LAUNCH STRATEGIES FOR MULTI-SIDED DATA ANALYTICS PLATFORMS

Research paper

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Abstract

Launching multi-sided platforms is challenging as providers have to gather a critical mass of users in multiple target groups. Various `launch strategies' can be derived from existing platform literature, such as price subsidization, platform openness and coring. However, studies on the utility of these launch strategies for informing design choices in practice are largely lacking. This paper evaluates the utility of launch strategies for a multi-sided platform offering data analytics functionality in the hospitality industry. Strategies are applied and evaluated over the time period covering the initial platform design, market introduction and the first year of operation. We find that especially coring strategies are helpful in informing initial platform design decisions. Pricing and onboarding strategies are helpful for informing design choices, but considerable exploration and adjustments were needed along the way to effectuate the strategies. Our study shows that launch strategies from literature cannot be readily applied in a practical case. Our findings provide a foundation for developing design theory on launching multi-sided platforms. We contribute to digital platform literature by providing in-depth insights into how to apply launch strategies for multi-sided platforms offering data analytics.

Keywords: Platform ecosystem; Data analytics; Multi-sided platforms; Platform genesis; Digital platform

1   Introduction

Digitalization and big data are driving demand for data analytics in any industry today (Watson, 2014; Trieu, 2017). Currently, digital platforms are emerging on the market that offer generic data analytics functionality `as a service' to firms in a specific industry (e.g. McKinsey, 2016). Since the costs of such data analytics platforms are shared among a pool of firms, they are especially attractive for small firms that cannot afford custom-built solutions. In addition, such data analytics platforms create value by offering benchmarking opportunities within the pool of firms using them. By aggregating data from multiple firms within the same industry, data analytics platforms can also create valuable insights for other stakeholders, such as wholesale suppliers or government agencies. For instance, wholesale suppliers could benefit from aggregated insights about the market collected at retailers. In this way, multi-sided data analytics platforms are emerging that create value for small firms and other industry stakeholders.

Launching a data analytics platform on the market is challenging. A sufficient number of firms needs to join the platform in order to effectively share costs. In addition, benchmarks and aggregated insights are only valid if a sufficient number of firms is using the platform. In more conceptual terms, such data analytics platforms only become valuable if there is a critical mass of firms adopting it, in order to create economies of scale (i.e. sharing costs among a pool of firms) (Thomas et al, 2014), direct network effects (i.e. benchmarks for small firms) and indirect network effects (i.e. aggregated market insights for suppliers and other stakeholders) (Hagiu, 2006; Rochet & Tirole, 2006).

Literature on how to launch platforms is scarce, and mainly conceptual in nature, as various authors have noted (Evans, 2009; Tan et al, 2015; De Reuver et al, 2017). Studies that do address the issue of how to launch platforms suggest various strategies, such as onboarding user groups in a specific order (Evans, 2009; Schirrmacher et al, 2017), subsidizing early users (Parker & Van Alstyne, 2005), opening up the platform to users, providers and competing platforms (Ondrus et al, 2015; Nikayin et al, 2013) or solving systemic problems that are worthwhile even in absence of network effects (Gawer & Cusumano, 2008). However, these studies largely built upon conceptual work or ex-post studies of successful platform introductions. Empirical studies on how these launch strategies can be applied in practice to inform design decisions on platforms are largely lacking in existing literature.

This objective of this paper is to evaluate the utility of launch strategies for informing design choices on a multi-sided platform offering data-analytics to firms within the hospitality industry. We focus on the launch of a platform by a start-up company; hence strategies such as tipping users from adjacent markets (Gawer & Cusumano, 2008) are out of our scope. We focus on the hospitality industry, which is appropriate for our purposes since it is composed of numerous small bars and restaurants that currently hardly use data analytics solutions. Our specific setting is a start-up company that intends to launch a data analytics platform in this industry.

The paper contributes to digital platform literature by evaluating whether launch strategies from literature are useful for informing design decisions in practice. In this way, we provide a basis for design theory on platform launch, thereby directly answering recent calls for research (De Reuver et al, 2017). In addition, we provide in-depth insights into how such strategies can be applied in the specific context of data analytics platforms.

Section 2 provides a literature review focusing on design and launch of multi-sided platforms. Section 3 describes the method. Section 4 describes how strategies were applied in the initial design of the platform. Strategies are evaluated in Section 5. Section 6 discusses the significance of our findings, followed by conclusions in Section 7.

