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A multisided value proposition canvas for digital platforms

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A multisided value proposition canvas

for digital platforms*

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Abstract

Operators of digital platforms have to convince potential users that their intermediation and matchmaking services bring additional value in the market. To do so, they need to formulate a strong value proposition, which convinces users that joining the platform brings them larger value than staying out. In recent years, a number of frameworks have been developed to help entrepreneurs reflect on which elements should be included (or not) in their value proposition. In this paper, we argue that such tools do not necessarily offer a satisfactory answer, as they miss the specificities of platform-based business models. Hence, we propose an alternative tool that overcomes the limitations we identified and is more appropriate for nascent multisided platforms.

Keywords. Value Proposition, Strategy Canvas, Multisided Platforms

1.   Introduction

When pitching their idea, many entrepreneurs naturally describe what their product or service is about and why it is expected to deliver value to the customer. In short, they share their 'value proposition', a concept that is credited to Michael Lanning and Edward Michaels, who used these terms in a McKinsey&Co staff paper. They defined the value proposition as "a clear, simple statement of the benefits, both tangible and intangible, that the company will provide, along with the approximate price it will charge each customer segment for those benefits." (Lanning and Michaels, 1988) The value proposition (VP) is seen as a powerful tool to communicate the value, as it is integrated to the sales force efforts and the advertising message.

Since then, research has been undertaken to refine the concept of VP, to help entrepreneurs reflect on which elements to include, or to identify what makes a strong VP. For instance, after having analyzed data related to multiple innovations launched by the firm Amazon.com, Lindič and Marques da Silva (2011) suggest decomposing the VP into five elements, namely performance, ease of use, reliability, flexibility and affectivity. Indeed, when it comes to online platforms, entrepreneurs need to provide strong arguments in order to demonstrate how easy it is to register on the platform, how user-friendly the interface is, how much valuable information users will access, how fast users will get a successful match, and so on.

Besides theoretical contributions, some efforts have also been made to offer more actionable tools to practitioners, using frameworks and visual representations to depict the VP in a compelling way. One of the most famous tools is certainly the so-called '*Value Proposition canvas*' (Osterwalder *et al.*, 2014). This tool intends to show how the VP should fit the customer profile through a description of the market segment(s) that the product or service targets. More specifically, the goal is here to defend the idea that the offering delivers positive features (called "gain creators") and reduces negative aspects (called "pain relievers") from the perspective of a customer or client experience.

In this paper, we argue that existing frameworks that facilitate conceptual VP modeling (like the VP canvas for instance) do not necessarily offer a satisfactory answer, as they miss the specificities of platform-based business models. The latter rely on a particular mode of value creation–focused on matchmaking in a multi-sided environment–which highly differs from the traditional vertically integrated models (or 'value chains') for which the existing tools have been designed for.

Our paper is organized as follows. First, we set the scene of this study by describing the main features of platforms and by reviewing the characteristics of a compelling VP (Section 2). Second, we explain why we believe that the VP canvas, in its current state, fails in assisting platform entrepreneurs with the definition of their VP (Section 3). We then suggest an extended version of the VP canvas that, in our opinion, offers a better starting point for thinking about how platforms generate value for their multiple stakeholders (Section 4). We end the paper with some concluding remarks about our contribution and its limitations (Section 5).

2.   Platforms and Value proposition

In this section, we first describe our two concepts of interest—platforms and value proposition—before listing the challenges that platforms raise for the definition of a value proposition.

2.1   Platforms

Today, the five largest companies in the world by market capitalization are Apple, Google, Microsoft, Amazon, and Facebook. All of them have adopted, either from the start or later on, a platform-based business model. Platforms can be defined as undertakings whose core mission is to enable and to generate value from interactions between users (Belleflamme and Peitz, 2020). In contrast with traditional firms (also called 'pipelines'; see, e.g., Van Alstyne, Parker and Choudary, 2016), which create value in a linear way using their own staff and assets, platforms create value in a more circular way by facilitating the interaction between independent economic agents.

In particular, a business opportunity exists for a platform when, on the one hand, economic agents can benefit from interacting but, on the other hand, they fail to organize the interaction by their own means (Evans and Schmalensee, 2016). Network effects act as a common driver behind these two conditions. Roughly put, network effects mean that the more agents participate to the interaction the more valuable the interaction is for every participant. Hence, network effects increase the value of the interaction. Yet, they also make the interaction harder to organize because, when making their decisions, economic agents generally fail to take into account the effects that their decisions have on other agents (they create what economists call 'external effects'). It is then likely that although all agents would find the interaction valuable if it were to take place, none of them is sufficiently motivated to set the interaction in motion on their own. This is precisely where platforms can make a difference. By deploying the right strategies at the right time, platforms can solve the coordination problem that economic agents face. By reducing a variety of transactions costs, platforms make the

interaction easier to organize. More importantly, by bringing participants on board, they make them realize the value that they generate for one another. In a nutshell, platforms make a difference by managing network effects.[1]

2.2 *Value proposition*

Although the term "value proposition" (VP) has become very popular in the business literature, it still lacks strong theoretical foundation (Payne, Frow and Eggert, 2017). Defining a VP consists in choosing the most appropriate way of expressing the reasons and motivations for customers to prefer a given product or service over existing alternatives in the market. Let us briefly review some of the characteristics that are often associated to strong VPs.

