowledge flow (parent company's ideas realized in the hub and vice versa?)	Research-specific question

Source: Own development

3. Empirical Findings

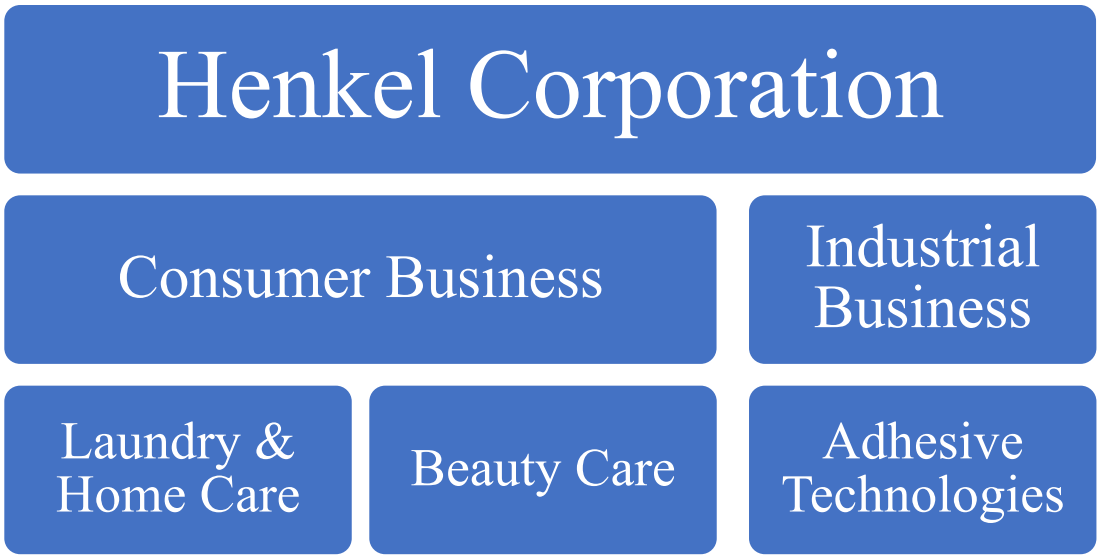
This chapter describes the results of the conducted study. The first two subchapters introduce the studied company Henkel and describe its profile and characteristics. Special focus is being given to the corporation's innovation landscape and units. The following sections deal with the defined research questions. Section 3.3 deals with the question of why multinational corporations set up and operate corporate business hubs while section 3.4 examines which factors influence the relationship between a hub and parent company impacting the hub's innovation success. This is being examined from both sides, the hub perspective as well as the parent perspective. Lastly, section 3.5 summarizes the key research findings.

3.1 Henkel – Corporate Profile

Henkel is a globally operating company with a well-balanced and diversified portfolio. The company is structured along its three core business units. The first one, Henkel Adhesive Technologies is the global leader in the adhesive market across all industry segments worldwide. Furthermore, the Adhesive Technologies unit is the leading solutions provider for sealants and functional coating worldwide. With sales of 9,461 million euros in 2019, it is Henkel's biggest business unit holding globally leading positions in attractive markets along with long-lasting, intimate customer relations. The second one, Laundry & Home Care is the cornerstone of the company's success and history. In 1876, Fritz Henkel founded the company and introduced the company's first product, a universal laundry detergent based on sodium silicate. By now, Henkel is third globally with many leading positions, trusted brands like Persil and strong innovations. The Laundry & Home Care product portfolio encompasses laundry detergents and additives, dishwashing, hard surface cleaners, toilet and air care as well as insect control products. With 6,656 million euros of sales in 2019, the business unit is responsible for 33% of total sales. The third business unit, Beauty Care also holds leading market positions worldwide, having its key competence in hair. The unit is present on the branded consumer goods and the professional hair salon markets. The portfolio contains branded products in the fields of hair colorants, hair styling, hair care, body care, skin care, and oral care. The unit has iconic brands like Schwarzkopf at its disposal, which help to build strong customer relationships as well as gain consumer insights. Furthermore, this business unit is the innovative leader in its mature markets. Responsible for the innovative leadership of the Beauty Care unit

in mature markets are the company's innovation efforts (Henkel, 2020a). Henkel's corporate structure is shown in figure 1.

Figure 1. Corporate structure of the Henkel corporation



Source: Henkel (2020a)

3.2 Henkel DX – a corporate business hub

Innovation at Henkel has gained further attention and importance within the last few years. With the publication of the latest strategic frameworks, Henkel defined innovation, sustainability and digitalization as the main competitive edge in the future (Henkel, 2021b).

Looking at the development of innovation at Henkel, the foundation of the new unit Henkel X in 2018, can be identified as a decisive milestone. Henkel X, later called HenkelX Ventures was a platform, that dealt with the topics of open innovation and digitalisation. It had the goal to lead the corporation into the new digital age (Lau, 2020). The unit was responsible for the digitalisation as well as innovation of all three described business units of Henkel as well as Henkel's supporting functions like HR or IT. Itself, it consisted of three teams: analytics, B2B/B2C customer experience and strategy & operations. Furthermore, HenkelX Ventures collaborated with more than 200 mentors, universities, customers and start-ups (Schenker, 2019).

Lately, Henkel reorganised again and founded Henkel DX, which emerged from HenkelX Ventures. With Henkel DX the company unites Digital, Business Process Management and IT expertise to solve business challenges. By focusing on the megatrends platform economy,

consumer and customer gravitation shift, outcome-based servitization and lean-fast-simple, Henkel DX builds digital and data-driven business models, to optimize, transform and disrupt (Henkel, 2021a).

At the heart of Henkel DX lie the Henkel DX innovation hubs. The Henkel DX innovation hub in Berlin is the company's most developed tech center with the goal of driving the digital transformation at Henkel. As one of, in the long-term, three digital innovation hubs at Henkel, the tech center in Berlin has the task to create leading technology solutions, boost innovative business models and ignite a digital mindset and spirit. In order to do so, Henkel DX defines five areas of expertise, which are addressed by the DX innovation hub's four teams, which are marketing, technology, innovation and ventures (Henkel, 2021a). It needs to be pointed out, that the four teams are working very flexible and agile, consequently they address the five areas of expertise more or less jointly.

The first two areas of expertise, aiming to create leading technology solutions, are addressed by a digital commerce team, which focuses on eCommerce, D2C and marketplace solutions, and an inhouse digital factory unit, which unites leading capabilities in user experience, software development, DevOps, IoT, data science and advanced analytics. Mostly employees from the technology, innovation and marketing teams bear responsibility for this areas of expertise. The digital garage and Henkel DX Ventures are aiming to boost innovative business models. The digital garage provides space for collaboration between Henkel experts as well as start-ups, tech giants and a dedicated mentor network, while Henkel DX Ventures interacts with Berlin's start-up ecosystem and executes ideas while investing into young, promising companies. Lastly, the house of open innovation and digital experience center, which are managed by the teams jointly, ignite a digital mindset and spirit by fostering exchange on innovation during events and networking sessions. (Henkel, 2021a).

