



Development and Validation of Platform Businesses in Digital Entrepreneurship

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Abstract

Platform business models grow in relevance in nearly every industry by an optimization of transaction costs or a significant increase in innovativeness. Many entrepreneurs choose platform business models to create and capture value. Although the benefits of platform business models demonstrably have immense growth potential, these business models are also accompanied by unique challenges for startups in their early stages of development. In this chapter, we aim to discuss the specific challenges that digital entrepreneurs face when validating their platform business model concept. We also develop a processual model, based on the venture pyramid (discussed in Chap. 4 of this book) to validate the critical assumptions of platform business models. Based on three case studies of early-stage startups, we shed light on the dynamics of testing platform business models and discuss different approaches to develop a minimum viable platform.

1 Introduction

In late 2018, six out of the ten most valuable companies based on market capitalization run one or several platform business models (Handelsblatt, 2018). Examples such as Amazon Marketplace or Apple AppStore illustrate the character

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of this particular type of business model. By occupying a mediating role in a multi-sided market environment, the platforms mentioned reduce transaction costs for supply and demand, simplify the occurrence of direct interactions, and thus bind both market sides to their own infrastructure. The economic power of digital giants such as Amazon and Apple stands for platform success that drives practical interest in this model from different industries. But for startups and traditional companies (incumbents), setting up a platform business also seems desirable. According to Gründerszene (2018), five of the eleven fastest-growing startups in Germany operated a multi-sided platform business model in 2018. Although digital platforms hold high growth and earnings potential caused by its mediating character, the setup phase is particularly challenging. This is so because instead of one stakeholder group, with suppliers and buyers, two or more groups are to be addressed. However, this is not unusual for firms that have supplier networks or network-based value chains. The distinctive aspect of platform business models lies in the demand for an ecosystem of direct transactions between the actors involved, which grows through network effects, without taking on the steering role, e.g., of an original equipment manufacturer (OEM) in the automotive supply chain. How difficult it is to develop a viable business model even in advanced stages of business activity due to the mechanisms of the multi-sided market is shown, for example, by Uber's high loss statement of more than 2.5 billion dollars in 2019, 10 years after the company was founded. Operating in the on-demand mobility market, Uber is still looking for approaches to keep drivers and customers on its own platform, to integrate them into related ecosystems such as public transport, to leverage the regionally created added value beyond the regions, and to compile its operations into sustainable profits. This special breed of a platform business model entails many challenges for digital entrepreneurs to develop and validate their platform business model. Ghezzi (2019) highlights that most digital startups use the lean startup approach in the early phases of their existence. However, Ghezzi (2019) also points out that the same digital startups struggle to define proper tests and to design appropriate minimum viable although having a validated toolset at hand. In this chapter, we align a structured process to validate/invalidate different facets of a business model with the unique characteristics of a platform business model in order to help digital entrepreneurs when developing and validating a platform business model. We base our thoughts on the developments in the previous chapter of Göcke and Weninger (2020) with regard to the development and validation process of new venture ideas.

2 Background

2.1 Platform Business Models

The concept of a platform has come a long way from being a rather fuzzy concept that is sometimes understood as making companies more efficient through leveraging economies of scale and scope to the understanding of platform business

models that are characterized by a multi-sidedness of value creation (Gawer 2014). Airbnb, for example, needs to be attractive to guests (demand side), as well as to hosts (supply side). Facebook has developed a six-sided platform in the past with friends and businesses (each with roles as sender and receiver), as well as advertisers and app developers (Evanas and Schmalensee 2016). This fundamental characteristic of multi-sidedness is critical to the understanding of platform business models (Evanas and Schmalensee 2016) and goes in hand with the dynamics of network effects (Shapiro and Varian 1999). These dynamics provoke chicken-egg problems as they require companies to establish a critical mass of users on a platform in order to unleash a virtuous cycle (Pan Fang et al. 2019). At the same time, network effects can lead to winner-takes-most/-all situations in which companies create a strong competitive advantage through the size of the network and a lock-in through the attractiveness of network effects to both market sides (Cennamo 2019). The platform characteristics of multi-sidedness, the impact of network effects, as well as the associated chicken-egg problem and the winner-takes-all logic play a particularly important role in the development and validation of digital platforms as the central topic of this chapter (Evans 2003; Rochet and Tirole 2003). After a general introduction, these characteristics will be explained in more detail and placed in the context of the platform framework.