First, a good VP does not require any further explanation. It should be clear after reading it once. More than being easy to understand, a strong VP is intuitive, in the sense that people should react by finding it obvious ("*Why didn't I think of this before?*"). If a VP is too complex or too long, people will have a hard time to remember it. The goal is to make sure that people quickly associate the VP to the underlying business. Of course, there is a trade-off between listing all the features that showcase the high quality of a product or service, while keeping the statement short. To circumvent this problem, a common way to formulate an intuitive and concise VP for a new venture is to compare it to an existing and successful company (or by letting others—e.g., the media—do so).[2]

Second, a strong VP should be unique, as it is meant to differentiate a platform from rival ones. In the same spirit as above, it may be efficient to position the new platform not as identical but as antithetical to an existing platform.[3] Yet, the issue with such lookalike VPs remains uniqueness, as the venture will always be in the shadow of its well-known precursor.

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[1] The rapid development of digital technologies has vastly expanded the scope of value creation for platforms. On the one hand, digital technologies allow platforms to decrease considerably the transaction costs that users must bear to interact (costs related to, e.g., search, matching, screening, contracting, trust, reputation, dispute resolution, booking management, etc.). On the other hand, platforms can rely on digital technologies to manage network effects more actively and add value to the interactions (through, e.g., recommender and rating systems, payment systems, data analytics, transaction monitoring, etc.). It is thus fair to talk of '*digital platforms*'.

[2] For instance, Splacer's value proposition is worded as follows: "*Find Your Space—Discover & Book Unique Spaces for Your Upcoming Activity*" (www.splacer.co). Although this statement is already quite clear, the press made it even clearer by dubbing Splacer "*the Airbnb for event space*" (www.bizjournals.com). Here, the analogy to a well-known platform (Airbnb) makes it easier for potential users to identify quickly what the new platform is about.

[3] Here is an example for digital platforms: the messaging application Jack Media introduces itself as follows: "*Jack is a communication tool that combines instant notification and delayed delivery. The waiting period between the moment a Jack is delivered and the moment it can be read creates anticipation.*" (https://jack.media). This becomes clearer when Jack is presented as the "anti-snapchat" (www.trends.levif.be; see https://tinyurl.com/y4chrutp, last consulted August 25, 2020).

Third, one should be careful not to overstate how much value the new venture can deliver. Remaining honest is key. If users feel like the product or service does not fulfill the initial promise, they will abandon it and sometimes publicly denigrate it, which may send a young venture to its doom. Conversely, being able to surprise customers with a service that is above their expectations can lead to more traction and higher demand in the long run.

2.3   *Value proposition for platforms: the challenges*

We now discuss three major challenges that must be carefully addressed when designing the VP for a platform-based business. First, platforms fundamentally differ from pipelines in the way they create value: as platforms do not control transactions but simply enable them (Hagiu and Wright, 2019), they *co-create* value with their users. Second, because platform users are co-creators of value and have interdependent needs, it is not clear a priori to whom the VP must be targeted. Finally, network effects amplify the consequences of the value proposition, giving it an all-or-nothing nature.

2.3.1   Value co-creation

From a traditional value chain perspective, value is created by the firm that owns the manufacturing or assembling process of a product or a service. Through the successive operations (sourcing, design, build, distribution, etc.), value grows incrementally along the chain, which is controlled by the firm. The fact that the outcome matches the initial value proposition is of the entire responsibility of the firm. In other words, even if the firm relies on subcontractors and partners, it has full ownership over the offering that is delivered to the clients and over its ability to capture value by setting a price that makes the business profitable.

Things are different for platform-based businesses. There are two sources of value to consider here. On the one hand, there is the value assigned to the underlying object of the transaction (service or goods). The platform operator has little control over this aspect of value. For instance, on Kickstarter (a crowdfunding platform), the better the investment projects (robustness of the business plan, innovativeness of the idea, etc.), the higher the value that potential investors will assign to these projects. Yet, even if the platform plays an important role by selecting which projects are featured and which are not, it can hardly influence the success rate of all selected ventures over time.

On the other hand, the platform also generates value by creating an optimal matching environment. Here, value is independent of what is being transacted. Actually, a platform exists mainly because it enable transactions among users at a lower cost than in a decentralized setting. Platforms reduce the

search and transaction costs through various features and mechanisms. In the end, users value using the platform because of the convenience it provides them with (large choice, user-friendly interface, automated processes, trusted actors, etc.).