2 Literature review

2.1 Multi-sided platforms and network effects

Platforms generally refer to any foundation upon which actors can offer complementary services and products (Gawer, 2009). Platforms may operate within a firm, a supply chain or industry (Gawer & Cusumano, 2008). Platforms create value by one of three dominant logics: (1) enabling reuse of generic elements which provides economies of scale; (2) allowing others to utilize intangible resources to create innovations; or (3) facilitating transactions between actors (Thomas et al, 2014). For our focal phenomenon of data analytics platforms, the foundation that the platform provides is generic data analytics modules that are valuable for a large set of (small) firms. We focus on data analytics platforms offered within the same supply chain, in order to enable benchmarking and aggregated insights across that supply chain. The main value-creation logic of data analytics platforms is economies of scale by offering generic functionality that can be reused.

Multi-sided platforms are a specific sub-type of platforms, which create value by enabling multiple user groups to interact (Rochet & Tirole, 2006). Such multi-sided platforms may create value through `matchmaking', i.e. reducing search and transaction costs between two user groups (Evans & Schmalensee, 2016; Boudreau & Hagiu, 2009). Another way of creating value is that consumption by one user group increases the value created for another user group, for instance in the case of advertisers and readers of (online) newspapers (Baden-Fuller, Guidici, Haefliger & Morgan, 2017). This latter type of value creation is relevant for data analytics platform as they may serve multiple user groups within the same supply chain, e.g. retailers and wholesale suppliers. The platform may become more valuable if different user groups join and consume the data-analytics offerings. For instance, wholesale suppliers could benefit from aggregated insights about the market collected at retailers.

The multi-sided nature of platforms gives rise to network effects. With direct network effects, the platform becomes more valuable if users in the same user group join. With indirect network effects, the value of the platform depends on the users in other groups (Katz & Shapiro, 1985). In the case of data analytics platforms, direct network effects are created as benchmarking features of the platform improve as more small firms join the platform. Indirect network effects are created as aggregated market-level insights for wholesale suppliers improve as more small firms join the platform.

Launching multi-sided platforms is challenging, most importantly because multi-sided platforms exhibit network effects. Due to network effects, multi-sided platforms only start to add substantial value once a critical mass of users has joined the platform. The so-called `chicken-and-egg' problem implies that a sufficiently large number of users needs to join for the platform to become valuable (Evans & Schmalensee, 2010).

2.2 Strategies for launching a platform

Some scholars observe that platform researchers typically regard reaching critical mass as an event rather than a process (Evans, 2009). Still, existing literature suggests several strategies on how to launch a platform and reach critical mass, often based on conceptual work or ex-post empirical studies. Here, we give an overview of related work that suggests strategies for launching a multi-sided platform. The mentioned strategies aim to resolve the critical mass issue by respectively offering additional value-creating elements that do not involve network effects (Section 2.2.1); adapting pricing structures to compensate low network effects (2.2.2); onboarding user groups in such order that the rate of attaining network effects increases (2.2.3); capturing network effects by tapping into user bases from existing platforms (2.2.4); and reducing uncertainty of user groups over whether network effects will be attained (2.2.5).

2.2.1   Coring

A first strategy is to offer value-creating elements that do not require network effects. In this sense, the notion of coring is relevant, as introduced by Gawer & Cusumano (2008). Coring entails that a platform solves a systemic problem that many actors are facing (Gawer & Cusumano 2008). With a unique offering, product or technology, unmet needs can be solved, which allows providers to launch the platform and win the market. Coring strategies are especially relevant in capturing niche markets where platforms can win through distinguishing themselves from competitors (Cennamo and Santalo, 2013; Holzer and Ondrus 2011). The core of the platform is often not determined as a one-off choice but subject of continuous change (Saarikko, 2016). For instance, the case study by Tan, Lu, Pan & Huang (2015) shows that platform provider Alibaba started out with a minimum functionality in its core that merely allowed user groups to interact. The provider only expanded this functionality later in the platform evolution, after the platform had been launched.

The notion of addressing previously unserved user groups also relates to this strategy, as Breshanan & Greenstein (1999) point out based on their historical analysis of the computing industry. They point out that young platforms are more likely to capture a critical mass by addressing new market segments that were previously unserved, rather than competing directly with established platforms. By first addressing unserved market segments, they argue that new platforms can develop capabilities to compete with established platforms in the long run.

From this, we argue that a launch strategy is defining the core of the platform in such a way that it solves a systemic problem faced by a critical mass of unserved users.