A common classification of digital platforms according to (Gawer 2014; Cusumano et al. 2019) describes transaction-oriented, innovation-oriented, and hybrid platforms. **Transaction-oriented platforms**, generally referred to as marketplaces, offer the technical architecture to bring together supply-creating and supply-demanding actors in order to carry out transactions of different value units. The platform itself is mostly not involved in individual transactions but only creates the framework through defined functions and mechanisms. The primary value proposition of this platform type is the facilitation of a simplified matching of the mentioned actors under the premise of significantly reduced transaction costs. This means that the respective platform, through its role as a single point of contact, combines supply and demand more efficiently as this would be possible without a platform. Popular examples for companies operating transaction platforms are eBay (used things), SoundCloud (audio files), or Deliveroo (food deliveries). **Innovation-oriented platforms** are understood as a basic architecture on which different actors come together to create new products and services (Gawer and Cusumano 2002; Parker et al. 2016). Examples are operating systems for personal computers and mobile devices. Microsoft Windows still functions as the underlying innovation platform on which third parties develop a broad spectrum of different applications for personal computers. However, Internet browsers driven by Google, which does not control a major PC operating system but a gradually dominant browser, are becoming increasingly important as an innovation platform for Web-based applications. A further increase in the importance of Web applications significantly threatens the supremacy of operating system providers—in this case, Microsoft—as an independent ecosystem develops around the browser as an innovation platform. If companies operate a combined or several closely interlinked transaction and innovation platforms, this is referred to as a **hybrid platform**.

The technology giants from the USA known under the acronym GAF A: Google, Amazon, Facebook, and Apple, all generate a large part of their market value by operating hybrid platforms. The same applies to the Chinese counterparts BAT: Baidu, Alibaba, and Tencent. Apple, for example, offers developers for mobile applications an innovation platform for apps with the iOS environment. These apps will then be offered and monetized to iPhone users via the AppStore transaction platform. Transaction platforms (e.g., eBay) and innovation platforms (e.g., Android) share the common feature that functionalities and mechanisms control the activities of the actors on the respective platform and influence the benefits for the respective actors. In general, platforms all function similarly as different actors exchange certain value units within an existing architecture. These actors can be buyers and sellers or social media users, among other roles. The architecture can be a development environment or a marketplace, and value units are, e.g., goods, services, money, or information.

In each of the mentioned scenarios, the platform sponsor has three possibilities to control the ecosystem of the actors, the platform, and the platform mechanisms through his dominant role (Adner 2017; Jacobides et al. 2018). With these activities, a platform owner needs to ensure the value-added for the platform users and the value capture for the platform owner. The adaptation of the platforms' technical infrastructure can be described as **platform manipulation**. The sponsor can, for example, significantly intervene in the actors' scope of action by adding or removing features or functionalities (Ozalp et al. 2018). A high degree of technical specifications for the use of the architecture, for example, contributes to raising the entry barriers for new actors into the ecosystem. At the same time, such a policy often reduces the possibilities of multi-homing; i.e., the actors create the same offer on different platforms, since the individual requirements have a negative effect on an agnostic application design (Cennamo et al. 2018). Amazon is a popular example of a platform sponsor who acts as an active market participant (= **market interaction**) on his own platform and selectively competes with complementors (Zhu and Liu 2018). Even if in some cases this leads to the displacement of complementary actors, in other cases unsatisfied demands from certain users can be met and cross-side network effects on the platform strengthened. Using Amazon as an example, displacement can manifest itself in the platform owner offering batteries on the marketplace under its own AmazonBasics brand and thus taking over market shares from independent battery dealers. Through **ecosystem governance**, platform sponsors can intervene in the rules and regulations of the platform and thereby model the value propositions and, in particular, the possibilities of value capture for different actors. In addition, governance-driven quality controls, such as peer-to-peer reviews, have a positive effect on the confidence-building character of the intermediate platform model (Jacobides et al. 2018) (Fig. 1).