To be successful, a platform must combine both sources of value: a great matching environment (the platform operator is in charge) and a transacted object that meets users' respective needs (the platform users are in charge). This being said, it seems logical to consider platform users as co-creators of value rather than pure value consumers. Even in absence of a so-called transacted object, the participation to a platform is a source of value creation. Because of users' voluntary activity on social media for instance–writing posts, sharing pictures, commenting news, etc.–value is generated under the form of audience and data, which are respectively valued by advertisers (the higher the traffic on your platform, the higher the willingness of advertisers to target your visitors) and brands (more data enable consumer profiling and improve the brands' marketing strategies). Our approach of value creation on platforms is fully aligned with the findings of Frow and Payne (2011), who highlight that, within a context of multiple stakeholders (which is indeed the case for platforms with various groups of users), the VP plays a central role in the co-creation of value, providing mechanisms for aligning and balancing value among stakeholders.

2.3.2 A proposition to whom?

The presence of different types of users with interdependent needs makes it difficult to define to whom the VP should be targeted: To a single group of users? To each group separately? To all users irrespective of their role on the platform?

Here again, some important remarks must be made regarding the differences between platform businesses and more traditional pipeline businesses. There is first a question of vocabulary. For a traditional business, the two most important stakeholders to interact with are the client (i.e., the one who buys and consumes the product or service) and the supplier (i.e., the one who provides the resources that are required to build or assemble that product or service). They both represent two distinct points on a linear value chain within a given industry.

In contrast, for platform businesses, it seems more appropriate to talk of 'users' rather than 'clients/suppliers', and of 'platform sides' rather than 'market segments'. As we just explained, analyzing the value creation process on a platform through the lens of a vertically integrated model does not make much sense. Indeed, from such a standpoint, it would mean that 'suppliers' would be

represented by those who help building and running the platform (back-end developers, data service providers, front-end designers, etc.) and that 'clients' would encompass all the economic agents who register on the platform to consume a given service. The main problem with the latter interpretation is that putting all platform users on the same 'side' is misleading since it would mean that they all have similar needs. Actually, the 'clients' of a platform can be found on both sides, because the platform enables a mediated transaction between agents showing different interests and needs (Eisenmann, Parker and Van Alstyne, 2006).

Also, end clients or consumers are not interested in the matchmaking infrastructure as such. Consumers are actually interested in what producers (or other users belonging to a different group) are actually offering on the platform. This is a major difference to remember when addressing client relationship management in the particular context of a platform business. Take the example of a movie theatre, which gathers spectators on one side and movie distributors on the other side. If one removes the presence of the latter, the entire infrastructure loses its value in the eyes of the former.

Finally, owning critical resources and differentiated assets is key for a traditional firm to succeed while it is absolutely not the case for a platform. Connecting is here far more important than owning. For instance, with over than 7 million listed rooms in 2020, Airbnb is the largest accommodation provider worldwide, although the platform owns no real estate. The same applies for Google, the world's largest software vendor, as it does not write most of the apps itself. In other words, being at the core of a value network is here more essential than being one link in the value chain of a given industry. The literature in strategic management defines a value network as a network in which a cluster of economic actors collaborates to deliver value to the end consumer and where each actor takes some responsibility for the success or failure of the network (Pagani, 2013). The role of platforms in these value networks is key as they facilitate the interactions between economic agents and decrease the transaction costs.

A 'two-sided platform' means that the platform is connecting two different user groups. Usually, one group is represented by the 'producer' side (those users having something to offer) and the other group is made of users belonging to the 'consumer' side (those looking to consume what producers have to offer). The object of interest can actually be of any nature: a product (e.g., items on Amazon.com), a service (freelance labor on TaskRabbit), money (funds pledged by the crowd on Kickstarter), relationships (dating on Tinder) or simply audience in the case of advertisement, which often represents an additional side on a given platform to make the whole system financially viable.

In some particular cases, the roles of consumers and producers are interchangeable insofar as consumers can also produce content, goods or services. This is largely noticeable in the so-called sharing economy. That is the reason why, to define and circumscribe a given user group, it is important to focus on what users do on the platform, rather than on who they are.

Independently from who they are, users of a platform should be distinguished based on their actions, needs and expectations against another category of users. Users sharing the same characteristics on these three dimensions belong to the same user group. For readers with background or experience in marketing, the latter may sound very close to market segmentation that consists in identifying subsets of buyers sharing similar needs and behaviors in order to reach them with a distinct marketing mix. However, both the approach and the purpose are different. Market segments are artificially created to better target subgroups in the buyer population–generally differentiated based on demographic and psychological criteria–with a given offer. In contrast, platform sides do not apply to buyers or consumers only, as already noted. Also, the purpose here is to understand better how to connect market sides with one another, focusing on complementarity links between user groups. On the contrary, complementarity between separate market segments is not desirable. Firms tend to prevent contacts between different segments since permeability can potentially induce confusion and misunderstandings on distinctive conditions, benefits and prices.

