The Neglected Value: what makes a value proposition relevant to customers

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Abstract. *Positioning innovation in competitive markets is difficult. Finding the right balance of delivered value, development costs and market constraints is often a trial and error process. We propose a conceptual framework for framing innovation in a competition landscape by addressing a key point that are crucial to coherent, effective and efficient innovation: the notion of Neglected Value. Neglected Value is the main driver of market adoption for segments that are currently not well-served by mainstream products. Identifying the Neglected Value for a given market segment, allows entrepreneurs to focus on the relevant value and thus minimize the waste (and cost) of irrelevant value. Delivering the neglected value must be done respecting the constraints, which if overlooked would jeopardize any possibility to penetrate the market. The Neglected Value is the essential component of the Innovation Canvas, a tool for designing innovation, which can be used both as an educational and a decision-making tool. This paper outlines the underlining of the Innovation Canvas and provides two business cases where the canvas can be applied. Moreover, the paper discusses a methodology for business development that is currently used in a university start-up pre-incubator.*

Keywords: *innovation; positioning; neglected value; value proposition; market gaps; business development.*

Introduction

In this paper we introduce the new concept of *Neglected Value*, which represents the level of *relevance* of value proposition for underserved customer segments. The creation of new value through innovation is often restricted to invention and creation of novel intellectual property. Unfortunately, frequent are the cases where intellectual property does not transfer to markets due to a missing relevant value proposition. We extend (and complement) the current approach of Osterwalder et al. (2010) for designing effective Business Models, especially in the Value Proposition Design approach (Osterwalder et al. 2014). For this purpose, we have introduced a new way of capturing customers' pains and gains by framing the market demand in relation with current offer and not as two separate things. Our approach integrates the elements of the Value Proposition Design approach with analysis of competitors that allows effective positioning of innovation in highly competitive markets (Ries and Trout 1986).

We are considering the relationship between current (partially satisfied) demand and existing offer. We are thus focusing on *problems* rather than just solutions. By framing value creation (hence innovation) through the *Neglected Value* concept, we can better articulate the architecture of complex business models (Teece 2010) by combining multiple neglected values of multiple parties (customer segments and/or stakeholders). This provides the necessary first level of coherence of a business model, a foundation on which we can build the remaining parts of the model, such as Key Activities and Resources, Value Distribution, Customer Relationships, Cost structure and Revenue streams as defined by Osterwalder et al. (2010).

We present the *Innovation Canvas* tool for the identification of market gaps that can drive innovation towards real market needs (Mowery & Rosenberg 1979), not necessarily manifested as an explicit demand for specific products. From our direct experience in the STarmac university incubator (Pallotta et al. 2017) and retrospectively in well-known business cases, we realized that market needs are rarely articulated directly by customers. In contrast, customers can easily express current their pains and expected gains with existing products. On one hand, at a certain point of product's lifecycle improving product performance is no longer sufficient to respond to new market demand. On the other hand, technology alone is insufficient for creating satisfactory products for new market need.

We also believe that market-driven innovation (Hurley & Hult 1998) usually spins off from existing market gaps where mainstream products fail to satisfy the specific demand of a customer segment. We do not want to call those segments "niches" because real niches tend to stay niches forever. A small underserved segment can grow bigger if the product performance grows beyond just satisfying the neglected value. For example, in the case of digital camera, the technology evolved (thanks to its success in the initial segment: war reporters) to the point that low image quality was no longer an issue. At that point, the product could retain the best of the two worlds: the (initially) neglected value and mainstream products' performance. When this happens, the *Tipping Point* is reached (Gladwell 2000), and the product/technology becomes itself mainstream.

We will discuss how identifying the Neglected Value is an effective way with the goal of creating a *relevant new value proposition* for underserved market segments, which would not benefit from products' performance improvement, but rather from radical or disruptive innovation (Christensen 2015). We will provide some representative business cases where the concept of Neglected Value has naturally emerged and that was key to the success of bringing new products or services to the market (Rogers 2003). The purpose is to illustrate how the framework works. In reality, the analyst will make assumptions that need to be validated with field research and market tests (Blank & Dorf 2012).

Business Model Design and Validation

Business Models are today key in modern innovation to leveraging enabling technologies for value creation and impact. Technological advances alone are not sufficient to trigger sustaining or disruptive innovation in industries and markets with multiple stakeholders such as those of Energy Management, Real Estate, Transportations, Banking, Insurance, just to cite a few. The reason lies on the complexity

of the value chain, or even more precisely, value network (Biem and Casswel 2008). Moreover, differentiation very hard to achieve if only based on technology in highly competitive markets. With the advent of the Internet technologies, the usual dichotomy between producers and consumers no longer exists. As in Web 2.0, the profile of "Prosumers" emerged. Also, several ways of transferring assets over the Internet have emerged such as BlockChain and Smart Contracts (Christidis and Devetsikiotis 2016).

A Business Model (Trimi and Berbegal-Mirabent, 2012) can be defined as an architecture for creating new value for targeted customer segments in a viable and sustainable way. Business Model Design (Massa et al. 2017) is about linking together the components of the architecture in a *coherent*, *effective* and *efficient* way.

- *Coherence* is related to the interdependence of components, e.g. linked value streams, compliance to regulation and constraints, validated assumptions.
- *Effectiveness* has to do with impact and value creation. In other words, it's about pain relieving and gain creation for the targeted customers and/or stakeholders.
- *Efficiency* is about optimizing the resources needed for value/impact creation.