Platform manipulation, as well as market interaction and ecosystem governance, is interdependent with the aforementioned platform characteristics: multi-sidedness, network effects, and winner-takes-all. **Multi-sidedness** describes the market conditions in which digital platforms play an interdependent role. Both the supply side and the demand side have to be managed. In the dimension of platform

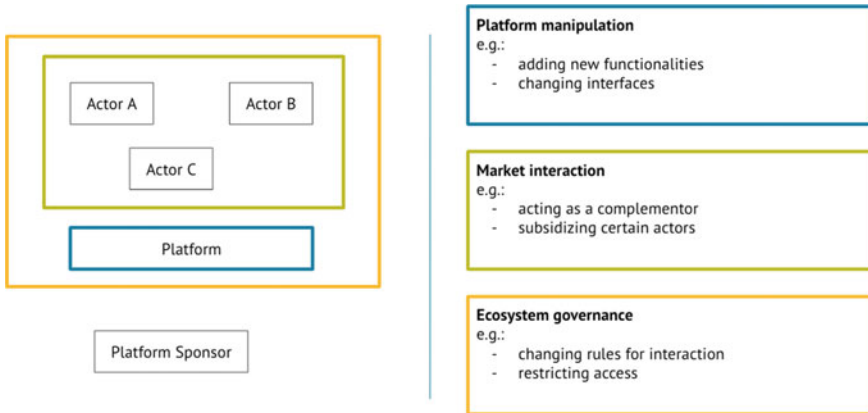


Fig. 1 Three dimensions of platform control

manipulation, these characteristics must be given high importance because technical changes in architecture must always be approached from the perspective of different actors on the platform. Through so-called **network effects**, the value that the platform creates for individual actors through other actors is increased. This is valid for additional and existing actors (Farrell and Klemperer 2007; Katz and Shapiro 1994). A distinction is made between the same-side and cross-side network effects. Same-side network effects describe the value-added effects on the same platform side, e.g., by additional users in a social network. With cross-side network effects, on the other hand, the value-added of the platform for one side increases through additional actors on another side. This can be observed, for example, in the relationship between supply and demand on eBay (Eisenmann et al. 2006). At its launch, every startup with a platform business model that builds on same-side or cross-side network effects faces a chicken-egg problem. Both users and suppliers/complementors to a platform alike do not want to see the platform thrive because their value is increasing with every additional user. Platform companies need to establish a critical mass that is attractive to both sides of the market (Shapiro and Varian 1999). Through the design of market interactions, platform sponsors themselves can act as supplier/complementor and thereby drastically increase the customer benefit through indirect network effects, especially in an early phase where there is still little supply on a platform. Driven by the network effect logic, the establishment of platforms in multi-sided market environments often leads to **winner-takes-all** situations. “Winner-takes-all” means that only one or a few platform sponsors serve and dominate a market. This mechanism can, for example, be strengthened by systematic action by the platform sponsor to increase market entry barriers within the ecosystem governance dimension.