2.3.3   An 'all-or-nothing' nature

Conveying a compelling VP is highly relevant and crucial for any type of product and service. Yet, the absence of a strong VP is much more worrying for a platform business than for a pipeline business. For the latter, a weaker purpose will translate into lower sales and revenues, but eager users will allow the product to persist. Moreover, lower sales do not reduce the intrinsic value of the product. In contrast, the value that users attach to a platform crucially depends on the participation of other users; that is, if fewer users are attracted to the platform in the first place, then the value of joining the platform becomes even lower for future users, starting a vicious circle (also called 'negative feedback loop'). Consequently, it is the very existence of a platform that may be in danger if its purpose is not strong enough. Conversely, if the VP convinces the first users to participate, these users will attract other users, which will make the value created by the platform grow stronger and stronger: here, it is a virtuous circle (or 'positive feedback loop') that is activated.

Feedback loops heavily depend on users' expectations. Take the example of a two-sided platform that facilitates the interaction between two groups of users. For a positive feedback loop to get under way,

new users have to join the platform in some group (say group A). But new group-A users will join only if they believe that they will be able to interact with group-B users. The problem is that potential group-B users may make the exact same reasoning: they will join only if group-A users join. This is the famous platform conundrum—called the 'chicken-and-egg problem' (Caillaud and Jullien, 2003). We stress here that this situation may lead to two opposite outcomes, depending on which expectations users form about participation on the other side of the platform.[4] On the one hand, users may have optimistic expectations: they believe that users on the other side will join and so, they decide to join as well. On the other hand, they may have pessimistic expectations: they believe that no user on the other side will join and, as a result, they do not join either. The remarkable thing is that, in both cases, what is expected turns out to be right: when participation is expected, participation does indeed take place; the reverse happens when it is not expected. The existence of these so-called 'self-fulfilling prophecies' stresses how critical it may be for platforms to find the right way to manage users' expectations. Our argument here is that a strong VP is a necessary condition to fuel optimistic expectations.

In sum, while consuming a traditional product is generally an individual decision, interacting on a platform is by nature a collective process. So, the presence or absence of a significant purpose means 'More-or-Less' for a traditional product, but 'All-or-Nothing' for a platform.

3.   The Value Proposition Canvas

In this section, we first explain the concept of 'value proposition canvas' and briefly present two existing canvasses. We then have a go at applying one canvas to the case of a well-known platform. This experiment allows us, finally, to identify a number of issues that arise when using existing canvasses to design the value proposition of a platform.

3.1   *Value proposition canvasses*

In recent years, a number of frameworks have been developed to help entrepreneurs reflect on what elements should be included (or not) in their VP. Among others, based on their famous Business Model Canvas, Alex Osterwalder and his co-authors (2014) have built a more specific framework, called the Value Proposition canvas (VPC), whereby they show how the VP should fit the customer profile, namely a description of the market segment that the products and services target. More

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4 The same reasoning applies for platforms that cater to the needs of a single group of users; here, users have to form expectations about the participation of other users within their own group.

specifically, the objective is to demonstrate that the offering delivers positive features (gain creators) and reduces negative aspects (pain relievers) in the customer's life.

The VPC is easy to understand and makes it possible to visualize in one glance concepts that may otherwise remain quite abstract. This explains why this tool has become very popular, especially inside the business community where it is often used in the context of innovation, entrepreneurship and design thinking workshops. Inevitably, the tool suffers from limitations, which may appear when one tries to apply it to some particular issue or context. As a result, scholars have suggested modifying or complementing the VPC in a number of ways. For instance, Thomson (2013) mainly sees two problems. First, the tool is not grounded enough in behavioral psychology. Second, the VP building blocks (i.e., products & services, gain creators, and pain relievers) seem to have limited influence in terms of how much creative thinking they induce. This is why Thomson puts forward an alternative that integrates more research insights from the field of behavioral economics and cognitive psychology. In a nutshell, it is about understanding how people make decisions, taking into account what they feel at this particular moment (emotions) and the environmental aspects that influence the decision (experience), which is rarely a 'rational' one.

3.2   Applying the VPC to Airbnb

Our purpose in this paper is not to review all the alternatives that have been proposed, but simply to assess to which extent the VPC can assist entrepreneurs in defining the value proposition of their platform business. To this end, we made a little experiment with students, asking them to fill out the Thomson's version of the VPC for Airbnb (going back to the time it was launched). Looking at the outcome (see Figure 1), one would be tempted to conclude that the canvas does help. Yet, a closer look casts doubt on this conclusion. We believe that a single iteration of the tool does not help since it provides only a partial picture. To see why, we first briefly review each section of the template. We then question its suitability for platform-based business models.