2.2.2   Pricing

Due to network effects, a multi-sided platform may provide insufficient value during the initial stages of market introduction, since not enough users are on board yet. One typical strategy to alleviate this lack of added value is subsidizing specific user groups or subsets thereof. Especially if some users create disproportionally large network effects to other participants, one can consider to subsidize these users (Bakos & Katsamakas, 2008; Eisenmann et al., 2006; Parker & Van Alstyne, 2005; Rochet & Tirole, 2006). For example, a shopping mall platform could give discounts to large shops in order to attract small shops to the mall. Such subsidization could be provided for a limited period or throughout the whole lifecycle of the platform. Examples of the latter case are search engines, which are sponsored by one user group (i.e. advertisers) such that they can remain free for the other user group (i.e. searching consumers). A risk of subsidization is that users leave the platform once prices are increased (Salminen, 2014). Also, especially start-ups launching a platform may lack financial resources to subsidize users.

From this, we argue that a launch strategy is subsidizing a user group or part thereof to join the platform, either temporarily or during the entire lifecycle of the platform.

2.2.3   Onboarding

Since multi-sided platforms serve multiple user groups, the question emerges in which order user groups should join the platform. As some user groups may require a larger critical mass than others, onboarding them in a specific order will make it easier to reach critical mass quickly. Evans (2009) argues that the proper onboarding strategy depends on the type of network effects. Platforms with indirect network effects should follow a different onboarding strategy than those with direct network effects. He suggests and illustrates various onboarding strategies: zig-zagging between two sides of the market; making pre-commitments to both sides; single- and double-marquee strategies; two-step approaches; and zig-zagging two sides of the market with self-supply of complementary offerings by the platform provider. Schirrmacher, Ondrus and Kude (2017) add to this that the choice between sequential and simultaneous launch strategies depends on whether users can switch to the other side of the market or not.

From this, we argue that a launch strategy is onboarding the user groups on the platform in a certain order, which could be sequentially or simultaneously.

2.2.4 Platform openness

Recent literature suggests that openness of platforms may also contribute to attaining critical mass (Ondrus et al, 2015). Platform openness can be defined as reducing restrictions on using, developing or commercializing the platform core (cf., West, 2003). In open platforms, any restrictions should be reasonable and non-discriminant (Eisenmann, Parker & Van Alstyne, 2009). In general, platform openness contributes to end-user adoption (West, 2003), potential network effects (Parker, Van Alstyne & Jiang, 2017) and external innovation (Boudreau, 2010).

Ondrus et al (2015) demonstrate that, in general, providers are also more likely to attain critical mass when opening up a platform to players from the same industry, other technological platforms and additional users. For instance, a critical mass can more easily be obtained by opening up a platform towards existing platforms with an established customer base (Salminen, 2014). Openness may also help to convince competing players to join a platform (Nikayin et al 2013). A risk of opening up is that the focal platform is `enveloped' into the established platform, which creates high levels of dependencies (Eisenmann et al 2011).

From this, we argue that a launch strategy is opening up the platform towards the different user groups as well as competing platforms.

2.2.5 Platform leadership

A less tangible issue is leadership. Gawer and Cusumano (2014) argue that platform providers should convince potential user groups that the platform will ultimately win the market. Hence, they argue platform providers should build and communicate a coherent vision on the product, technology and ecosystem. Based on that vision, the platform provider should build a coalition around their platform. Without a clear story, user groups will be reluctant to join a new platform.

The idea of platform leadership is closely related to that of keystone players in business ecosystems. Iansiti & Levien (2004) show how a company can become a keystone by creating and sharing value with other actors in the ecosystem. Keystone organizations are crucial members in a business ecosystem that try to improve the overall health of the ecosystem so that they can in turn benefit from this as well.

At the same time, having a coherent strategy and vision might be at odds with the uncertain situation of a start-up company. As we noted in 2.2.1, what constitutes the core of a platform may shift over time. Pricing mechanisms and subsidization models may also be of temporary nature (see 2.2.2).

From this, we argue that a launch strategy is communicating a coherent vision and strategy towards potential user groups.

2.2.6 Summary: Launch strategies from literature

Table 1 summarizes the launch strategies derived from literature.

Launch strategy	Description	Main references
Coring	defining the core of the platform in such a way that it solves a systemic problem faced by a critical mass of previously unserved users	Gawer & Cusumano 2008 Breshanan & Greenstein 2013
Pricing	subsidizing a user group or part thereof to join the platform, either temporarily or during the entire lifecycle of the platform	Eisenmann et al 2006 Parker & Van Alstyne 2005
Onboarding	onboarding the user groups on the platform in a certain order, which could be sequentially or simultaneously	Evans 2009

Platform openness	opening up the platform towards the different user groups as well as competing platforms	Ondrus et al 2015
Platform leadership	communicating a coherent vision and strategy towards potential user groups	Gawer & Cusumano 2014

Table 1.   Launch strategies derived from literature

3   Research Method

We evaluate the utility of the launch strategies by applying them in a real-life setting. We study a start-up intending to launch a multi-sided platform offering data analytics. As one of the authors of the paper is also a lead designer in the start-up, we could ensure that the launch strategies were taken into account when making decisions on the platform design and market entrance strategy. We followed the design, launch and initial market entrance of the start-up over past 1.5 years, allowing us to study how launch strategies unfolded during the design process.