However, the innovation landscape at Henkel is more fragmented. Since 2016 the business unit Adhesive Technologies operates independently a venture capital unit called Henkel Tech Ventures. Furthermore, the business units Beauty Care and Laundry & Home Care have lately established an internal idea factory and incubator teams. Since 2020 the Fritz Beauty Lab (incubator of the Beauty Care business unit) aims to identify attractive niches with a growth potential for existing brands or white spots to create completely new brands. Moreover, love nature is Laundry & Home Care's new sustainability idea factory focusing on sustainable solutions in the field of laundry and homecare products (Henkel, 2020b).

Hence, especially under the current circumstances taking into account the new, implemented innovation initiatives (especially the Fritz Beauty Lab and love nature.), it is of

extraordinary interest which role Henkel DX, Henkel's corporate business hubs, play. Why were they set-up and how do they interact with the parent company and other innovation initiatives can give deep insights on their own innovation success.

3.3 Reasons for operating a corporate business hub

As described in the literature review, open innovation initiatives are of outstanding importance for companies to maintain growth and competitiveness. Hence, there are obvious, explored reasons why not just to rely on the classic R&D department. However, it is not explored yet in-depth why multinational corporations set up specifically corporate business hubs instead of or in addition to other open innovation initiatives. This chapter will explore the motives of Henkel, which made them establish the Henkel DX innovation hubs additionally to other open innovation initiatives, but also takes into account the specific risks going along with the establishment of corporate business hubs.

3.3.1 Motives

Being an old-established industrial company and looking back at more than 140 years of company history, Henkel managed to reinvent itself and its product catalogue various times. The corporate business hub is another step to reinvent the company by addressing various goals. By setting up the Henkel DX innovation hub, Henkel aims to boost the implementation of various defined corporate strategy elements.

Firstly, Henkel defined the company's digitalisation transformation as key to further grow and be competitive. The DX innovation hub has the goal to further drive the digital transformation and digitise Henkel's classic business as the head of open innovation at the DX hub states:

> *"We are now a relevant part of the strategy. We can hire new people, we have received proper budgets, Henkel is now serious about this digital transformation."*

This is also reflected in the organizational structure of the hub. As described before, the hub consists of four different teams, which are marketing, technology, innovation, and ventures. Especially the teams marketing and technology bear the responsibility of supporting the parent company's departments in the digitalisation of the classic business. For example, the

technology team has extensive competencies in the areas of user experience (UX), software development, DevOps, Internet of Things (IoT), data science and advanced analytics, which are core to digitize the classic business. The other two teams, ventures and innovation, bear more external responsibility for innovation.

Another decisive reason for setting up the DX innovation hub was to create a unit, that takes over the responsibility of not only providing classic infrastructure and technology with regards to digitalisation, but also keeping it up to date and developing it further. That is why the corporate business hub is, from an organizational perspective, in the same unit as the IT. However, within the hub the two departments marketing and technology are responsible for providing this classic infrastructure, but also help building new infrastructure elements by either sourcing or developing it itself. Bundling the infrastructure and technology is of special importance, because of a regularly occurring lack of communication and interaction within and between the different business units of Henkel. Taking the Laundry & Home Care and the Beauty Care units exemplary, it has happened in the past, that both have used IT services from external companies addressing the same problem. Since they did not talk to each other, they just did not know about the circumstance, which made Henkel pay twice for the same technology service.

Linked, but in addition to the bundled provision of infrastructure and technology, the probably most important task and goal of the DX innovation Hub is to function as a knowledge data base and a team, that raises synergies between other units by connecting them and passing on learning effects. One dimension, on which this is being executed quite often, is on the basis of so-called rule-set engines. This, from the IT coming term, refers in Henkel's context to the following: concepts, which can be easily modified based on the specific circumstances and parameters. With regards to those concepts the leader of open innovation states the following:

> *"It is first of all about developing the right concepts, the so-called rule-set-engines, and this is something that all large organisations find difficult, because there is often not this one head of innovation."*

These rule-set engines are of special importance these days, because one product does not fit all consumers anymore. Consumers look after personalized products, which shall exactly fit their wants and needs. In order to address these different consumers with products, Henkel needs the flexibility of rule-set engines, which allows them to change parameters, which are product attributes for instance, without the need of building the product from scratch. So,

thinking in processes and having a process logic at its demand, is regardless of whether the Beauty Care unit or the Laundry & Home unit contacts the hub and asks for a piece of infrastructure, key. Before the implementation of the corporate business hub, this rule-set engine expertise and concepts were distributed between different knowledge carriers in different units, because, as in most companies, no explicit innovation leader was announced and in charge. Hence, it was impossible to share it with other units and the expertise was lost. Another dimension of raising synergies, that the hub takes over, is the role of a connector, not only internally, but also externally. Being at the heart of the German start-up and tech ecosystem, the hub has the goal to connect Henkel's units not only with each other, but also with promising start-ups and agencies. For example, the unit Adhesive Technologies was searching for expertise in the field of measuring rotations at points with sensors. They came up to the hub and the hub found the right start-up to connect them to. Another example is the Beauty Care's product M:ID, which is a personalized men's shampoo. In this case, the Beauty Care unit contacted to the hub and asked them for the expertise of developing the needed algorithm for the product. By having worked in the past with the specific company, the hub was able to connect the Beauty Care unit to the service provider and hence accelerated the product development.

However, the innovation DX hub is surely not only connector, tie and knowledge data base between and for Henkel's business units and departments. This can already be deduced from the size and organizational structure of the hub. Compared to open innovation initiatives from other multinational corporations Henkel employs a high number of employees, 150 in total. These days, in this differentiated and sophisticated market in which Henkel finds itself, it is not so much a smart product or marketing idea, but rather a quick and efficient implementation that promises success of an idea. And this quick and efficient implementation can, in most cases, be traced back to digital business models. Hence, from this fact another motive of Henkel to set up the DX innovation hub can be derived: the hub's implementation competence of digital business models. While business units can have new product and brand ideas, they mostly needed to rely on agencies in order to implement those ideas. Having the corporate business hub now at its disposal, the whole corporation gained a new valuable dimension, which is the implementation competence of digital business models. Hence, the corporate business hub really contributes its share to the value creation of the whole corporation.