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Insert Figure 1 about here

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Let us start with the left-hand side of the framework. The **'benefits'** regroup all the ways by which the platform creates value for its users. In other words, it encompasses both the 'gain creators' and

the 'pain relievers', which were introduced above. Answering the question "*To what extent does the platform make its users' life easier?*" is a useful way to uncover the benefits.

Enabling transactions by setting up the necessary infrastructure can be done in various ways. How will the platform work? What is the approach chosen by the platform to solve an efficiency gap in the market? What are the guiding principles that will support the design of the platform's key processes? Answers to this kind of questions represent **'features'** that are the functioning attributes of the platform.

The **'experience'** refers to what people feel when being active on the platform and belonging to the community of users. So, while benefits and features draw more on tangible elements, experience relates to emotional motivations of becoming (and remaining) an active user of the platform.

Now, the right-hand side of the chart addresses the aspects related to the customer. The **'wants'** section focuses on the emotional drivers that will lead people to join the platform. The **'needs'** section covers all the rational drivers that encourage someone to become a participant of the platform. The **'fears'** section, finally, includes all kind of risks that someone would typically associate, consciously or not, to the fact of joining and transacting over the platform. These elements can be strong arguments explaining why people prefer to avoid joining the platform. It is thus important that the VP, through its benefits and features, addresses those points by minimizing as much as possible the perceived risks and fears.

Finally, the **'substitutes'** section on the bottom includes all the alternative ways users can find to fulfill their needs, irrespective of whether this involves a third party or not. Substitutes are not limited to rival platforms. For a traditional business with a specific service or product, it is more straightforward, as substitutes refer to a single need. For platforms that need to bring together different types of users showing divergent needs and expectations, the task is more complex because of the wider range of alternatives.

3.3   Why is the VPC ill-suited for platforms?

Although it seems that the VPC fits the case of platforms quite well, in reality it does not. Purely on semantic first, we should avoid using the term 'product', as it does not seem to fit well here. The platform is not selling a product, nor is it delivering a service designed on its own to a particular segment of clients. The platform is actually enabling transactions without being directly involved in the production of the underlying good (i.e., room) or service (i.e., welcoming guests). The same remark

applies for the other half of the canvas. In the context of a platform, we prefer to employ the term 'user' (or participant) instead of 'customer'. Some platforms can be joined for free and some others exist outside the business world. Hence, being active on a platform does not necessarily mean behaving like a customer who is paying for a product or a service.

These considerations put aside, there is actually a bigger issue that has nothing to do with terminology. The above chart is missing an important part of the business model of a platform. More exactly, it completely ignores one half of the picture. Most platforms intend to bring together at least two different groups of users. In the case of Airbnb, these groups are guests (travelers) on the one hand, and hosts on the other hand. Now, take a look at the VPC in Figure 1. The students who filled it out naturally focused on the travelers' point of view. This is quite understandable insofar as most of them had probably more experience as 'guests' than as 'hosts'.

Yet, as far as Airbnb is concerned, there is no reason to neglect the hosts' point of view when defining the VP. To be successful, Airbnb must attract both travelers and hosts on its platform. Even if some users play alternatively the roles of hosts and guests, most users belong to a single group. The two groups are thus largely distinct, with different needs, wants and fears. For instance, host typically need additional revenues (factual driver), want to share their passion for their city with others (emotional driver), and fear that guests might degrade their house (risks). These needs, wants and fears differ substantially from those that were reported for the guests. Worse, there may be conflicts between the wants and fears of the different groups of users: what is wished for on one side may be exactly what is feared on the other side. For example, travelers will prefer increased flexibility on cancellation (no penalty in case of late cancellation) and payment terms (no deposit or pre-payment), while hosts would typically go for the opposite (no compensation for last minute cancellation, and up-front payment). It is the role of the platform to find the best possible compromise between these conflicting objectives.[5]

The last discussion confirms that a single iteration of the VPC is not enough. The exercise has to be performed for each user group targeted by the platform. That is, the platform must address the 'Wants', 'Fears' and 'Needs' of each group in order to formulate a well-thought-out VP. It is by no means sufficient to juxtapose distinct VPs for the different groups. Such juxtaposition would be highly misguided. As the service that the platform offers is precisely the interaction between the groups, the various VPs are necessarily intertwined. So, it is necessary to reconcile the needs, wants and fears of

[5] The covid-19 crisis noticeably exacerbated these conflicts and made it even more challenging for Airbnb to balance hosts' and guests' interests.

the different groups. In particular, one must check the extend to which responding to a particular need within one group enters in conflict with a need expressed within the other group.