2.2 Developing and Validating a Venture Idea

In the past ten years, the concept of a lean startup, where entrepreneurs and intrapreneurs alike validate or invalidate their riskiest business assumptions, has become a predominant thought in entrepreneurship literature (Ries 2011; Blank and Dorf 2012; Bland and Osterwalder 2020). Every venture idea can be seen as a bulk of interconnected assumptions. Some of the assumptions are existing right from the start, and others will evolve during the venturing process. The assumptions impact every decision and conversation, e.g., the design of business operations, the negotiations with venture capitalists, or the hiring of team members. The basic idea of the lean startup is to systematically test the most critical business assumptions to avoid premature scaling of the business since premature scaling is one major reason for startup failure (StartupGenome 2011; CBInsights 2018). It includes developing a product without even knowing if the customer has a problem that is worth solving or shows interest in the envisioned solution. Without the validation of demand and willingness to pay, the initiation of, e.g., an app development comes at high risk (StartupGenome 2011). Following Ries (2011), Blank and Dorf (2012), and Frederiksen and Brem (2017), the entrepreneur identifies a critical assumption to test, designs an experiment, runs the experiment, and creates learnings. Also in this book, Göcke and Weninger (2020) discussed the venture pyramid to structure the search process to a replicable and scalable business model as a response to the findings of Ghezzi (2019) that digital startups need. The venture pyramid (see Fig. 2) allows a focused experimentation of a business idea. It is structured into six levels of venture validation/invalidation. The questions next to the pyramid indicate the critical questions at every level. Every level of the pyramid builds on the former level. The assumptions with the highest magnitude of impact to the business reside at the bottom. Entrepreneurs are supposed to work upward the pyramid to validate or invalidate the most critical assumptions at the beginning of their startup journey. The assumption that a solution is attractive to potential users is located at the problem–solution fit. An entrepreneur can develop an experiment to test this critical assumption. The development of a minimum viable product (MVP) would be based on the validated assumption that users demand the product and are also willing to pay for it.



Fig. 2 Venture pyramid (reference Göcke 2017)

Entrepreneurs use the venture pyramid to structure the dynamic search process for a product market and business model fit, to run experiments, and thus to improve the decision making in circumstances of high uncertainty. At every level of the venture pyramid, an entrepreneur has multiple options to design an experiment (see also Göcke and Weninger 2020). The specific characteristics of platform business models add a new complexity to the validation/invalidation of a business idea (Table 1).

3 Conceptual Model and Empirical Insights

The development and validation of platform business models go hand in hand with a couple of specific challenges for a digital entrepreneur. In the following section, we apply the specific characteristics of platform business models to the venture pyramid. Furthermore, we look at the dynamics of platform business models and alternatives to develop a minimum viable platform to validate the product market fit.

3.1 Venture Pyramid for Platform Business Models

The venture pyramid has been discussed as a structured approach to develop and test an entrepreneurial venture. As discussed before, there are four specific characteristics of a platform business model that distinguish this type from a pipeline business: multi-sidedness, network effects, chicken-egg-problem, and winner-takes-all/-most situation.

Considering the **multi-sidedness** of a platform business, a startup needs to create value for at least two sides of the platform. Following the Airbnb example, we have guests representing the demand side (Side A) and hosts representing the supply side of the business (Side B). Both sides need to demand the platform to connect them either to sellers/buyers (transaction platform) or to connect them to complementors/users (innovation platform). The validation of the demand from both sides is central to the success of the platform business model. Therefore, a

Table 1 Special characteristics of platform business models impact the experimentation of a venture idea

Multi-sidedness	More than one actor on a platform requires experimentation with different market sides
Network effects	Utility for a customer depends on the number of users from the other market side. Experiments to test the importance and strength of network effects are required
Winner-takes-all/-most	Tendency to single-homing or multi-homing to be tested