The start-up is a Dutch company called Checkmetrix. Checkmetrix intends to design and launch a multi-sided platform offering data analytics for businesses in the hospitality industry. The Dutch hospitality industry is appropriate since it is a highly fragmented industry of over 20,000 cafes, hotels and restaurants. The majority of these businesses have less than ten employees and do not use any form of data analytics.

In Section 4, we describe how the launch strategies were applied in the initial design and launch strategy for the platform. Next, in Section 5, we describe three rounds of evaluation. The first round of evaluation takes place through semi-structured interviews among potential users of the platform. The goal of the interviews was to test whether potential users would adopt the platform as it was initially designed through the launch strategies. Eight interviews were done with small hospitality businesses, ranging from single-venue businesses without any employees towards businesses with over 800 employees. In addition, five semi-structured interviews were conducted with wholesale suppliers: Heineken, AB-InBev, Vrumona, Pesico and Friesland Campina. As these parties jointly control the majority of the market, the interviewee selection provides a representative view.

A second round of evaluation took place just before the designed platform was introduced on the market. In this second series of interviews, only small hospitality firms participated. The third round of evaluation took place one year after launch of the platform. In this third round, we reflect on the utility of the launch strategies as they were used and adapted in the first year of offering the platform.

4   Initial platform design and market entrance

In this section we describe the initial design of the platform and its market entrance strategy. We structure the description following the strategies from Section 2.

4.1   Coring

The platform is aimed at two user groups within the same supply chain of hospitality industry. The primary user group is hospitality businesses such as hotels, cafes and restaurants. Most of these hospitality businesses are micro-enterprises with less than ten employees. The other user group comprises wholesale suppliers of food and beverages to the hospitality businesses. In contrast to the hospitality businesses, the suppliers market is dominated by five large players that control 60% of the market.

The core of the platform is designed to solve a systemic problem which many actors in both user groups face: how to gain insights into sales volumes of small bars and restaurants? Small hospitality enterprises lag behind in adopting data analytics solutions. A primary reason is the fragmentation of point of sales (POS) systems that hospitality businesses use for handling transactions. In the Dutch market, over 130 suppliers of POS systems are offering over 250 different systems. Most of these POS

systems do not have open interfaces for accessing sales data. While new solutions are being introduced that are open and interoperable, replacing legacy POS systems is often too costly for small hospitality businesses.

For wholesale suppliers of food and beverages, it is difficult to gain insights into the hospitality market. As a consequence of the lack of openness and interoperability of POS systems, market analysts such as Nielsen cannot provide any market-level insights for the hospitality industry. Market research agencies such as GfK and Datlinq collect data via consumer panels and visits to some of the restaurants in the market. However, these agencies use sampling approaches, which implies that they can only offer snapshot insights into parts of the market.

The core of the platform comprises several modules to collect, clean, store, categorize and analyze data from any POS system, see Figure 1. The platform comprises a physical device that can be connected to any POS system. In this way, even legacy POS systems without open interfaces can be connected to the platform. The physical device sends data to a webserver. Products are tagged into a standardized categorization system that allows distinguishing brands, categories of food etcetera. In order to assign valid tags to the products, the categorization system is first trained through manual categorization. After categorization, data is stored in a relational database. Next, data is being cleaned and prepared for analysis. After that, an employee of the platform provider creates dashboards. The dashboards display information such as the revenue distribution per product group throughout the week for one of the restaurants or the revenue distribution per table. Hospitality businesses and wholesale suppliers log on to a portal to view benchmarks and conduct analyses.