On top of that, the corporate business hub serves not only as an implementation vehicle for ideas from the business units and departments, but also develops and implements its own

innovations. From an organizational perspective the unit innovation, which is case-dependent supported by the unit ventures, is responsible for these own innovations. By giving the corporate business hub its own budget, Henkel aims to make the hub not only a supportive function, but also a unit contributing innovation and in the end value creation. The goal of the value creation contribution can be read off from the size of the hub alone. A recent example of really adding value to a whole corporation could be observed in the Oetker corporation. Oetker Digital, with its around 80 employees, developed Durstexpress, which is a beverage delivery service contributing millions of revenue to the Oetker corporation (Oetkerdigital, 2021). In contrast, open innovation initiatives from other companies like the Ergo Digital Lab, with 5-8 employees, rather aim to try out things and explore trends than to contribute to the whole corporation's value creation. However, by giving the hub its own budget and 150 employees it is clear, that the hub was not only founded to support business units and departments, but also innovate and develop themselves in order to generate revenue for the whole Henkel corporation. Another decisive reason for setting up the DX innovation hub is its value-adding marketing and communication function:

> *"So it has a communication dimension that is again defined in terms of employer branding, hiring, deal flow and, of course, general support for corporate communication in the sense of classic PR and media relations, which means you can also address other channels with a hub like this"*

Starting up with the corporate communications function, it allows Henkel to address other channels with the hub than with the classic corporate communications department. To illustrate that, the German Handelsblatt group is a great example. Being a leading medium in Germany, Henkel uses the group to make classic shareholder communication by giving general interviews about the overall strategy, reaction on trends, company orientation and others. This classic shareholder communication is published in the Handelsblatt journal, while the Handelsblatt group also disposes of other media like Wiwo (Wirtschaftswoche/economy week) or Wiwo Gründer (economy week founders). These media formats are too small and not purposeful to use for the shareholder's communication, but addressable via the hub. The digital subjects addressed by the hub are perfectly fitting these smaller and more explicit media formats, which in turn have the right target group and readers to address and leverage the topics of employer branding, hiring and deal flow. Another example is the usage of Axel Springer's medias. In the widespread journal Welt am Sonntag, an interview with Henkel's CEO Carsten Knobel is published, while the hub uses their platform Gründerszene (founder scene) to address the topics

of employer branding, hiring and deal flow. To sum it up, another reason the corporate business hub was founded is the added dimension of marketing and communication, which creates new points of interaction with talent and hence an overall improved communication. In addition, running a business, that is brand-based and which value is also measured by the degree of recognition or public presentation, additional communication points are of further significant adding value.

Lastly, the factor costs is another reason why corporate business hubs in general, but also the Henkel DX innovation hub in specific are set up. As outlined before, the DX innovation hub acts as a connector and tie between Henkel's business units and departments. By functioning as a knowledge data base, the hub has the possibility and the task to avoid similar mistakes and hence save money. In multinational corporations it is not unusual, that different departments approach similar challenges without even knowing about it. The hub can connect them, and resources can be bundled. Another way of cost saving is implemented in the rule-set engines. These concepts are built on the basis of past successes. Taking the earlier mentioned case of the M:ID shampoo exemplary, the algorithm is at least partly reusable for other personalized product developments. If other departments do not know about the M:ID shampoo, they would need to build their product from scratch. In those cases, the hub functions as database and provider of past learnings from and for the whole corporation. Furthermore, especially the use of external services is a big cost driver, which can be significantly reduced by reusing past purchases and learn from past external services, which did not have or had the desired impact. Additionally, the set-up of the unit technology, which is able to create and program digital products themselves is another cost saver in the long-term. The prerequisite for this is, of course, the successful implementation of digital products from the DX Innovation Hub. Lastly it needs to be pointed out, that building something on its own with internal resources, is normally cheaper than acquiring it externally.

To get an extensive overview, table 11 summarizes the motives of multinational corporations to set up and operate corporate business hubs:

Table 11. Overview of motives operating a corporate business hub

Motive	Description
Digitalisation of classic/old business	Bundling of digital core competencies like software development, DevOps or UX in order to digitize the old/classic business, which in turn grows.
Provision, maintenance and development of classic infrastructure and technology	Clear allocation of responsibility with regards to provision, maintenance and development of classic infrastructure and technology, which leads to efficiency improvements, cost reductions and a faster innovation process.
Connector and keeper of an overarching knowledge data base in the form of rule-set engines	Functioning as a knowledge data base in the form of rule-set engines and a team, that raises synergies between other units by connecting them internally and externally and passing on learning effects.
Own development of innovation contributing to the growth of the whole corporation	Establishment of internal competencies of digital business models with regards to not only digitalising old businesses and supporting other units with their innovation efforts, but also driving own innovation ideas and projects.
Marketing & communication function	Added value with regards to employer branding, hiring, deal-flow and overarching corporate communication in the sense of classic PR and media relations (overall possibility of addressing new channels).
Costs	Cost savings emerging from learning effects, bundling resources by connecting units, internal building, reusage of built products or software and others.

Source: Own development based on semi-structured qualitative interviews

3.2.2 Risks of operating a corporate business hub

As being clear now from the motives chapter, setting up a corporate business hub helps companies to create tremendous potential and opportunities for the whole corporation. However, the set-up of a corporate business hub also always goes along with risks that should not be underestimated. Current research shows that less than 20 % of investigated digital labs generate a positive cashflow. Furthermore 40 % of them launch maximum 2 innovation projects per year in the market (Infrontconsulting, 2020). From the qualitative interviews with the employees from Henkel it has emerged, that the following risks are of special importance with regards to corporate business hubs.

Firstly, and most obvious is the cost factor. The Henkel DX innovation hub employs 150 people without having the guarantee of successful innovation:

> *"Such a business hub is of course a costly undertaking, especially in terms of size."*

Considering that a corporate business hub is one of the first departments that is looked upon in times of crisis, the cost pressure is significant. A recent example of this pressure is Daimler's Lab 1886. In December 2020, the corporation decided to sell its Lab, because of the Covid crisis in combination with challenging times in the automotive sector. Consequently, the crisis resulted in a tighter cash management to which the innovation lab fell victim (Daimler, 2020). To sum it up, the cost factor can be seen as a double-edged sword. On the one hand, as explained in the motives section, a corporate business hub can lead to strong cost savings by learning from each other and not having the need of hiring expensive external experts. On the other hand, no success is given for sure, which means that a non-working business hub can burn a significant amount of money and budget.

Furthermore, the overall strategy of a company can create great pressure on a corporate business hub:

> *"Then there is also the question of strategy: it is always build or buy. That means, that as an innovation team you always have to assert yourself against your M&A team."*

Multinational corporations, like Henkel, always have an own mergers & acquisitions department at its disposal. Against this background, the top management is always confronted with the question to build or to buy. Consequently, a corporate business hub at a multinational corporation always needs to compete with a mergers and acquisitions department, which has the distinct advantage of time. In general, it is much faster to buy something than to create something and build it on its own. This is further complicated by the fact, that the budget a mergers and acquisitions department spends on an acquisition is most often a lot higher than the provided budget to the corporate business hub to build the same product or service. Hence, taking the case of Henkel exemplary, it can be observed, that the top management decided to take the strategy path of creating and developing products and services themselves. However, there is always the danger of a strategy shift to buy and not build anymore, which can be caused

by a new top management team, outside pressure or other reasons. This can lead to the unexpected closure of a corporate business hub, which consequently is a significant risk.