platform entrepreneur needs to run experiments for both sides. To illustrate this, we have split the discussed venture pyramid to allow entrepreneurs to test the different market sides separately in the early phases of idea and concept validation (Fig. 3). The demand for a solution is primarily tested on the level of problem–solution fit, e.g., via smoke tests or qualitative interviews. To reach the level of problem–solution fit, platform entrepreneurs can run smoke tests or conduct interviews with the different sides of a platform. These developments should be built on a validated market attractiveness and customer problem fit for each side to avoid premature scaling. Both assumptions on the size of the target group and the relevance of the problem need to be true for the different sides of the platform. The separation into the two sides indicates that the existence of a customers’ problem and demand can be tested in isolation for both sides. This again is essential to reduce the probability of premature scaling of the company. At the level of platform market fit, digital entrepreneurs’ objective is to achieve not only onetime activation but ongoing usage, revenue, and word of mouth. This is the first moment when both sides of the platform need to be considered together. Thus, we describe a *platform market fit* as a situation where a platform continuously attracts and satisfies the demand from both sides. This platform market fit can be induced by the aforementioned actions of platform manipulation, market interaction, and ecosystem governance. We suggest experimenting with different alternatives, e.g., changing structures or rules, on the way to identify platform market fit. For an innovation platform (e.g., AppStore), this entails, for example, the decisions on the openness of interfaces or the design of the review/acceptance process (Tiwana 2014). The partial split of the venture pyramid illustrates that a platform market fit can be built on a product market fit where only one side of the platform is validated. An example of this is the validation of the Zappos platform business model by leveraging a Wizard of OZ MVP (Göcke and Weninger 2020). In its early days, Zappos creates an e-commerce Web site to buy shoes online. When launching the Web site, the supply side was purely handpicked shoes without any direct connection to the shoe manufacturer (Ries 2011). It was an early experiment on the demand side of the platform, without testing the intention of shoe companies to connect to the platform.

In businesses with a **network effect**, utility and demand are dependent on the number of users on the platform. As discussed before, network effects can take the form of same-side or cross-side network effects. For the success of the platform, digital entrepreneurs need to validate the critical assumptions on the existence of network effects to ignite growth for the business. See Table 2 for an outline of these assumptions.

We see the level of problem–solution fit as an initial stage to validate risky assumptions on the network effects in the business. User attraction in an early stage can be best evaluated through direct feedback in qualitative interviews or metrics like the conversion rate or customer acquisition cost in landing page tests. Early split tests with prototypes or landing pages can help to validate/invalidate the strength of same- or cross-side network effects. In these experiments, a user can be confronted with different signals on the number of users on a platform. The generated information guides the design of a minimum viable product and the startups’

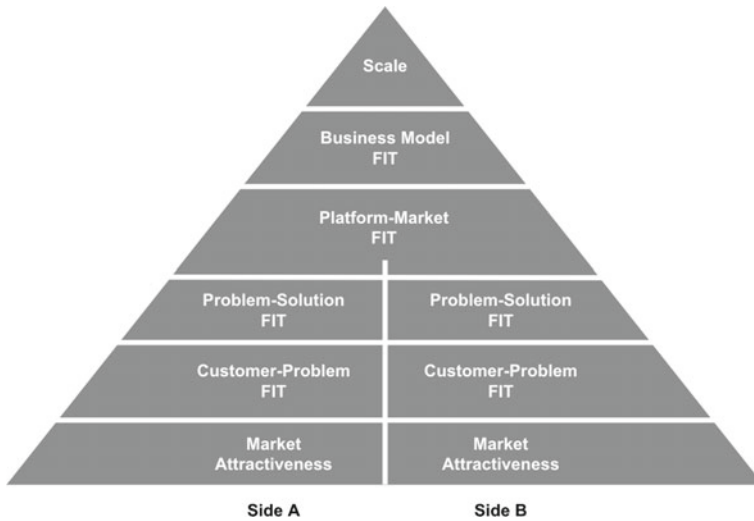


Fig. 3 Venture pyramid for platform business models

Table 2 Risky assumptions on network effects

	Side A (demand side)	Side B (supply side)
Same-side network effects	1. We believe that users of Side A are attracted by the number/quality of relevant users of Side A	2. We believe that users of Side B are attracted by the number/quality of relevant users of Side B
Cross-side network effects	3. We believe that users of Side A are attracted by the number/quality of relevant users of Side B	4. We believe that users of Side B are attracted by the number/quality of relevant users of Side A

market entry. It helps furthermore to cope with the **chicken-egg problem** because it indicates what side needs to be addressed first to gain traction on the platform. In addition, early evidence on the strength of the network effects can help to design the platform accordingly to reach a critical mass.