4.   A 'Multisided Value Proposition Canvas'

To overcome the limitations that we identified through the experiment, we propose an alternative that remains actionable and intuitive. So, we suggest using an extended VPC, especially adapted to the case of multisided platforms. Figure 2 describes this new version applied to Airbnb.

Insert Figure 2 about here

Instead of having a single place dedicated to the users, the framework now contains two boxes located on either side of the central one, to represent both sides of the platform.[6] Here, guests are on the left (side A) while hosts are on the right (side B). For each side, we rely on the same categories as before (i.e. Wants, Needs, Fears and Substitutes). Logically, the information that was shared when applying the original version of the canvas (see Figure 1) now appears on the left-hand side. Information about hosts is indeed different from the one on guests and thus demonstrates the importance of considering those two groups separately.

The central part of this revisited framework is dedicated to the platform and is now divided into four different parts. The first section is about **'Experience'**. As already explained, it refers to what users feel and to their sense of belonging. Therefore, we think it makes sense that 'Experience' and 'Wants' face one another, as both relate to emotional drivers and motivations. For example, through the 'Host an Experience' program, the platform invites hosts to offer a very personalized service consisting in organizing a dedicated activity, so as to share their passion with their guests. It represents an answer to the desire of genuine and personal contacts expressed by some Airbnb guests.

We merged **'Benefits'** and **'Features'** into a single section. The idea here is to list all the elements that create value for the users. As such, these elements address the 'Needs' of the users, which explains why we put them at the same level. The fact that Airbnb is providing a user-friendly booking system on which various tasks can easily be automated (sending confirmation notifications, issuing invoices, updating prices, etc.) is a way to answer the hosts' need of limiting the administrative workload that

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[6] Naturally, more boxes should be added for platforms connecting more than two distinct groups of users.

results from their rental activity. Needs expressed by the two user groups jointly condition the platform's benefits and features. Even if some needs are specific to a particular user group, they are largely intertwined. To facilitate the interaction across the groups, it is of utmost importance to identify the extent to which needs diverge or converge. This will definitely help a platform operator in writing a value proposition that users on both sides will deem strong and convincing.

The third section in the central box is called **'Trust levers'**. This is a new section compared to the original framework. Trust is an essential factor for platforms and is crucial in the wider perspective of the overall matchmaking role that they play. The 'Fears' that have been identified on both user sides are indeed more related to a behavioral risk coming from the opposite user group than from the service offered by the platform itself (The host: *Will I get paid? Will my place be damaged?* – The guest: *Will the place be as nice as described? Will the host be available for me?*). Hence, the Trust levers represent crucial elements that the platform should put in place to reassure users and allay their fears. For instance, the Superhost status and the Airbnb Plus selection are tools to increase confidence on the guest side. Similarly, the Host Guarantee and the background checks make the service safer for hosts.

Finally, **'Substitutes'** are considered to assess the threat they might represent for the platform. Here also, it would be misguided to consider the threat of substitutes as uniform across sides. What really matters for the platform is to identify the other businesses in the market (platforms and pipelines alike) that make it harder for the platform to attract each group of users. Looking at the group of guests, cheap hotels immediately come to mind, as they provide guests with accommodations that are equivalent, in many aspects, to the ones they can find on Airbnb. As for hosts, one of the major alternatives for them is to rent their property on the long-term market; estate agents can thus be seen as substitutes for Airbnb on the guest side. Finally, there also exist substitute platforms (such as HomeAway) that, like Airbnb, cater for the needs of both hosts and guests.

Such a clear separation among the substitutes that threaten the participation of one group, of the other group, or of both groups at the same time is meant to guide the platform's response to these threats and, thereby, the design of its value proposition. For instance, Airbnb must target strategies at guests if it wants to reduce the threat of hotels. Many guests may see hotel rooms as a superior option because they are bundled with services that Airbnb accommodations do not offer (such as food, daily cleaning, front desk, etc.). Airbnb can then think of providing guests with similar services, for instance by concluding a partnership with a food-delivery platform. As for hosts, Airbnb must make sure that they can expect a total revenue that exceeds the one that they could hope to get on the long-term rental

market (taking the respective costs of the two options into account). As we see, the responses to the threats exerted on each side are completely different. They are, nevertheless, complementary to one another because of the presence of network effects: any measure that Airbnb takes to encourage the participation of hosts makes the platform more attractive for guests and vice versa.