There exists another risk related to the management. It refers to the corporate business hub's own selection of targets. The corporate business hub is part of Henkel's IT and digitalisation department Henkel DX. On the level of Henkel DX, the company defined a mixture of qualitative as well as quantitative goals as key performance indicators. From this key performance indicators, the corporate business hub selected 5 performance dimensions in a north-star logic, which need to be implemented on every project. These top KPI's are mostly related to growth. On a department level of the Henkel DX innovation hub, the four departments in turn have defined further key performance indicators like number of projects and innovations. The mentioned risk relates to the specific target selection. Especially on the level of the corporate business hub, it is important to set ambitious but achievable goals. This is already important for the management with whom the goals were defined, but even more important in the case of a management change. The change of management always implies an investigation and evaluation of current targets and goals. If, and this is reality in most cases, the new management team identifies the old targets as too low, it is highly probable, that the new defined targets are almost impossible to reach. Hence, the corporate business hub is under significant pressure to reach them in order to avoid budget cuts or even the closure of the hub due to underperformance. Consequently, it is of inestimable importance for a corporate business hub to define reachable but ambitious targets.

Additionally, it is important, that a corporate business hub does not work against the parent company:

> *"You cannot work against your company. You have to fulfil your transformation mandate and sometimes you have to take even the last backbencher with you, even if it is painfully slow and frustrating."*

To do so the right balance between being fast with regards to innovation and taking employees from the parent company along on the innovation journey is key. You get the employees on board by giving them the feeling that you and they are together part of the transformation, innovation, and digitalisation mission. Furthermore, you need to make them clear, that you are there to help them and not to take their jobs. If a corporate business hub doesn't succeed in doing this, a negative sentiment against the hub can develop very quickly, which in turn can lead to reaction from the top management, which threatens a corporate business hub's existence.

This risk is strongly correlated to the next chapter of this thesis, which deals with the relationship between hub and parent company and its influence on the hub's innovation success.

Table 12 summarizes the risks multinational corporations face when deciding to set up and operate corporate business hubs:

Table 12. Overview of risks operating a corporate business hub

Risk	Description
Costs	Corporate business hub as ad double-edged sword: potentially leads to tremendous cost savings, but there is no guarantee of success.
Corporation's overall strategy	Danger of a strategy change from build (corporate business hub and other open innovation initiatives) to buy (via the M&A team)
Own target selection	Ambitious, but reachable targets in order to not get under pressure with current management and especially in the case of a management change
Leaving employees of the parent company on the "side-line"	Balance between being fast with regards to innovation and taking employees from the parent company along on the innovation journey.

Source: Own development based on semi-structured qualitative interviews

3.4 The relationship between hub and parent company

After having analysed and given answers to the first research question why companies set up and operate corporate business hubs, this section deals with the second research question. In order to answer the question, which factors influence the relationship between business hub and parent company and how these factors influence the innovation success, a two-way approach has been taken. This means that an employee from the parent company as well as an employee from the corporate business hub of Henkel were questioned. As explained in the methodology chapter, this approach guarantees a view on the influence factors from both perspectives.

3.4.1 Influence factors on the innovation success from hub perspective

The described influence factors on the innovation success from hub perspective logically derive from the interview with the lead of open innovation of the Henkel DX innovation hub. Table

13 summarizes the identified influence factors and provides a short description of them. In the following an extensive look is being take at every single influence factor and its influence on the hub's innovation success.

First of all, of overarching importance is the factor budget, as the leader of open innovation of the Henkel DX innovation hub stated:

> *"Talking about influence factors, resources, meaning budget, shouldn't be underestimated. If you do not have a sufficient budget, you are a lame duck from the start. Money talks."*

In most multinational corporations, innovation units have a specific basic budget at its disposal, that allows them to "keep the shop running". However, wanting to drive an innovation topic, it is unavoidable for many innovation units to solicit co-financing from other, internal departments. This has the consequence of at least slowing down innovation or not even being able to execute it. A current example of this budget difficulty can be found in the automotive or mobility sector. After having taken the current Covid 19 crisis under consideration, the board of directors of the Deutsche Bahn AG needed to focus on most important investments, which are maintenance and construction (the unit called DB Netz). Hence, even in the case of an exceptional innovation idea, Deutsche Bahn's innovation unit has no opportunity to implement it, because of missing budget and co-financing opportunities. Followingly, important topics like passenger safety, optimisation, user interface, integration of travel/mobility platforms and others cannot be addressed. In contrast, Henkel was not hit as hard by the crisis and is additionally and more important serious about digitalisation and the strategy of corporate open innovation with the corporate business hub as a platform at its heart. This is expressed not only in the board's promises, but also in the corporate business hubs own budget, which is provided by the management board. In Henkel's case the DX innovation hub's budget is that big, that they are currently launching an internal funding program, which gives employees from the whole corporation the opportunity to pitch their innovation ideas in order to get not only implementation support from the corporate business hub, but also funding from the DX hub's budget. To sum it up, a corporate business hub needs to have an own budget at its disposal, that is at least big enough, that you do not have to beg for co-financing from other departments for every innovation idea. If the need of begging for co-financing is the case, a corporate business hub is from the start a lame duck not being able to implement innovation, which logically has significant, negative influence on the hubs' innovation success.

However, with a large budget also comes a certain responsibility that has an influence on the innovation success of the DX innovation hub. The higher a corporate business hub's budget, the higher is the number of departments and employees coming up to the hub and asking for financing. Other departments will try to exploit, that a corporate business hub has the budget and resources to take over their own tasks and goals without putting in themselves and without a guarantee of being innovative or useful. Hence, a corporate business hub needs to select the initiatives carefully. Therefore, a process is useful after which innovation initiatives are being selected. A decisive factor is joint responsibility and both-sided resource provision, in terms of budget and workforce. These factors guarantee both-sided seriousness and willingness about the specific innovation or product idea. Hence, careful management of the own budget with regards to other departments is another decisive influence factor on the hub's innovation success.

As already outlined in the chapter on motives and risks, the overall corporation's strategy is not only reason for setting up and risk to close a corporate business hub at the same time, but logically also an influence factor on the innovation success from hub perspective. This can manifest itself on many levels. Looking at it from the overarching perspective the mentioned strategy buy vs. build is influencing the hub's innovation success. If the parent company does not give the hub the time to develop innovations and instead just purchases them, it robs the hub of opportunity of achieving innovation successes themselves. Reducing the hub's budget due to focusing on acquisitions has the same effect. Hence, the parent company's overall strategy is another non-neglectable influence factor on the hub's innovation success. How the overall strategy influence the relationship depends on the specific strategy as well as its execution.

Another influence factor on the innovation success from hub perspective is the perception and acceptance of the corporate business hub as a knowledge data base along with a clear allocation of responsibilities. A clear allocation of responsibilities means in this context, that the employees from the parent company are clear about the fact, that the corporate business hub functions as the main innovation leader, innovation driver and innovation connector of the whole corporation by storing the rule-set engines and raising synergies between other units by connecting them and passing on learning effects. The perception and the acceptance of a corporate business hub is crucial for innovation success from hub perspective because the lack of the one innovation leader is what makes multinational corporations often unsuccessful. Furthermore, the more employees from different departments contact the corporate business hubs with their innovation ideas, the higher is the chance of creating successful innovations.