The stronger the dependency of one user side on the other, the greater is the chance of a lock-in situation where users are kept in the system because of its inherent attractiveness. These lock-in situations can turn into **winner-takes-all/-most situations** where one company dominates the market. Conditions of winner-takes-all or -most scenarios can be characterized by single-homing on a market side (e.g., Google for search engines). Here, users of the platform (applies to all sides) only use one platform to get their job done. In a multi-homing scenario, users use different alternatives to fulfill their jobs (e.g., fashion e-commerce). It is very important for a platform business to know whether it provides its service to single-homing users or multi-homing users as it impacts the company’s need for

capital, the market entry strategy, and the characteristics of its competitive positioning. In the stage of problem–solution fit, the platform entrepreneur has the opportunity to explore existing alternatives of the solution with qualitative interviews or based on a search engine keyword analysis. After the validation of the solution, the MVP version of the platform is developed and early adopters can be interviewed to identify use cases that make them turn away from the platform. As suggested before, platform manipulation, market interaction, and ecosystem governance are essential actions to create and capture value from the platform business model. The validation of the design of platform manipulation, market interaction, and ecosystem governance to not only create value but also to capture value is the missing step to achieve a business model fit. This is not a onetime fitting process but a continuous optimization of the business model (Fig. 4).

After achieving a business model fit, every entrepreneur should validate the international scalability of the platform business. Due to different competitive landscapes or environmental conditions (e.g., legal, political, or cultural), the scaling of platform business models often encounters obstacles. Here, too, the multi-sided platform character contributes to complexity. When entering new markets and regions, it is therefore also important to meet different requirements. While the user behavior of mobility seekers in Germany is presumably very similar to the user behavior in San Francisco, the supply side is much more regulated. In addition, in the case of Uber, different cityscapes influence the localization of passengers and drivers, and the algorithms working in San Francisco can lead to problems in Berlin.

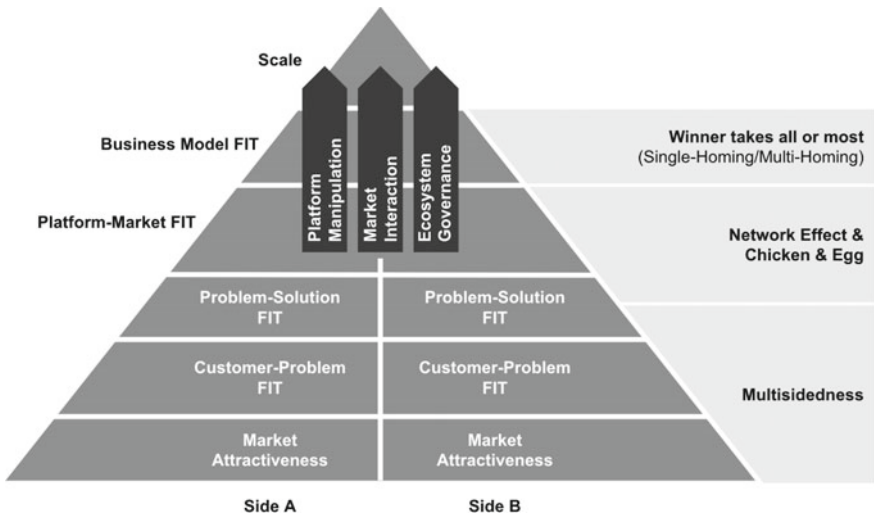


Fig. 4 Location of platform characteristics and platform control mechanisms on venture pyramid

3.2 Case Studies of Early-Stage Platform Startups

In order to illustrate our thoughts with some practical insights, we have created three different case studies with early-stage startups that are based in Germany. We conducted structured interviews for each case study, which followed a semi-structured interview guideline. The respective companies have been selected because they recently developed and implemented a platform business model. All three are still in an early stage but already report revenue and a growing user base as metrics for traction.