The platform fits the idea of coring as it provides a systemic solution for a problem that many actors in the supply chain have. While some POS vendors provide simple analytics based on the sales of a hospitality firm, these do not offer benchmarks or trend information. Due to the lack of interoperability and openness of POS systems, existing data analytics solutions cannot query data on sales in small hospitality firms. There are some competitors that offer data analytics to hospitality firms (e.g. Weisbeerger) but these do not collect POS data. The platform provides a unique solution through the physical device that connects to the POS system.
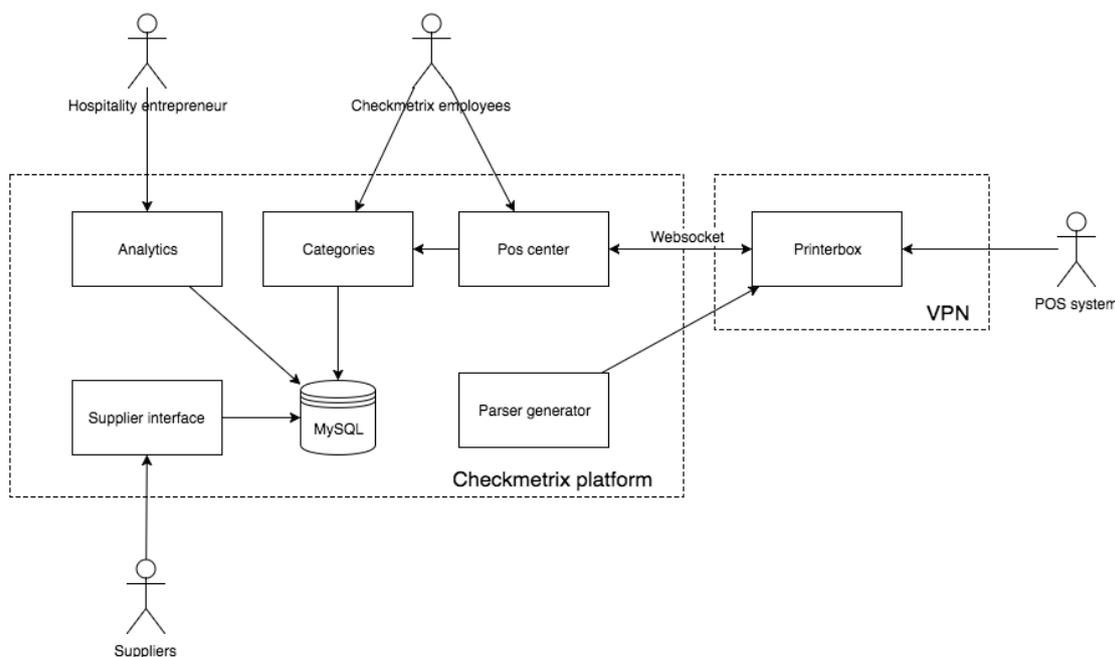

Figure 1: Technical architecture

The platform adds value for hospitality entrepreneurs through insights that can make their business more efficient and competitive, regardless of the POS system brand and type they have. Through benchmarking and trend analysis, they also gain insights on their market position. Wholesale suppliers benefit from the platform through insights into the sales of hospitality businesses. In the future, the basic functionality in the platform core can be expanded with tools such as measuring the effectiveness of marketing campaigns or activation of consumers.

4.2 Pricing

The platform poses two types of network effects. There are direct network effects between the hospitality businesses. The more businesses that join, the more value can be gained from benchmarks and trend analyses tools. Still, even in the absence of direct network effects, small hospitality firms already receive value from using the platform for analyzing their own sales volumes.

There are indirect network effects from the hospitality businesses to the wholesale suppliers. For wholesale suppliers, the value of market-level insights depends on how many hospitality businesses have joined. Without a sufficiently large number of small hospitality firms on the platform, the value for wholesale suppliers is low. Existing offerings from market research agencies that conduct surveys and visits to bars and restaurants already provide non-representative insights on the market. Hence, the platform only provides superior value compared to existing offerings if there is a sufficiently large part of the hospitality businesses on the platform, allowing for representative market-level insights.

Since the user group of small hospitality firms poses strong indirect network effects to large suppliers, the pricing model will subsidize small hospitality firms. Such subsidization will likely be required since small bars and restaurants cannot afford premium-priced data analytics solutions. Large wholesale suppliers are likely willing to pay substantial fees for gaining market-level insights, considering what they already spend on existing non-representative market insights from research agencies.

4.3 Onboarding

Existing solutions from market research agencies already provide partial insights in the hospitality market. Hence, large suppliers will only switch to the data analytics platform if there is a representative sample of hospitality businesses in a certain segment of the market. At the same time, hospitality businesses lack the spending power to pay a sufficient fee for sustaining the platform. Hence, there need to be at least one or two large suppliers on board to sustain the platform. For these reasons, the chosen onboarding strategy is to simultaneously attract both user groups.

