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Konstantin Garidis University of the West of Glasgow, Konstantin.Garidis@Reutlingen-University.DE

Dominik Augenstein Friedrich-Alexander-University Erlangen-Nürnberg, Nuremberg, dominik.augenstein@hs-karlsruhe.de

Alexander Rossmann Reutlingen University, alexander.rossmann@reutlingen-university.de

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## ACTING LIKE A STARTUP – USING CORPORATE STARTUP STRUCTURES TO MANAGE THE DIGITAL TRANSFORMATION

#### Research in Progress

- Konstantin Garidis, University of the West of Glasgow, Glasgow, UK, Konstantin.garidis@reutlingen-university.de
- Dominik Augenstein, Friedrich-Alexander-University Erlangen-Nürnberg, Nuremberg, Germany, dominik.augenstein@hs-karlsruhe.de
- Alexander Rossmann, Reutlingen University, Reutlingen, Germany alexander.rossmann@reutlingen-university.de

### Abstract

Digital transformation is proving to be a significant challenge for firms and companies when it comes to maintaining their market position. It is evident that many companies are struggling to find their particular way through this transformation. A corporate startup structure is one way to find a suitable solution quickly. Therefore, we are presenting a model for corporate startup activities, which we will instantiate in an appropriate tool to support the management of corporate startups by their parent firms. We have derived the first requirements and design principles from a comprehensive problem analysis and literature study. In addition to this, we are presenting a first artifact, which should realize the design principles by implementing a practical tool. Forming a cooperation with an automotive firm has enabled us to gain access to real-world data for the design and evaluation of the artifact.

Keywords: Digital Transformation, Corporate Startup, Design Science.

## 1 Introduction

In an ever-changing environment, firms must adapt rapidly to new customer demands and adjust their business models accordingly (Teece 2010). Digital transformation is a significant challenge; companies must focus on keeping their competitive position in the market and sustain the constant high pressure of cost reduction. Aspects of digital transformation like "big data" or "digital twins" fundamentally change a firm's boundary conditions. In addition to this, external shocks or unexpected market changes are forcing firms to rapidly adapt their values, e.g., through digital transformation (Chesbrough 2007; Magretta 2002). As a result, firms are re-evaluating traditional ways of doing business (Piccinini et al. 2015) and aiming to redesign at least parts of their business model (Osterwalder and Pigneur 2010).

However, current organizational structures lack the capabilities needed for rapid digital transformation as they are rigid and make decisions slowly (Tushman and O'Reilly 1996). This deceleration means that firms lose time on their way to digital transformation, which can result in a loss of market share or the threat of being left behind. The concept of open innovation is already focused on this challenge (Chesbrough 2006), and new organizational forms like corporate startups have emerged (Weiblen and Chesbrough 2015). Existing literature shows that incumbents benefit from cooperation with startups because startups provide a pioneering spirit that established firms cannot offer due to their rigidity (Futterer et al. 2018; Steiber and Alänge 2020). Conversely, startups benefit heavily from the established firm's partner structures, resources, and knowledge (Corvello et al. 2021). Past research describes how

established firms operate within a structured and plan-oriented framework, whereas startups have a culture of change and innovation based on available resources and knowledge (Dew et al. 2009; Ries 2011; Sarasvathy 2001).

One significant challenge is that the number of startups is much lower than established organizations in related branches. As a result, established organizations may miss out on valuable insights into new trends that startups can offer. Subsequently, firms are starting to create corporate startups within the organization itself. These kinds of startups can differ from the parent firm in structure, formality of processes, and more. Conversely, corporate startups can use existing infrastructures, corporate functions, or buildings. This evolution has resulted in firms gaining different views and reacting rapidly to new challenges using startup-like structures.

Generally, corporate startups can help firms to master the challenges of digital transformation with highly individual solutions to overcome rigidity and enable innovations (Doz and Kosonen 2010). At the same time, less tool support is provided to support the creation and structure of corporate startups. However, this is necessary in view of corporate startups' different transformation and performance dimensions (Selig et al. 2018; Zheng et al. 2019). Therefore, we aim to answer the following research question:

*RQ1:* Which design principles for corporate startups do we need to follow to support an individual digital transformation of a worldwide operating organization to reduce time and costs?