However, there is also the possibility, that employees from the parent company perceive the corporate business hub solely as a service provider or agency, which has only the task to execute their orders. This logically harms the corporate business hub and its innovation efforts and success, because a wrong perception leads to worse collaboration firstly and a time-consuming need of perceptual change secondly. It is of huge importance that innovation, especially digital innovation, is worked on jointly from the beginning including the corporate business hub with its expertise and rule-set engines.

Looking at it from a more individual perspective it is of significant importance how the team of a corporate business hub is put together and which skills the individual employees bring to the table. Firstly, it needs to be clear, that you generally do not find innovators internally. However, staffing a corporate business hub completely externally is also not successful, because there is a need of people who understand the corporation and are able to navigate in-between. The leader of open innovation at the Henkel DX innovation hubs states the following:

> *"You always don't find the people who make good innovations within the company, many companies don't understand that. You have 1,2 or 3 who understand the company and can navigate, but you also have to staff externally. A good innovation department is internally and externally mixed."*

Hence, an influence factor on a corporate business hub's innovation success represents the willingness of the parent company to provide the right internal employees.

In addition, the hub has the task to identify the fitting external employees in order to boost innovation. However, with regards to the employee selection, it is not sufficient to just mix up internal and external employees. Referring to that the lead of open innovation of the DX innovation hub refers to the Medici-effect they follow and try to create in order to foster innovation. The Medici-effect refers to the concept, that increased creativity and innovation is triggered by diversity. Major innovations emerge as a result of intersectionality, which arises when people have different backgrounds, beliefs, and values. The goal is to set up an inter-disciplinary and cross-cultural team increasing the likelihood of intellectual cross-pollination, which in turn fosters innovation. Additionally, the threat of a confirmation bias is deleted, which can arise from bringing together people from similar backgrounds, values, and beliefs (Johansson, 2004). To sum it up, it is of significant importance for the innovation success of a corporate business hub to not only mix internal and external employees, but to also to diversify on an individual level. Diversifying on an individual level means to not only look for skills

required for the job, but also to mix up general background, education, beliefs, values, and others.

The next potential influence factor on innovation success from hub perspective, culture, is from the interviewee's perspective limited, since culture itself is not really tangible. The leader of open innovation of the Henkel DX innovation hub stated:

> *"Culture eats strategy for breakfast is a difficult thesis, because culture is not really manageable"*

Looking at it from a more general perspective, it is of importance, that basic needs based on Maslow's pyramid, like thinking different and innovative without fear are given. With regards to Maslow this would refer to safety needs. Furthermore, certain hygiene standards like cultivated manner and open communication must be given. However, with these given needs and standards, the innovation success is not directly dependent on the corporation's, hub's or joint culture. More than trying to manage culture, it is rather important to manage factors, which have potentially influence on culture. One decisive factor with regards to that is the human resources department. This department is responsible for recruiting talent, that needs to fit in the team and considers and lives the hygiene standards. Other factors are strategy and the definition of processes. For example, the process of a regular feedback culture based on specific principles can foster a team's culture positively. To sum it up, culture does not have a direct influence on a corporate business hub's innovation success, but basic needs and rules must be given in order to not risk a negative influence. Additionally, it is rather important to manage elements potentially influencing the culture than trying to manage the culture itself.

Another influence factor on the innovation success is a corporate business hub's location. As stated in the definition of corporate business hubs, those hubs are generally located close to the parent company or in ecosystems like Berlin. From the DX innovation hub perspective, the chosen location is Berlin and not Düsseldorf, because of the ecosystem advantages:

> *"It's about having the whole ecosystem at the hub: I have my partners, service providers, innovation and talent there."*

The available talent to recruit as well as network and connections are valued a lot and have an impact on the hub's innovation success. The better and more talent is available, the higher is the probability of major and successful innovation. Furthermore, in the case of bringing internal

employees to the hub for a limited period of time, the location of the hub is also important. Reason for that, is that the distance to daily business is greater and hence the actual boss cannot influence the employee by prioritizing his tasks. With regards to the specific project the employee works on, this leads to a completely different implementation dynamic in terms of speed and cost efficiency.

Furthermore, communication in general, but also in specific with regards to innovation, influences the innovation success of a corporate business hub. It is self-explanatory, that the number of received innovation ideas from the parent company's employees raises depending on the hub's awareness level. Furthermore, it is logic, that the higher the number of innovation ideas is, the higher is the probability of containing a great idea. In order to raise the level of hub awareness, the DX innovation hub regularly makes appearances within the Henkel Group and informs about current developments. Additionally, the hub set up a process, which allows the employees to submit innovation ideas in the easiest possible way: via the corporate's intranet, which is a tool all employees have access to. The submitted ideas are getting evaluated by a process differentiating between A (great idea, of further interest), B (average idea, do not throw it away yet) and C (idea not worth pursuing). The process guarantees the consideration of all ideas as well as a stringent evaluation. In order to motivate the employees additionally, the hub is currently setting up a funding program, with which "A-ideas" and partly "B-ideas" can be pursued. To sum it up, the communication in terms of awareness level of the hub as well as ease and motivation of idea submission is of importance for its innovation success, because the more employees know about the hub, the more they get involved in it by innovating.

Last but not least, there is the need of educating and training the hub's and corporation's employees in order to keep them, improve their performance as well as adapt to market changes. For example, these days multinational corporations need less marketing managers than product managers. However, many employees need further guidance how to develop from a marketing manager to a product manager. Therefore, training needs to be provided. And this training needs to be provided jointly in consultation due to the structures of multinational corporations alone. These structures refer for example to online learning tools. Logically, the more diverse expertise has been incorporated in an online lesson, the more helpful it is for employees. In turn those higher skilled employees can have a more positive influence on the innovation success of the hub.

Table 13. Overview of influence factors on innovation success from hub perspective

Factor	Description
Budget	Own budget of overarching importance in order to drive innovation ideas and ensure independence from co-financing
Budget management	Risk of potential budget exploitation, which can influence innovation success
Corporation's overall strategy	Build vs. buy, giving a corporate business hub the time to innovate and achieve successes
Perception of the hub & responsibility	Perception and acceptance as the overall corporation's innovation leader being the knowledge data base and storage of developed rule-set engines
Employee and skill selection	Right mixture of internal and external employees as well as diverse skill selection
Overarching diversity	Foster innovation by a diverse team based on the Medici-effect
Overall culture	Rather right elements in terms of processes and strategy to enable culture of openness, than "culture eats strategy for breakfast"
Location	Limited influence, rather selected because of external talent
Communication	Level of hub awareness along with ease of innovation idea submission
Staff training and development	Train and develop employees in order to retain them along with an improvement of their input

Source: Own development based on semi-structured qualitative interviews

3.4.2 Influence factors on the innovation success from the parent perspective

Looking at it from the perspective of the parent company it is really important to be clear about the fact, that the parent company consists of many departments having different functions, interests, goals and interact more or less with the corporate business hub. Hence, the influence factors on the innovation success from parent company perspective can differ depending on the specific department. For example, the budget approved by the board of directors, which is a significant influence factor from hub perspective could be without decisive influence for some departments of the parent company, which have a sufficient budget of their own. In order to get the most insights from parent company perspective it is important to talk to somebody, who works with the corporate business hub on an everyday basis and has gained significant insights in various departments of the mother company across countries. As described above the interviewed employee works as a senior innovation manager for the Beauty Care unit, leads the unit's innovation initiative, the Fritz Beauty Lab and hence, works and communicates with the hub on an everyday basis. Furthermore, she gained insights into various other departments within her 6 years at Henkel, which makes her the ideal interviewee.