4.4 Platform openness

The platform is open for any hospitality business and large supplier to join. However, the platform is kept closed to third-party applications, at least in the initial phase, for two main reasons. First, opening up the platform would require additional efforts of technology development (e.g. installing application programming interfaces) and contractual arrangements (e.g. terms and conditions). Second, building up trust of hospitality businesses in the platform provider is already challenging, being a start-up without an existing reputation. Opening up the platform may amplify that problem since open platforms attract third parties without a clear track record and brand awareness at hospitality businesses. Opening up to a few reputable partners, such as Salesforce, may improve the reputation of the platform, but building a joint business case is challenging. Hence, the platform provider expects that, by keeping the platform closed, trust of hospitality businesses is easier to gather on the short term.

The platform may be opened up to device makers, in this specific case POS providers. POS providers generally lack the capabilities to provide analytics and benchmarking features to hospitality businesses. Especially in pilots of large wholesale suppliers in a specific segment of the market, POS providers are willing to actively open up their interfaces to the platform. In those cases, POS providers do expect a share of the revenues.

4.5   Platform leadership

Being a start-up, the platform provider has a challenge in convincing the market this will be a winning solution. In order to communicate a coherent vision, dashboards are developed that showcase the functionality of the platform. The functionality is further demonstrated to large wholesale suppliers by conducting pilots with a limited number of small hospitality firms. In addition, it is made clear to both user groups what the pricing policy will be. Another way to establish trust in the platform is to build credibility, by partnering with a reputable partner (i.e. Salesforce.com) as well as collaborating proactively with wholesale suppliers.

Involvement of POS providers also helps to establish trust of hospitality businesses. Technically, such collaboration is not needed since the solution can function without involvement of POS providers. However, some hospitality businesses find the platform more trustworthy if their POS provider would for instance to assure them that their POS system will not malfunction because of the platform. Collaborating with POS providers is challenging, since the analytics platform's functionality is sometimes perceived as a solution that relegates the POS system to merely a commodity.

5   Evaluation

Evaluation takes place at three points in time. In the first round, the initial platform design as described in Section 4 is evaluated with hospitality businesses and large suppliers. After that, adaptations were made. In the second round, just before launching the platform hospitality businesses were interviewed once more, using mockup dashboards as a probe. The third round of evaluation takes place one year after the platform was introduced on the market.

5.1   First round of evaluation: Initial design

Interviews with hospitality enterprises confirm that they face challenges to employ data analytics solutions. It was confirmed that they do not currently use data analytics solutions, and that they are not willing to replace their POS systems. Especially when bars and restaurants are growing and opening up multiple venues, owners struggle to keep an overview of what is happening in each venue.

In addition, we found they especially struggle to integrate and analyze data from different information systems. A data analytics platform would therefore be especially valuable if it integrates different data from different information systems (e.g., accounting software, POS system, personnel scheduling, inventory management), combined with simple-to-use data insights (e.g., graphs or overviews).

All interviewed wholesale suppliers indicated they wanted to increase the quality of their insights into the hospitality market. Currently, they are unable to collect sufficient and sufficiently accurate data from the consumer or the hospitality firms. Suppliers said they were willing to pay large fees for a data analytics platform that can provide representative market-level insights, in the range of 100 to 500 euros per venue for half a year.

However, all five interviewed suppliers are not yet willing to join the platform. Since the platform is provided by a start-up, suppliers do not trust that the platform would provide sufficient added value. Without any small hospitality firms joining the platform, none of the suppliers were willing to adopt it. Based on this finding, the onboarding strategy has to be revised into a sequential one: first get a sufficient number of hospitality businesses on board, in order to show the value of the platform to the large suppliers. Also, the initial pricing strategy had to be revised since large suppliers are unwilling to sponsor the platform in the short run.

Implications for the launch strategies are drawn in Table 2.

Launch strategy	Finding from first round evaluation
Coring	Confirmed that platform is solving systemic problem for both user groups. Core offering for hospitality businesses is slightly adapted: the platform will be integrated with existing information systems
Pricing	Confirmed that hospitality businesses should be subsidized, and that large suppliers are willing to do so, but not until a representative set of hospitality businesses has joined the platform
Onboarding	Instead of initial simultaneous onboarding approach, a sequential one had to be adopted, since large suppliers are unwilling to join the platform without a critical mass of hospitality businesses
Platform openness	No implications from the evaluation
Platform leadership	Large suppliers reluctant to adopt the platform because the start-up company lacks a prior track record

Table 2.   Launch strategies derived from literature

5.2   Second round of evaluation: mockup design

After finalizing the design and creating mockups of dashboards, the platform was evaluated through a second round of interviews. These interviews took place just before the platform was introduced on the market. In this round, only hospitality businesses were approached, since large suppliers were found unwilling to join the platform in the first round. The interviews presented mockups of the platform in order to test intention to use, willingness to pay, and willingness to share data with the other user group.