To answer RQ1, we will conduct a design science research (DSR) project according to (Vaishnavi and Kuechler 2015). While existing research mainly focuses on the cooperation between firms and startups, we want to derive new design principles for internal startups and related tool support in the next step. From a scientific point of view, we are contributing to organizational theory, especially for corporate startups, to enable (temporary) startup-like entities in firms. Using our identified principles should help practitioners to find a corporate startup configuration that allows them to digitally transform their business according to the firm's needs, through an innovative and state-of-the-art solution.

We have organized the remainder of this paper as follows: First, we provide the main points of the related work in the following section 2. Next, we describe our planned design cycles and the related DSR methodology in section 3. Section 4 provides an overview of the requirements we found. Additionally, we used these requirements to define the related design principles and to finally be able to give a related mockup in the following section 5. This mockup provides an overview of the resulting model, which future work will evaluate and this in turn provides a base for future tool development. Finally, we outline a summary and outlook for future work in section 6.

## 2 Related Work

This section introduces the foundational concepts of our work, and we present the related literature to find adequate principles for our research.

#### 2.1 Corporate Startups and Digital Transformation

The research that has been done on the collaboration of incumbents and corporate startups is extensive. Nevertheless, firms and startups struggle to reach the desired goals of fostering innovation (Kim and Park 2021). In recent years, the number of studies investigating the utilization of start-up-like structures has increased considerably (Hausberg and Korreck 2020). In the early stages, research focused primarily on the uneven collaborations between incumbents and startups. These relationships involve various challenges, starting from cultural differences that cause tensions in themselves, to different expectations and strategies resulting in dissatisfaction about the various commitments involved. Over the years, various engaging models have emerged, as Weiblen and Chesbrough (2015) describe. According to them, there are two engaging models for fostering innovation. Inside-out, being corporate startups and innovative ideas that emerge from inside the incumbent. And outside-in cooperations that incorporate external startups and their knowledge into the incumbent's innovation process. This typology focuses mainly on the premise of developing innovation. Studies show that incumbents also follow other motives

by building these structures, such as culture change (Longo and Giaccone 2017), knowledge development (Kötting and Kuckertz 2020), and digital transformation (Hackober et al. 2019; Hjalmarsson Jordanius et al. 2019). The majority of these are mostly internal transformation goals rather than business model innovations. Research has recently addressed this circumstance (Hackober et al. 2019; Kötting and Kuckertz 2020). In the following, we describe a selection of studies investigating the structural aspects of building such programs in digital transformation. To develop our research model and identify the necessary design principles for incumbents to utilize the strengths of start-up-like structures, we combined the insights of these research streams. To be more specific, we analyzed the investigated structural dimensions we investigated, so that we could better understand how these structures can be leveraged for digital transformation.

#### 2.2 A Model for Corporate Startups

As research discusses many different organizational forms of corporate startups, it is unclear which forms also address internal transformation. Selig *et al.* (2018) have analyzed this issue by searching the literature for existing models and their organizational attributes. They substantiate their findings by using an interview-study with 13 corporate startup programs. As a result, they identified seven transformation dimensions within the incumbent: Operational renewal, creating new processes, and increasing flexibility. *Entrepreneurial employees* aim to build the entrepreneurial skillset and mindset needed for digital transformation. *Entrepreneurial multiplicators* describes building a community with role models and mentors that spread knowledge through the organization. *Innovation platforms* that enable the exchange and exposure of the program's achievements. The *startup ecosystem* describes the possibility that internal startups sometimes become independent spin-offs due to their success and low strategic fit. *New business* represents the creation of new business through the digital transformation that is not directly linked to the core business. And finally, *know-how creation* describes transferred technological know-how, customer insights, or methodical know-how from the corporate startup to the incumbent's organization. All these dimensions are crucial for advancing the incumbent's digital transformation.