Table 14 summarizes the identified factors influencing the innovation success of the corporate business hub from parent perspective and provides a short description of them. In the following an extensive look is being taken at every single influence factor and its influence on the hub's innovation success.

The first influence factor refers representatively to the strategy of Henkel's two units addressing not only the B2B market like the unit Adhesive Technologies, but also the D2C market. Therefore, they founded the incubators Fritz Beauty Lab and Love Nature. Founding those incubators implies a strategy shift from a pull strategy to a push strategy:

> *"Henkel is very good at generating consumer insights and creating its innovations on the basis of these insights and, accordingly, paying very close attention to future potentials and actually to profit. That means it is more of a pull strategy from the market."*

Being great at generating those consumer insights, Henkel takes advantage of it and bases its innovation on those insights (disciplined creativity). Hence, this pull strategy stands in contrast to the push strategy of just innovating and then selling the created innovation by pushing it with a huge marketing budget. By shifting to a push strategy within the units of Beauty Care and

Laundry & Home Care, it can be observed that this new strategy is also not in line with the one of the corporate business hub. This can be traced back to the way the incubators work. With regards to new D2Cs they launch, they have a time limit of 1 year in order bring the cost of acquisitions under shopping cart. If this proof of concept does not work out, the further development of the specific D2C is put on hold. However, the corporate business hub, which is supporting the incubators with infrastructure and features for the D2Cs, has the goal to create the infrastructure and features on its own. This process of full own creation is often that complicated, that it takes too long for the incubators to wait, because by then the first phase and time limit of 1 year has already expired. A great example therefore is again the personalized shampoo M:ID. This product developed jointly by the Fritz Beauty Lab and the corporate business hub is facing exactly those problems. It still does not have an optimised consumer journey, what is expressed on the website, which still has many bucks or missing standard features like no possibility of an express check. This example can be generalised to many other products and services and traced back to the following:

> *"The goal of Henkel DX is to build its own tech infrastructure in-house and that simply takes time, which we don't have"*

To sum it up, the strategy of Laundry & Home Care's and Beauty Care's innovation units clashes with the strategy of the corporate business hub to build all products and features themselves. Because of developing many innovations jointly, this has significant influence on the innovation success of the hub from parent perspective, but also for the parents' units. The innovation units of Laundry & Home Care and Beauty Care are representative of a majority of the parent company's units, as they are usually measured by fast successes.

This can be also clearly read off the differently defined KPI's. What the different parent company units addressing innovation and the hub have in common, is the KPI of driving the organizational and digital transformation of the Henkel corporation:

> *"We all have a common KPI and that is to drive digital and organisational transformation. But this KPI also divides us, because the DX is looking for a long-term solution and we are looking for a very agile, fast solution with the goal of founding many start-ups quickly."*

Taking the Fritz Beauty Lab exemplary as a parent company responsible for innovation, the "KPI-clash" can be explained. With regards to the organizational and digital transformation of

Henkel, the lab has the KPI of bringing yearly four to five D2C's on the market with a median budget of 0,75 million €. In contrast, the corporate business hub has the goal to create the necessary infrastructure and features on its own, which is timewise and quantity-wise clashing with the KPI's and needs of the Fritz Beauty Lab. This "KPI-clash" can be generalised from the Fritz Beauty Lab to most units and departments from the parent company, because they generally have shorter-term KPI's than the corporate business hub. To sum it up, the defined KPI's of the parent company's departments and the corporate business hub have a significant influence on the innovation success of both, because based on them the specific units will act, for example with a long-term approach or a short-term approach. In the case of Henkel, there is a clear "KPI-clash", because the DX innovation hub is looking for long-term solutions and the innovation units of the parent company are looking for very agile and fast solutions with the goal of implementing as much innovation as fast as possible.

Another influence factor from parent perspective is the quality level of the hub's activities. It is of significant importance how a corporate business hub performs with regards to the defined hub goals in order to achieve innovation. Taking the case of the DX innovation hub exemplary, the hub with its units has different tasks and goals. For example, the performance of the marketing and technology team, which bear the responsibility of supporting the parent company's departments in the digitalisation of the classic business, is of significant importance for the units they support and logically also for themselves. This performance refers to different dimensions of hub tasks such as connecting and building bridges internally and externally or developing infrastructure and features. Coming back and applying the dimensions to the M:ID example, the hub took over the tasks of developing a questionnaire, which personalized the product, connected the Fritz Beauty Lab to the right developing company, which programmed the algorithm and took over other data protection issues. Hence, it has significant influence on the innovation success of the M:ID product. To sum it up, the higher the quality of work the corporate business hub delivers to the parent company's units is, the higher is the probability of a hub's innovation success.

Although budget is perceived as one of the most significant influence factors on the innovation success from hub perspective, this cannot be completely confirmed from the parent company perspective. This is at least partly related to the circumstance, that many departments perceive the hub mainly as a service provider and not as joint innovation partner and connector. In those cases, they provide the budget and "pay" the hub for its services. This in turn presupposes, that the department has the required budget at its disposal before even considering of contacting the hub. There often is no thought about the possibility of the hub inputting money

to the specific innovation project, which justifies the perceived limited influence of the hub's budget on innovation success.

Another more decisive influence factor on the hub's innovation success from parent company perspective is communication. From an overall perspective the ease of contacting the hub as well as submitting innovation ideas is also from parent company perspective influencing the hub's innovation success significantly. Looking at it from the perspective of the parent company's innovation units, the communication also needs to work on an individual level. For example, the Fritz Beauty Lab communicates with the corporate business hub on a daily basis. The interviewee stands exemplary for good communication between the parent company and the hub:

"I have a key contact in the DX with whom I am in daily contact."

Additionally, by executing daily stand-ups with a duration of thirty minutes, current developments and progress is being communicated. Furthermore, they work jointly in an agile environment including sprint planning, sprint revues and retrospectives. Hence, on a daily operational basis the exchange is very close and needs to function smoothly in order to achieve innovation targets. Additionally, the top management of the parent company's innovation units meets the top management of the hub every 2 months in order to discuss and address overall strategic subjects, initiatives, and synergies. This example shows that depending on the specific parent company department, communication is more or less pronounced and more or less important. It is most important for the parent company's innovation units, because they work with the DX innovation hub on a daily basis. However, the visibility of the hub in general and the ease of idea submission for all employees influence the innovation success also from parent company perspective.