3.2.1 Anyyogi: The Yoga Community Platform

Anyyogi connects yoga teachers, students, and a space where the class can take place on one platform. The founder Natalie Pompe, herself a passionate yoga teacher, spotted the opportunity for creating Anyyogi in 2018 when she intensively explored the economics of the yoga market. After the completion of the training, there are basically two ways for yoga teachers to practice what they have learned. As a trainer, you can either sign up in a yoga studio or organize classes under your own name. Both paths offer advantages and disadvantages. It is difficult to be accepted as a trainer in a studio because the competition is high. In addition, the studio keeps a strong control over the timing and content of the course program and it extracts a large part of the revenues. For independent trainers, on the other hand, the problem is how to find a suitable room for the class and how to find and address potential students. Many do not manage to keep the frequency of courses or the number of participants as high as to make it profitable in the long run. Anyyogi addresses, in particular, the independent trainers and takes on the role of the studio in a particular capacity as the platform provides space on the one hand and sufficient participants and reach on the other. Due to the platform structure, the trainers retain a significantly higher share of the generated revenue as rooms are only used temporarily and the operation of extensive infrastructure is no longer necessary. In the platform design process, Anyyogi explicitly relies on an existing community of selected trainers and solves the chicken-egg problem by guaranteeing a high-quality offer on the platform. Students and new trainers are actively integrated into the community through networking during events and communication activities through the platform to maintain the initial momentum. At the time of the interview in mid-2019, Natalie was still managing many classes herself, which enabled her to gain a very detailed understanding of the desires and needs of all the groups involved, which she then translated into an automated software platform. High loyalty of trainers and students, identification with the platform and the brand, as well as user-driven marketing are some of the advantages of the community-driven approach of the Anyyogi platform. In the context of technical implementation and scaling, Natalie works in particular on questions concerning the automatic quality assurance of the service and the user-friendly design of the platform interfaces. To answer these questions, she is currently iteratively developing different versions of the platform, which get tested and optimized with selected users.

3.2.2 kawaloo: The Airbnb for Storage Space

The startup kawaloo was founded in 2019 as Airbnb for storage space by the two founders Marcel Wipijewski and Jan-Michael Steiner. Users have the chance to rent out space in their garage or basement with flexible durations to users who need additional storage space. kawaloo is a bootstrapped business that iteratively tested the business idea. In the early stages of customer problem fit and problem–solution fit, the kawaloo founders conducted a survey to validate the demand of both—landlords and tenants. Participants of the survey were invited to test mock-ups of the platform and to become lead users. The multi-sidedness was thus addressed simultaneously with a single experiment. For the minimum viable product, the kawaloo founders chose to develop a platform out of different available components—e.g., Web site builder or payment solution (piecemeal MVP). The supply side of storage space has been identified by the founders as the critical side of the business model to initiate the network effect. Especially, the optimized user experience through an integrated booking and payment process differentiates kawaloo from alternatives (e.g., Forum, eBay, Classifieds). kawaloo focuses on matching supply and demand in a relatively small geographical area, e.g., one neighborhood. Since proximity is at the heart of the business model, storage space is marked on a map. kawaloo aims to address the chicken-egg problem by extending the piecemeal MVP with a concierge component where the founders actively contact potential users of competing platforms to convert these users to early evangelists. This active conversion is conducted in strategic important launch regions and based on direct customer inquiries. In addition, social media and offline campaigns as well as publishing relevant content and articles help to further increase reach and awareness of the brand.

3.2.3 LogCorp: The Uber for Courier Services

The analyzed logistics startup can be defined as Uber for courier services. Founded in 2019, the startup currently works predominantly in Berlin and on its platform. It brings courier drivers together with companies and private individuals who are looking for a courier service. The driver network is fueled by individual drivers and vendors. The focus on the demand side is clearly on the B2B. Courier drivers have a lot of effort with current services. For example, there is no integrated navigation system, individual invoicing is required, and pickup forms must be carried in paper form. The startup digitizes and automates all these and other processes and also offers the best conditions on the market for courier drivers. The founding team discovered in the competition analysis that pure P2P models have failed and therefore initially built on the supply side through partnerships with professional driver agencies in order to meet the demand of the addressed B2B customers in any case. This demand (problem–solution fit) was validated in interviews and via landing page testing with Google AdWords. After generating relevant volumes in predominantly manual work on both the supply and demand sides, the startup's current challenges lie in process automation and increasing customer value. The latter goes hand in hand with testing and prioritizing new features on the platform. However, the team always keeps an eye on the balance between the two sides and,

if necessary, activates driving agencies. The startup's developers implement new features in the product and get firsthand feedback from the drivers or carry out orders themselves. For the acquisition of B2B customers, the offensive communication of existing customers has proven to be the most successful approach.