Kötting and Kuckertz (2020) use a case study approach to investigate the various innovation activities of a large German technology firm. They describe the combination of the firm's corporate startup initiatives. Based on that, they provide a framework that research and practice can apply to configuration principles. The investigated programs are an *innovation fund*, which uses an informal inside-out process to fund internal innovation ideas and marketable products. *Startup cooperation* and *startup partnering* are programs that aim to build cooperation and partnerships with external startups that offer complementary products to the firms existing business. Both have a low degree of alignment with the business unit. *Startup venturing* is an outside-in approach designed as an autonomous organization unit that invests in startups that develop relevant innovations and offer support services. Finally, a *transformation program* that acts as a protected space for the participants and offers mentoring or other support services to transform the corporate culture. These programs are not silos working for their individual goals, but a combined configurational system to increase innovation capabilities and foster digital transformation. We utilize this configuration framework for our case based on the described principles, as illustrated in Figure 1.

Finally, we draw the three performance dimensions from Zheng *et al.* (2019) to evaluate the program's effectiveness. Zheng *et al.* (2019) assess the program's performance, based on three dimensions: *Public service platform utilization* which addresses the services offered for the corporate startup, like equipment and facilities. *External network relationship utilization* describes the availability of external services for the corporate startup, facilitated through the parent firm's network. Finally, the *environmental and management services* describe the overall environment the parent firm offers for the corporate startup.

As described, the current research focuses on the strategies and influences that corporate startups can have on digital transformation. We combined the previous findings from the literature for our proposed model as seen in Figure 1. This model is the basis for developing a tool that incumbents can apply for

utilizing startup-like structures in their efforts in digital transformation. The following section describes how we want to achieve this goal.



Figure 1. Corporate startup structures for digital transformation adapted from Kötting and Kuckertz 2020, Selig et al. 2018 and Zheng et al. 2019

## 3 Methodology

To develop a method for digital transformation using a corporate startup structure and to derive a supporting tool, we will apply a DSR approach, based on (Vaishnavi and Kuechler 2015). As shown in Figure 2, we have planned the DSR project in two design cycles. Each cycle consists of a problem awareness phase to determine the need to use a corporate startup model for digital transformation to overcome the weakness of prevailing approaches. In this phase, we will select our business partners because of their knowledge of digital transformation projects, and also to gain a high operationalization level. This approach also allows us access to both real-world data and a real-world evaluation. Next, we conducted the problem awareness phase through a structured literature review and first insights from experts. However, we plan to foster the practical needs through expert interviews with a worldwide operating car manufacturing firm. The next suggestion phase of the first cycle provides a set of requirements and a theoretical model for concretizing the idea of using a corporate startup structure for digital transformation. Following both the design principles and related requirements, we will develop an initial corporate startup model, which we instantiate in a corresponding tool to support the corporate startups and the affiliated firm.

In the first cycle, we will perform the evaluation phase by realizing project tasks with experts from the automotive company. The firm divides projects for digital transformation into smaller sub-projects. We will conduct the research within one sub-project and compare the results with other sub-projects. This gives us a unique insight into the performance measured by time and the cost variables. More specifically, we look at how fast the project achieves it's goal and how high the costs are, compared to the other sub-projects. Furthermore, we will conduct qualitative interviews to determine how the project result meets the demands of digital transformation. We are seeking to find a more state-of-the-art or innovative solution because of the startup character of the project organization.

Design cycle two will provide us with a further concretization of the practical and theoretical needs for corporate startups in digital transformations, based on what we learn in design cycle one. Based on previous experiences, we are particularly keen on holding an additional round of expert interviews in suggestion phase two, to further improve requirements and related design principles. These principles will then be used in the development phase to provide a tool that helps firms to operationalize the corporate startup model. We then evaluate the tool and the model itself. This will be a workshop-based

on digital transformation projects from three different industry partners in other industries, similar to design cycle one. The outcome of both cycles will then be design knowledge about realizing a corporate startup model in organizations and a running tool for supporting such models. According to the outline, we will introduce the requirements and design principles in the following section.



Figure 2. Design Science Research Cycles, according to Vaishnavi and Kuechler (2015)

## 4 Conceptualization

One of the challenges of digital transformation for established firms is to build the knowledge and expertise required. However, creating such knowledge and implementing new technology needs time and resources. Furthermore, there are various ways to acquire knowledge, e.g., building human capital or exploring (Trantopoulos et al. 2017). In the following, we will derive requirements based on the demands of both literature and practice. Naturally, the requirements (and design principles) are not the only ones that can help to support corporate startups. Nevertheless, they create a basis for design principles and future tools in the design science process. It is essential to mention that building knowledge for the first requirement is achieved through various mechanisms. Broadening this knowledge by developing products and services raises more barriers as personnel cannot act quickly on new insights from the knowledge-building process (de Bem Machado et al. 2022).