Last but not least the factor responsibility has, from parent perspective, influence on the hub's innovation success. By sharing responsibility in terms of labour force and budget, both parties commit to the project and have interest in successfully completing it as fast and as good as possible. In the case of a service, where the corporate business hub works for the specific department without having contributed own budget, the commitment can be limited. Consequently, joint responsibility and commitment have significant influence on the hub's innovation success.

Table 14. Overview of influence factors on innovation success from parent perspective

Factor	Description
Strategy of parent company's units	Dependent on specific parent unit, e.g. different strategy of Laundry & Home Care's and Beauty Care's innovation units compared to hub (from Pull to Push with regards to D2C vs. hub's strategy)
Key performance indicators	Different KPI's imply different interests and approaches, which influences innovation
Quality level of hub's activities	Quality level of functioning as connector as well as provider of infrastructure and features
Budget	Limited influence due to partial perception as service provider, which implies sufficient budget before contacting the corporate business hub
Communication	On an operational as well as strategic level
Responsibility	Shared responsibility beneficial in terms of innovation

Source: Own development based on semi-structured qualitative interviews

3.5 Summary of research findings

Table 15 reflects the main findings of the primary research of this thesis.

Table 15. Summary of the research findings

	Hub perspective	Parent perspective
Motives	• The digitalisation of the classic/old business • To provide, maintain and develop classic infrastructure and technology • To function as a connector and keeper of an overarching knowledge data base in the form of rule-set engines • To have another, more-extensive marketing and communication function • To contribute to the growth of the whole corporation by innovating on its own • To save costs	
Risks	• Excessive costs • Corporation's overall strategy (especially the shift from build to buy in the case of a management change) • Own target selection (especially in the case of a management change) • Leaving employees of the parent company on the "side-line"	
Influence factors on innovation success of the corporate business hub	• Budget (significant own budget in order to not be a lame duck) • Budget management (no exploitation) • Corporation's overall strategy (Build vs Buy) • Perception of the hub & responsibility (innovation leader with knowledge database) • Employee and skill selection • Overarching diversity • Overall culture (limited influence) • Location (especially with regards to talent) • Communication (internal & external) • Staff training and development	• Strategy of parent company's units (often short-term strategy compared to the hubs strategy) • Key performance indicators • Quality level of hub's activities • Budget (own available budget vs. hub's contribution) • Communication • Responsibility (joint responsibility in order to innovate successfully)

Source: Own development based on semi-structured qualitative interviews

Since the interviews were conducted in a confidential environment and independently of each other it is of further interest which factors are being mentioned independently by both parties. Table 16 summarizes those factors generally:

Table 16. Summary and comparison of influencing factors mentioned on both sides

Factor	Influence from hub perspective	Influence from parent perspective
Budget	Own budget of overarching importance in order to drive innovation ideas and ensure independence from co-financing	Only influential, if the specific parent company's unit has limited budget
Strategy	Corporation's overall strategy: Build vs. Buy	Specific parent unit's strategy, which must correspond with hub's strategy, analogue situation with KPI's
Perception & responsibility of the hub	Perception and acceptance as the whole corporation's innovation leader being the knowledge data base and storage of developed rule-set engines.	Perception not as important, rather clear definition of shared responsibility in order to drive innovation.
The hub's quality level	Diverse skill selection with regards to employees in order to guarantee high quality as well as provision of those employees internally from parent units.	Quality level of functioning as connector as well as provider of infrastructure and features.
Communication	Level of hub awareness along with ease of innovation idea submission and overall communication.	Good communication on an operational as well as strategic level.

Source: Own development based on semi-structured qualitative interviews

4. Discussion and final conclusions

In order to conclude and discuss the findings of this thesis, a comparison can be made of the existing literature review discussed in the first part of this thesis and the collected and analysed primary research. This will be executed on the level of the two research questions in order to show the filling of the research gaps as well as deriving recommendations for future research and limitations of this research.

The first research question refers to the research gap why corporate business hubs are set up: **Why MNCs decide to choose corporate business hubs as tool enhancing their open innovation endeavours?** The study revealed, that the most important reasons to set up a corporate business hub are the following:

- To achieve cost savings, which arise from learning effects, bundling resources by connecting business units, internal product building and service provision, reusage of built products or software and others
- To add another dimension of marketing and communication, which implies added value with regards to employer branding, hiring, deal-flow and overarching corporate communication
- To accelerate the digitalisation of the old/classic business by bundling digital core competencies like software development, DevOps and UX
- To clearly determine responsibility with regards to the overall corporation's innovation mission, which implies the function of an innovation connector storing overarching knowledge in the form of rule-set engines
- To clearly determine responsibility with regards to the provision, development and maintenance of infrastructure in order to support innovation initiatives
- To add another open innovation unit, which has the task to contribute to the corporation's overall growth by driving innovation on its own

Linking these empirical findings to the findings from the literature review, it can be clearly observed, that they relate to each other. Especially, the need to create and capture value, observed by Frankenberger et. Al., is reflected in the digitalisation of classic/old business and the motive to add another open innovation unit, which contributes to the corporation's overall growth by driving innovation on its own. However, it needs to be pointed out, that extant

literature didn't examine the motives to implement specifically corporate business hubs as a form of corporate open innovation (only on an overall open innovation level), which implies the novelty of this research's' findings along with a non-comparability with extant literature.

The second research question refers to the research gap identified with regards to factors influencing a corporate business hub's innovation success: **Which factors and how are influencing the relationship of a business hub to its parent company, leading to innovation success?** The study revealed, that the biggest influence factors on the relationship leading to innovation success from hub perspective are the following:

- An own budget in order to be able to drive own innovation ideas and ensure independence from other units by preventing the need of begging for co-financing
- The own budget management, which is closely linked to the attempt of exploitation by parent company's units and teams with regards to the hub's budget
- The corporation's overall strategy, which can normally be divided into build and buy and in the case of buy builds up significant pressure on the corporate business hub, especially with regards to time
- The hub's responsibility and overarching perception and acceptance as innovation leader, which influences the cooperation especially from parent company side and hence accelerates innovation
- The right mixture of employees within the hub, which implies the willingness of parent company units to free up and provide skilled and the right employees from their teams
- Diversity within the hub, between the hub and parent company and within the whole corporation in order to take advantage of the medici-effect, which encourages innovation

Additionally, the study revealed, that the biggest influence factors on the relationship leading to innovation success from parent perspective are the following:

- The overall corporation's strategy, but also the strategy of the parent company's units, which need to be in line with the hub's strategy
- Matching key performance indicators in order to prevent different approaches in terms of strategy, timeline and budget

- The quality level of the hub's activities with regards to the function as connector as well as provider of services, infrastructure and features
- Shared responsibility, which is beneficial in terms of both parties profiting are inputting budget and resources and outputting results and credit

Linking these empirical findings to the findings from the literature review, it can be clearly observed, that extant literature findings regarding influence factors on the innovation success of corporate business hubs go in line with the empirical findings of this thesis. The internal and external communication, the organizational structure as well as the location of a corporate business hub, were also identified as influence factors on the innovation success of the Henkel DX hub (Berger & Brem, 2016; Blume, 2020; Chan & Lau, 2005). However, this research dug deeper and identified a higher number of influence factors on the innovation success of a corporate business hub than are examined by now in the academic literature. One reason for that can be the novelty and rising importance of corporate business hubs for multinational corporations.