5. Conclusion

Platforms can be defined as entities that enable interactions among users and generate value from these interactions. In contrast with traditional firms (also called 'pipelines'), which create value in a linear way using their own staff and assets, platforms create value in a more circular way by facilitating the interaction between different groups of independent participants. As digital technologies greatly ease this process, it is not surprising that digital platforms represent nowadays a large share of the global economy and pervade our everyday lives.
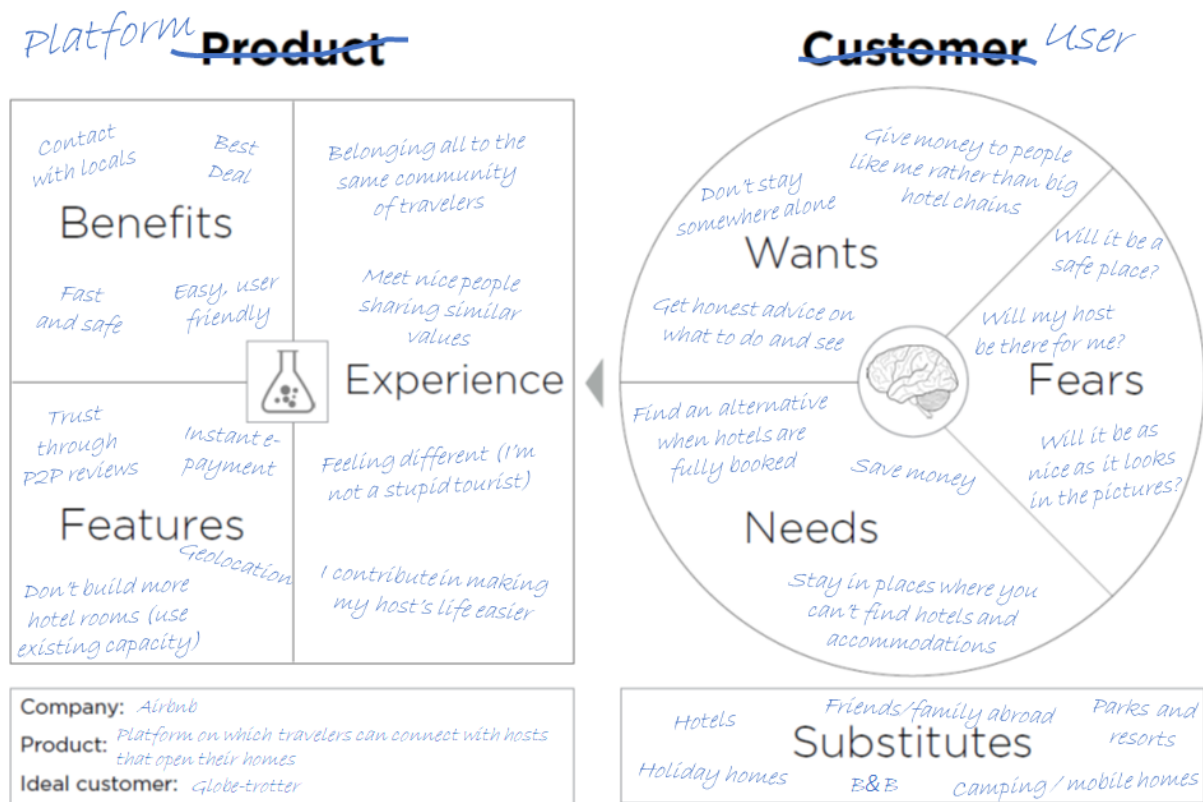
Like any business, a new digital platform needs to formulate a strong value proposition to convince potential users to join. We state in this paper a number of reasons that make this exercise more complex for a platform than for other businesses. We also argue that the existing tools that are proposed to help companies define their value proposition are ill-suited to address the specificities of platforms. As a result, we propose to complement the existing tools in several directions. In a nutshell, we put forward a three-step procedure: first, the platform must distinguish the different groups of users that it links and understand how these groups contribute to co-create value with the platform; second, the platform must identify, for each group, the key features (wants, needs and fears) that matter for the users; finally, the platform must reconcile the wants, needs and fears of the different groups, by finding ways to create value for all groups either jointly (when the needs and wants complement one another) or separately (when meeting the needs and wants of some users raise fears for other users).