On the other hand, startups are designed to hire new experts, build human capital, and provide an environment that enables the workforce to explore new techniques like digital technology or other building blocks of a digital business model (Blank 2010). Research on corporate startups suggests incumbents gain knowledge by engaging with startups (Weiblen and Chesbrough 2015). Kötting (2019) describes that incumbents can utilize corporate startups as knowledge brokers to acquire and develop knowledge and then transfer it into business units. They deduce that the framework of the corporate startup provided by the incumbent through structure, processes, and services is essential for enabling a knowledge-building process. Therefore, we will be able to target the first requirement:

*R1:* Gaining knowledge requires a startup-like environment that enables a targeted knowledge-building process using state-of-the-art technologies free of established point-of-views.

Exploration of digital business models and digital transformation is a consecutive process of trial and error and decision-making. On the other hand, established firms are structured to execute processes

designed around their current needs and business model. Vejseli *et al.* (2022) find that agile governance mechanisms significantly impact firm performance, and traditional mechanisms might hinder the decision-making of explorative organizations. Startups change their strategy frequently based on newly gathered knowledge Kötting and Kuckertz (2020). They can decide on changing strategies or pivoting entirely and are designed around this possibility (Zheng et al. 2019). During the exploration process, new information comes up frequently, and decisions must be made at the level the information emerges to enable effective exploration.

R2a: To explore, organizations need processes and structures to gather (market) information and make decisions independently, fast, and efficiently.

On the other hand, startups mainly cooperate with incumbents to gain from their resources and network (De Groote and Backmann 2020). Utilizing services like human resources, accounting, or IT from the parent firm can lift a lot of weight off the corporate startup (Selig et al. 2018). Using these services extensively integrates the corporate startup deeper into the incumbent's structure, making the startup more dependent on rigid structures and processes from the incumbent. As a result, this contradiction is a structural balancing act between gaining an advantage from the incumbent's resources to being slowed down and restricted by corporate policies (Lee et al. 2018). This structure's design depends on the corporate's capabilities and the startup's needs. Therefore, the grade to which the corporate startup utilizes services from the parent needs to be optimized:

# R2b: The governance structure needs to adapt to the needs of the corporate startup. The incumbent's services and processes, like human resources, sales, or IT, need to fit the startup's needs.

To address all of these requirements, it is crucial to realize a structure independent of the existing processes and structures of the related firm. In a more specific way, members of the corporate startup are only accountable to themselves and not to the parent firm. As a result, we demand the design principle one:

## *DP1:* The corporate startup needs to define roles, processes, and structures by themselves related to their needs and without any influence of the parent firm.

As mentioned above, it can be beneficial for startups to cooperate with an established firm and use the existing resources of that firm. An advantage of a corporate startup related to requirement R2b is that the corporate startup can use the existing resources of the parent firm. This use is under the restriction of DP1, that the parent firm cannot force the startup to use existing resources. At the same time, the startup cannot use an unproportionate amount of resources from the parent firm. Therefore, the amount of resources needs to be defined by the parent firm, and startups can decide if the resources are sufficient, or if they need to use external resources. The advantage is that the startup can use established and highly professional resources without spending time creating its own. As an example, members of the startup do not need new working contracts or their own distinct human resources department. Therefore, we require the following:

#### DP2: The corporate startup can use the established resources of the parent firm.

Regarding DP2, one can argue that the corporate startup needs to pay a specific fee for using the resources. However, the startup's primary goal is not necessarily to maximize gains but, in our case, to generate knowledge rapidly to master the challenge of digital transformation, as shown in RQ1.

## *DP3:* The main aim of the corporate startup can differ from the aim of the parent firm and should focus on rapid knowledge creation through exploration.

In summary, designing a corporate startup differs from just creating a new unit in a firm to gain knowledge rapidly. While a unit depends on the related structures, goals, and instructions, a corporate startup can use its spirit and particular way of creating this knowledge. The following section will show a first instantiation to support this with a suitable tool.