The following table summarizes the described arguments by providing a comparison between extant literature, this research's findings and the contribution this research delivers to the literature:

Table 17. Overview and answers to research questions

Why MNCs decide to choose corporate business hubs as tool enhancing their open innovation endeavours?		
Literature answer	**Primary research answer**	**Gap/contribution to literature**
• Motivation of MNCs to implement and apply open innovation approaches arises from the need of innovating and staying competitive (Frankenberger et al., 2014) • Five main antecedents influence the application of open innovation approaches, which are business model inconsistency, the need to create and capture value, previous experience with collaboration, open business model patterns and industry	• To digitize classic/old business • To provide, maintain and develop classic infrastructure and technology • To function as a connector and keeper of an overarching knowledge data base in the form of rule-set engines • To have another, different marketing and communication function • To contribute to the growth of the whole corporation by innovating on its own • To save costs	• Identification of MNC motives to implement specifically corporate business hubs and not open innovation initiatives in general • Most of motives relate to the identified motives in the literature (e.g. need to create and capture value relates to the digitalization of old/classic business or contribute to growth of whole corporation) • Some motives are very hub-specific and not reflected in extant literature (especially

convergence (Frankenberger et al., 2014) • No research existent, which specifically addresses why corporate business hubs are chosen as tool enhancing open innovation endeavours		the function as a connector and keeper of a data base)
Which factors and how are influencing the relationship of a business hub to its parent company, leading to innovation success?		
Literature answer	**Primary research answer**	**Gap/contribution to literature**
• Internal and external communication (Berger & Brem, 2016) • Flatter and more decentralised organizational structure (Blume, 2020) • Handling of threats as well as geographical location (not confirmed) (Berger & Brem, 2016; Chan & Lau, 2005) • No research about how factors influence the relationship • On the level of corporate open innovation in general and not referred only to corporate business hubs: internal factors (e.g. resources, human capital and internal knowledge flow), form & design of open innovation and identification of right partners, and external factors (e.g. governance, legal conditions and institutional conditions) (sources see table 7)	• Strategy (overall and specifically of involved departments) • KPI design of innovation-specific departments • The corporate business hub's budget • Budget management of the corporate business hub • Communication • Responsibility and perception of the hub • Quality level of the hub • Location of the corporate business hub • Employee and skill selection • Staff training and development • Overarching diversity	• Internal and external communication along with organizational structure confirmed – can have positive as well as negative influence on the innovation success • Further significant factors have been identified that strongly influence the innovation success of a corporate business hub (e.g. strategy, budget of the hub and responsibility & perception of the hub) • Further, quantitative research needed to verify the influence of factors on innovation success quantitatively

Source: Own development based on literature review from chapter 1 and primary research from chapter 3

In order to draw a final conclusion, the results of this research are placed in the overall economic picture with regards to corporate open innovation within multinational corporations. This research found out, that multinational corporations can use their corporate business hubs as another tool to leverage corporate open innovation on the one hand, but also to generate synergies and to save costs on the other hand. The bundling of innovation-specific information of an entire multinational corporation within the hub in the form of rule-set engines is key to generate those synergies, which in turn lead to cost savings. Nonetheless, there are further

reasons of setting up a corporate business hub, which range from accelerating the digitalisation of the old business to the gain of a new marketing and communication dimension. Having made a first attempt examining the factors influencing the relationship between hub and parent company leading to innovation success, it stands out, that both parties mention mainly similar factors, but partially with a different perspective on it. For example, strategy is being mentioned as a significant influence factor from both parties. While from hub perspective the overall corporation's strategy was being declared as most significant with regards to innovation success and relationship to the parent company, the parent company rather sees its unit's strategies and KPI's as most significant influence factor on the hub's success and relationship. Furthermore and regardless of the specific perspective, budget, perception and responsibility of the hub, the quality level of the hub's work and communication on various levels were identified from both sides as significant influence factors on the relationship between hub and parent company leading to innovation success. These findings are largely consistent with the findings of extant literature being identified in the literature review. However, it needs to be pointed out, that the results of this research are strictly tailored to corporate business hubs and more detailed e.g. with regards to the organizational structure.

Nonetheless, in the end, the success of a corporate business hub will be mainly measured by the number of successful innovations and their influence on the overall corporation's performance from a monetary perspective.

4.1 Reflection for future corporate business hub developments

Since the evolution of corporate business hubs is a recent phenomenon and the topic of it is rather unexplored, a reflection fur future corporate business hub developments is difficult and can have limited expressiveness. However, taking the results of this research as basis, it can be followed, that it is of significant importance for further corporate business hubs to have an own budget at its disposal in order to prevent being a lame duck without influence. In addition, corporate business hubs need to be perceived and accepted as responsible innovation leader and be equipped with the right talent in order to fulfil their role as innovation connector and knowledge data base. The top management team of the parent company bears the responsibility to fulfil all these requirements when setting up a corporate business hub. However, it also needs to take these requirements under consideration on an ongoing and permanent basis in order to maintain a corporate business hub's role. This refers for example to top management's

decisions regarding strategy, budget or overall communication which are being taken and executed on an everyday basis.

4.2 Limitations of the research – future research recommendations

As mentioned before the evolution of corporate business hubs is a quite recent phenomenon. Followingly, the research approach of a single case study was selected in order to examine this recent phenomenon in detail and understand underlying reasons and motives of corporate business hubs and relationships with them. However, the approach of a single case study also always goes along with certain limitations. Obviously, the one-sidedness in general, and in this case of having only examined the case of Henkel, implies that the key findings from this research cannot be fully generalized and transferred to any other multinational corporation and its corporate business hub. Nonetheless, since Henkel is a global, leading player in many markets, this research can be seen as a starting point of investigating the upcoming phenomenon of corporate business hubs as a decisive building block of corporate open innovation.

Building on the key findings from this paper's research questions, there are several arising areas of further interest and need of investigation. Firstly, it would be very useful to examine quantitatively the identified role of corporate business hubs as "innovation connector" within a big sample size. Moreover, it would be of significant importance to examine quantitively the strength of the identified influence factors on the relationship between hubs and parent companies. This could be executed on the basis of hypothesis testing by measuring the exact correlation between the influence from parent perspective and the influence from hub perspective. Furthermore, more research could be done on whether the set-up and existence of corporate business hubs is successful from a monetary perspective. However, since corporate business hubs are a relatively new phenomenon, sometime needs to pass by till an expressive number of cases are existent in order to be measured and evaluated.

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