To help entrepreneurs navigate across these steps, we propose a new dedicated tool, called the 'Multisided Value Proposition Canvas'. We believe that this tool has the potential to be of great assistance to entrepreneurs who operate platforms or intend to do so. We already confirmed the pedagogical value of the tool through the tests we conducted with our students. We now plan, in our future research, to validate our approach with an appropriate sample of practitioners.
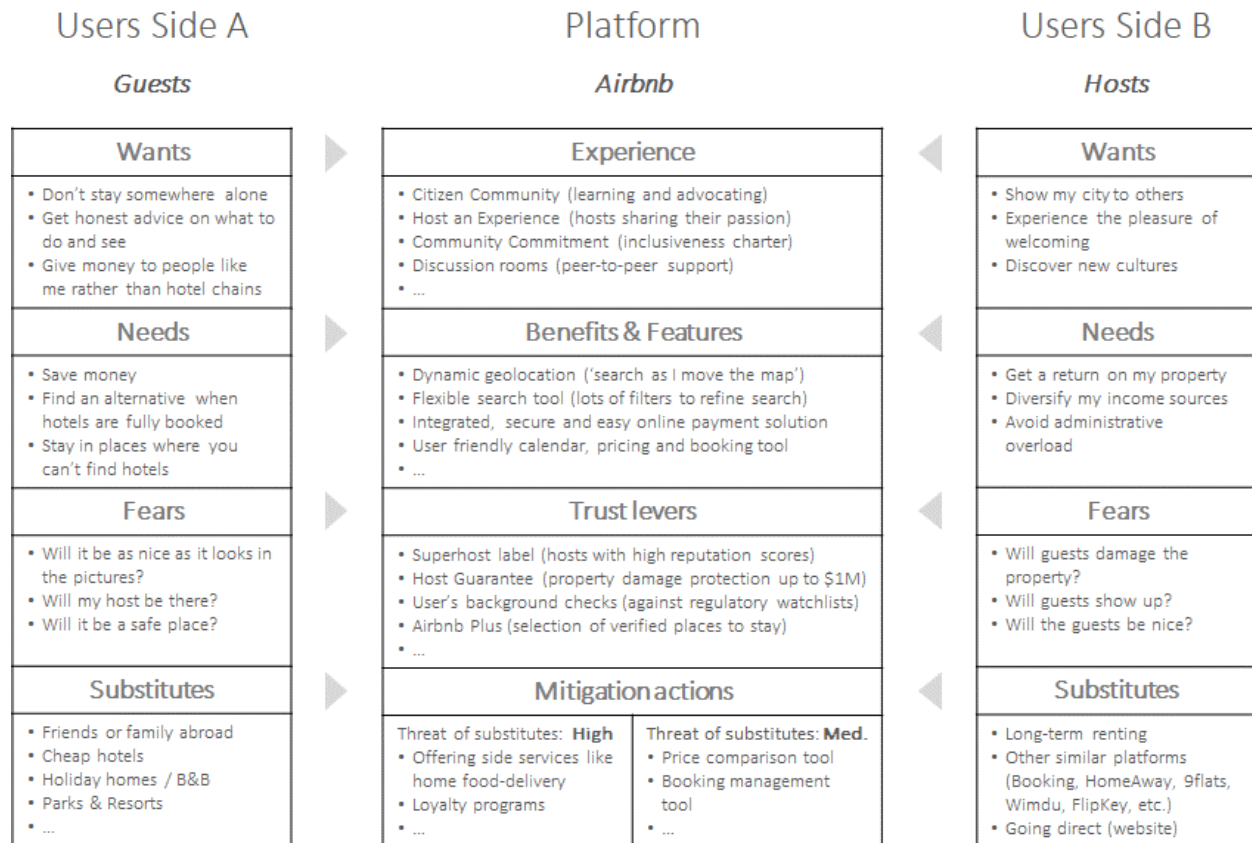
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Figures

Figure 1: The value proposition canvas applied to Airbnb

Users Side A — *Guests*

Wants
- Don't stay somewhere alone
- Get honest advice on what to do and see
- Give money to people like me rather than hotel chains

Needs
- Save money
- Find an alternative when hotels are fully booked
- Stay in places where you can't find hotels

Fears
- Will it be as nice as it looks in the pictures?
- Will my host be there?
- Will it be a safe place?

Substitutes
- Friends or family abroad
- Cheap hotels
- Holiday homes / B&B
- Parks & Resorts
- …

Platform — *Airbnb*

Experience
- Citizen Community (learning and advocating)
- Host an Experience (hosts sharing their passion)
- Community Commitment (inclusiveness charter)
- Discussion rooms (peer-to-peer support)
- …

Benefits & Features
- Dynamic geolocation ('search as I move the map')
- Flexible search tool (lots of filters to refine search)
- Integrated, secure and easy online payment solution
- User friendly calendar, pricing and booking tool
- …

Trust levers
- Superhost label (hosts with high reputation scores)
- Host Guarantee (property damage protection up to $1M)
- User's background checks (against regulatory watchlists)
- Airbnb Plus (selection of verified places to stay)
- …

Mitigation actions

Threat of substitutes: **High**	Threat of substitutes: **Med.**
• Offering side services like home food-delivery • Loyalty programs • …	• Price comparison tool • Booking management tool • …

Users Side B — *Hosts*

Wants
- Show my city to others
- Experience the pleasure of welcoming
- Discover new cultures

Needs
- Get a return on my property
- Diversify my income sources
- Avoid administrative overload

Fears
- Will guests damage the property?
- Will guests show up?
- Will the guests be nice?

Substitutes
- Long-term renting
- Other similar platforms (Booking, HomeAway, 9flats, Wimdu, FlipKey, etc.)
- Going direct (website)

Figure 2: The multisided value proposition canvas applied to Airbnb