## 5 Instantiation

As mentioned previously, the design principles provided should result in an evaluated tool after design cycle two and take the requirements from both cycles into consideration. As shown in the model of section 2 and regarding the design principles of the previous section, a first mockup should provide a first impression of a later tool that can support corporate startups. In more detail, the design principles demand roles, processes, and structures (DP1). This design principle is in line with the configuration principles of section 2. At the same time, it is possible to use the existing structures and resources of the parent firm (DP2). The following figure illustrates where one can set a role model on the left side. Included are names, roles, and their relationships to one another, and the possibility to highlight external resources. Next, on the right side, one can provide a structure or key activities of the corporate startup (DP1) and individual goals (DP3). Also includable are the roles, which can relate to activities and goals. Excluded from the mockup are the possibilities to describe roles, activities, goals, and opportunities in separate program windows in more detail. This design is in line with DP 1 and the configuration principles of section 2.



Figure 3. Instantiation mockup

To sum up, the overall aim of the tool is to provide a clear structure concerning resources, roles, and relationships, which we demonstrate in the figure. On the other side, a holistic overview of the corporate startup is provided for all participants as they can navigate through the whole structure and understand these relationships comprehensively. However, we expect that the evaluation phase of cycle one and the updated requirements in cycle two will need updating. Nevertheless, we consider that the design principles we found are promising to form a corporate startup. In the future, we will instantiate them and the shown mockup in a related tool.

## 6 Discussion and Conclusion

This work presents our design principles for corporate startup structures as research in progress. In the related design science approach, we use the latest research findings as a starting point and extend this research towards its instantiation. We furthermore define that principles and requirements that firms need to keep in mind, to realize a corporate startup structure. By using this structure, firms can perform digital transformation both cost-effectively and time efficiently. This goal is achieved through enabling solution development, which is detached from rigid firm structures and allows specific and up-to-date solutions to be found. Existing approaches are either rigid firm structures, or external startups, which are sometimes hard to find, or do not have the same goals as established firms do. Based on the related

literature and the model presented, we found requirements and design principles to solve these challenges. Research and practice can use these requirements and principles in two ways: either by using a theoretical model, or by being instantiated in a related tool. This should simplify the integration and the cooperation of the startup and firm. As far as practitioners and scientists are concerned, this work gains insights into comprehending and supporting corporate startups in digital transformation.

However, our work comes with some limitations. On the practitioner's side, requirements can differ between different-use-cases and branches. One has to add that different design principles can be found out of the requirements, which is a general limitation of the design science approach. As a result, the instantiation might not be suitable for each use case or each industry and needs to be adapted accordingly. Additionally, corporate startups might use the resources of the firm, which need to be handled independently and according to the design principles. However, these resources might still be linked to the parent firm and therefore need time to get an individual startup. This circumstance can also apply when resources are used to establish processes of the parent firm and perform them in the startup. It is therefore necessary to get rid of these processes and to define their own processes. However, the tool can support this and might be one of the first steps in finding a corporate startup. Future work can tie up here and look at the best way to transform into a corporate startup structure. In addition, we present a corporate startup structure, but this might not be the best way to cooperate. Maybe external startup cooperation increases success. On the other hand, even if the external startup approach would be better, the corporate startup approach might also bring success and it overcomes the weakness of a long search for a suitable external startup. Future work can also tie up here and compare the different forms of cooperation and the influence of success.

Our future work will include the development of the tool, as well as its evaluation and improvement. After evaluating our model in a real-world scenario with our practice partner, we will update the requirements and design principles. In the second cycle, we will include them in a tool supporting these corporate startup structures and evaluate the software in three firms in the digital transformation case. The outcome will then be an evaluated tool for corporate startups and design knowledge. Future work can tie up here and extend the tool towards external startups or other uses alongside digital transformation. Additionally, it is possible to expand the approach by including additional KPIs that support the cooperation and show the resulting performance. In our particular approach, we mainly focus on saving both time and costs.

To summarize our research, we want to support a firm's digital transformation by forming a corporate startup structure supported by a related tool. As mentioned, (corporate) startups provide a powerful support in finding new ways for challenges like digital transformation. The approach presented, provides a real possibility for cooperation between the corporate startup and the affiliated firm to achieve a time and cost-saving digital transformation, which would grant the future success of the firm.

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