3.3 Approaches to Design Minimum Viable Platforms

In the analyzed case studies, we identified three specific and one general approach to minimum viable platform design. All named startups start with the identification and implementation of a core transaction between actors. With kawaloo, for example, this is the provision of storage space by a supplier in exchange for a fee from the customer. Parker et al. (2016) and Cusumano et al. (2019) already describe the relevance of early focus on a core transaction in relation to the successful development of digital platforms. We empirically underline this finding in the examined case studies. Basically, the concept of the minimum viable product is applied to the more complex context of a multi-sided market. The core transaction is, therefore, to be understood as the simplest way of representing the value proposition of the platform for the addressed actors. All further services, offers, or additional transactions are to be understood as complementary features to the core.

The special approaches can be explained on the basis of procedures for each of the studied startups. The first approach, called **immersion**, describes a high manual effort of a platform sponsor, in our case Anyyogi, to deepen the understanding of the supply and demand side. The platform sponsor takes on the role of a market participant and engages on the platform to create a high level of learning in the early days of the venture development. YCombinator founder Paul Graham describes this procedure in a blog article published in 2013 with the title "Do Things that Don't Scale" using the example of the platform startups Airbnb. Anyyogi provides further evidence of the added value in prioritizing early-stage learning and improving the value proposition over automation. The main advantage of the immersion approach is that startups can reduce their early effort of building, e.g., supply-side relations when testing the experiences of the demand side. Although the immersion into a demand-side/supply-side actor enables the startup to test the covered role, the generated insights are biased.

LogCorp is initially building on the supply side of its delivery services platform itself by keeping drivers available, independent of demand, and in order to be able to immediately serve any requests that may arise. This approach of serving one side of the platform as a sponsor is called **anticipation**. Thus, the startup initially concentrates on testing the assumptions made on the demand side and focusing the knowledge gained on this side. At the same time, demand can be built up through the self-created offer, making the platform more attractive for independent providers in a second step. This approach comes at high risk, without an early problem-solution fit test of the customer demand,

kawaloo leverages other platforms to create the necessary reach to test its minimum viable platform assumptions. Called **piggybacking**, this could already be

seen in the development of PayPal, which used the reach of eBay to build traction. Through active participation as buyers and sellers, PayPal employees actively convinced eBay users to use its service for financial processing during the transactions. Thereby, PayPal used the scale of eBay and the value-added of their service for eBay users as a leverage effect.

4 Practical Implications for Digital Entrepreneurs

The development of a platform business brings unique challenges (e.g., multi-sidedness and chicken-egg problem) for digital entrepreneurs. These challenges are contingent on the platform business model, but independent from the type of entrepreneurs, whether they are startup entrepreneurs or corporate entrepreneurs. We have adapted the venture pyramid to the characteristics of platform businesses and suggest to test the risky assumptions associated with multi-sidedness and network effects very early in the venturing process. For digital entrepreneurs, this means that a venture idea for a platform business model needs to be tested for both sides in order to get insights on the fundamental dynamics of platform business models. We want to encourage digital entrepreneurs to walk the extra mile to validate the demand side, as well as the supply side. It is tempting to focus only on the validation of the demand side of the business when time constraints and limited resources accompany the entrepreneurial journey. But the exclusive validation of one side of the platform comes at high costs. The development of a minimum viable platform based on wild guesses for these characteristics is accompanied by great risks to the venture process. From the state of platform market fit on, digital entrepreneurs should not only validate their assumptions on the single-homing vs. multi-homing characteristics but also on the design of the platform control mechanism in order to create and capture value. We see potential to conduct further research on the venturing process for platform business models, especially in terms of validation of risky business assumptions.

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