Regarding intention to use, the interviewed hospitality entrepreneurs indicate they would like to use the dashboards on a regular basis (weekly in most cases, monthly in one case). Key functionality that must be added to the dashboards is personnel schedules and costs. In this way, hospitality businesses can compare actual sales to costs of personnel and other resources. However, interviewees said they were willing to use the dashboards even without such additional functionality. For instance, one of them commented: *"Managers always find it hard to make decisions on sending employees home, because there is a risk that it might become busier later. From an organizational perspective we find it hard to pinpoint when and why managers make mistakes in this. A chart like this would be very useful in identifying these issues."*

Regarding willingness to pay, interviewees were willing to pay between 20 and 100 euros per month for the basic dashboard functionality. Once more functionality would be added, such as personnel schedules, they would be willing to pay more.

We also evaluated willingness to share data, as this is crucial for attaining direct network effects from benchmarks and indirect network effects from market-level insights. We found that interviewees are willing to share data on the platform assuming that they get access to the dashboards. An important condition is that data is aggregated in such a way that it cannot be traced back to their specific enterprise.

Implications for the launch strategies are drawn in Table 3.

Launch strategy	Finding from first round evaluation
Coring	Evaluation of dashboards mockups confirm that platform is solving systemic problem for hospitality businesses
Pricing	Hospitality businesses do not have to be fully subsidized, as they are willing to pay a small fee for basic dashboard functionality
Onboarding	Confirms that hospitality businesses are willing to share data with large suppliers, which supports the sequential onboarding strategy
Platform openness	No implications from the evaluation
Platform leadership	No implications from the evaluation

Table 3.   Launch strategies derived from literature

5.3   Third round of evaluation: One year after market introduction

In the first year after the platform was introduced on the market, two pilots were conducted with wholesale suppliers. One of the pilots will be prolonged and extended in scope, and a third pilot has been planned. The pilot was especially successful in onboarding hospitality businesses since the wholesale supplier involved their account managers proactively. By providing simple dashboards as incentive and visiting the businesses with wholesale supplier account managers, most businesses could be persuaded to adopt the platform.

While the market-level insight reports provide value for wholesale suppliers, the pilots showed that this was not enough for them to fully subsidize the small hospitality businesses. More value would be created by sharing raw data on sales per moment of the day, since that provides insight into the effectiveness of marketing campaigns.

After the two pilots, the platform has been adopted by 80 hospitality businesses, which provides a reasonable coverage of the four largest Dutch cities. In one year, the platform provider expects to cover the larger area called `Randstad' with 400 hospitality businesses adopting the platform.

Currently, hospitality businesses are not paying for the platform. In the two pilot projects, hospitality businesses received simple dashboards and four-page reports in exchange for their data. In the next phase, hospitality businesses can acquire more detailed reports for approximately 20 euros per month per location.

5.4   Summary of three rounds of evaluation

Table 4 summarizes the findings from the three rounds of evaluation. The summary table illustrates how launching strategies played out differently at the various stages of the platform launch, and how assumptions regarding launching strategies had to be adapted as evidence was being collected.

Launch strategy	Finding from first round evaluation	Finding from second round evaluation	Finding from third round evaluation
Coring	Confirmed. Offering slightly adapted	Confirmed	Dashboards offering sufficient to achieve adoption by hospitality businesses
Pricing	Subsidizing of hospitality businesses by suppliers not feasible due to lack of critical mass	Hospitality businesses willing to pay: Subsidization can be reduced	Suppliers not willing to fully subsidize hospitality businesses, despite critical mass

Onboarding	Simultaneous strategy had to be adapted to sequential strategy	Support for sequential onboarding strategy	No implications from evaluation
Platform openness	No implications from the evaluation	No implications from the evaluation	No implications from evaluation
Platform leadership	Lack of track record prohibits suppliers to join the platform	No implications from the evaluation	No implications from evaluation

Table 4.   Summary table

6   Discussion

We now summarize our reflection on the utility of the five strategies developed in Section 2.

Coring: Regarding coring, the strategy to solve a systemic problem relevant to a large set of actors proved useful. In our case, the platform solves a problem that could not be solved before. Even with very basic functionality of sales dashboards, interviewed hospitality firms are already willing to use and pay for the platform. Similarly, wholesale suppliers would be willing to pay for the platform, but not until a critical mass of small hospitality firms has joined the platform.

Pricing: Pricing strategies worked out different than anticipated in the design. While it was expected that large suppliers would subsidize the small hospitality businesses, this turned out different in the evaluation. Large suppliers were unwilling to join the platform until a critical mass of hospitality businesses is on board. Hence, the platform cannot, in the short run, be subsidized by large suppliers. Subsidizing the first set of hospitality businesses was challenging too as the start-up lacked funding to do so.

Onboarding: Similarly to pricing strategies, onboarding strategies had to be revised upon the initial round of evaluation. While a simultaneous onboarding approach was planned in the design, this proved unfeasible as large suppliers were unwilling to join the platform instantly. Hence, the onboarding strategy had to be revised into a sequential one. In practice, a zigzag strategy will probably be followed, which implies that first a critical mass of small hospitality firms in a specific segment and geographical area will be joining the platform, upon which a first supplier will follow. Based on the sponsorship of that supplier, next segments and geographical areas can be added to the platform.

Openness: Openness strategies were not revised during the evaluation. By keeping the platform closed to third party developers, hospitality businesses can be more easily convinced of the trustworthiness of the platform. Openness to POS systems is not needed technically, since the platform can be deployed without active cooperation of POS providers, but does help to build up trust from hospitality businesses. Openness towards hospitality businesses and wholesale suppliers helps to build up a critical mass and realize network effects.

Platform leadership: We find that the start-up faces challenges in convincing user groups. Having a coherent vision and strategy was challenging, especially as pricing and onboarding strategies had to be revised. The most effective part of the leadership strategy was partnering with a well-known partner (i.e. Salesforce.com) which helped to secure initial meetings with wholesale suppliers. Still, the interviewed wholesale suppliers were skeptical to join a platform offered by a start-up with no reputation yet. Having a clear vision and business view to the outside world was not sufficient to take away their concerns.

7   Conclusions

This paper evaluated the utility of launch strategies for multi-sided data analytics platforms. We provided in-depth insights into how launch strategies unfold over the course of designing and introducing a platform. Such in-depth longitudinal insights pose an important contribution to literature on platform genesis, as most existing studies are either conceptual in nature or based on ex-post studies of successful platforms (Evans, 2009; Tan et al, 2015).

Our study shows that launch strategies from literature cannot be readily applied in a practical case, and considerable exploration and adjustments are needed along the way. We found that coring strategies are especially useful in shaping the platform such that it solves systemic problems of users. Pricing and onboarding strategies had to be revised during the design and market introduction process, based on interviews with users in the different target groups. As a result of these changing pricing and onboarding strategies, platform leadership strategies were less effective in convincing user groups to join the platform. Platform openness proved a complex issue as four user groups can be distinguished in our specific case. Keeping the platform closed to some user groups (i.e. third party analytics providers) helps to increase trust of hospitality businesses, while opening up to other user groups (i.e. POS providers) also fosters trust.

As our study was situated within a start-up company, we did not take into account strategies of tipping adjacent markets or the impact of reputation on attaining critical mass. The situated setting of a start-up may also have amplified the importance of specific strategies that aim at building trust, such as platform openness and leadership.

A further theorization of our launch strategies is needed to make a next step in our research. In this paper, we attempt to build such a theoretical framework by relating the launch strategies to the concept of network effects. Still, while the work on launch strategies for platforms is scant, and we used most sources we are aware of, other strategies might be considered. For instance, versioning could be a relevant strategy as well, as creating multiple versions of a platform early-on has been shown to positively affect the user base, which subsequently reduces uncertainty over whether network effects will ultimately be attained (Bhargava et al, 2012). Other launch strategies might have to be disentangled in our further theorization, for instance distinguishing coring (i.e. solving a systemic problem for which there are no solutions yet, Gawer & Cusumano, 2008) from addressing new market segments (Breshanan & Greenstein, 1999).

Our findings can serve as foundation for developing a design theory on launching multi-sided platforms. Such design theory is valuable since, as our case shows, the high-level strategies from literature cannot be readily applied in a practical case. For developing such design theory, an open research issue is to examine interaction effects between launch strategies, for instance between coring and pricing. Another open issue is defining the scope towards which such design theory may be generalized and examining the extent to which contextualization of launch strategies is required. Doing so will require additional case studies in different application domains than data analytics. A design theory should also specify the extent to which the launch strategies are fully actionable by platform owners since platform governance is subjected to collective tuning by multiple actors (Eaton et al, 2015). A further challenge for such design theory is specifying the dependent variables or success criteria for multi-sided platforms (De Reuver et al, 2017). While our focus is on reaching critical mass and overcoming the chicken-and-egg problem, other more long-term criteria might be considered, such as generativity, evolvability and sustainability (De Reuver et al, 2017).

8   Acknowledgements

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