Although, a logical structure exists, it is hard to reduce these three different views to discrete, independent components. Most of the time, in case of multi-party business models (Evans 2011), global optimality is hardly achievable. Rather, trade-offs are the norm. Moreover, as business models are designed before their deployment, their elements are mostly based on assumptions. Business models need to be validated first, before being implemented, so to reduce the risk of failure due to high uncertainty in assessing stakeholders' precise requirements. Markets are very volatile and framing conditions can be unstable and uncertain. Therefore, the design method must include ways to empirically validate the model in a reliable way, for instance simulating real conditions or with small scale deployments. In the paper we propose a conceptual tool for positioning innovation in competitive markets and we also illustrate a validation methodology that has been adapted from the Steve Blank's Customer Development approach (Blank 2006; Blank & Dorf 2012) and from Eric Ries' Lean Startup method (Ries 2011) to the validation of business models.

In order to better understand and avoid confusion, on what we mean by effectiveness and efficiency, we outline three different situations where those concepts have a different understanding, namely Management, Manufacturing/Production, Innovation and Business Development.

Management: effectiveness is about quality of outcomes. In other words, maximizing KPIs. Efficiency is about minimizing costs or maximizing throughput. This can be done by optimizing processes through continuous improvement methodologies. Without entering in a long discussion, effective and efficient management deals with understanding the causal links between costs and revenues (also known as Returns on Investments), by optimizing the value chain and managing financial risk. This can be done either at strategic or tactical level.

Manufacturing/Production: this is actually a special case of management where outcomes are products or artefacts. Here quality is very simple to grasp. Efficiency is achieved through the minimization of waste in the production lines. One can waste several types of resources at different levels. Time, for instance is a valuable resource that can be wasted in case of re-work. Therefore, maximizing quality can be a way to both being effective and efficient. But time can be wasted because in a production line, the capacity of the input in a step of the process does not match the output flow of the previous step. Here is where Theory of Constraints (Goldratt & Cox 2004) applies: adapt the flow of production to the capacity of consumption.

Innovation and business development: in the case of business development, effectiveness is about achieving Product-Market Fit (Blank 2006). Efficiency is about being able to achieve it with the available (limited) resources in situation of extreme uncertainty, in another words, in a "lean" way (Ries 2011). Here the key success factor is being able to de-risking through learning from (cheap and quick) validation experiments where relevant metrics are measured, which will allow the entrepreneur to take strategic decisions for rapidly converging to Product-Market Fit.

We noticed indeed that the effectiveness of the validation method depends on the type of risk, market or technological, and that we needed to find a trade-off between pure metric-based validation (Ries 2011) and pure technology development (Dorf and Byers 2008). The three fundamental perspectives in value creation, namely i) *market desirability*, ii) *technical feasibility*, and iii) *economic viability* cannot be tackled independently.
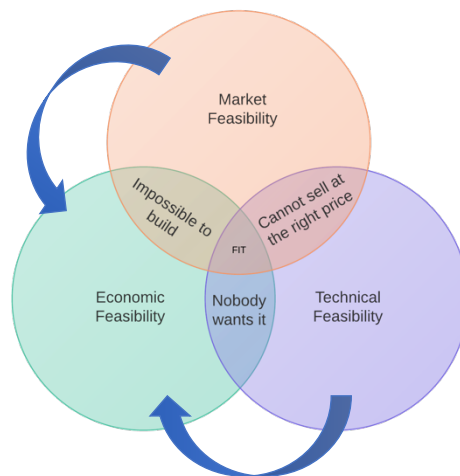

Figure 1. Sweet spot between different types of product's feasibility

More precisely, economic viability can only be assessed when the market demand (i.e. its size and intensity) has been fully identified as well as the costs of developing, deploying and marketing the product/service that would satisfy that demand (i.e. technical feasibility), as shown in Figure 1. This would allow two things:

1. understand that perceived value of the new product in comparison of existing alternatives;
2. understand the business models that would provide sustainable, recurrent revenues ensuring a viable margin on sales.

Although we believe that desirability is the most fundamental one, we also believe that feasibility and viability must inform "how much" and "what kind of" desires we will provide to targeted customers. This is the reason why we had to come up with the *Neglected Value* concept in order to grasp not only what should be done, but also what can be done and most importantly *why*.

For this purpose, an assessment of the type of risk is essential. We believe that for a product, risk ranges between two extremes: "*pure technical*" risk and "*pure market*" risk. We see very low chances of success to those products that feature both high technical and market risk. In other words, if a solution to a problem is very hard to achieve, we expect that problem to be a compelling one (i.e. low market/adoption risk). This is almost always the case for drugs and health-related products (e.g. BioTech and MedTech). For the other extreme where market risk is very high (i.e. switching cost is very high), off-the-shelf technology should be more than enough to implement the solution as the main focus will be in understanding what exactly is the Neglected Value that would satisfy an unsatisfied need for an under-served targeted customer segment or stakeholder.

We have crafted a process that is depicted in Figure 1, which would eventually lead to the maturity level needed for scaling up the business. In (Pallotta et al. 2016) we have assessed the effectiveness of this approach by looking at relevant indicators related to entrepreneurs' maturity. Also, the Innovation Canvas is currently in use by both students in our university who are involved in innovation projects and by our research laboratories' spin-off.
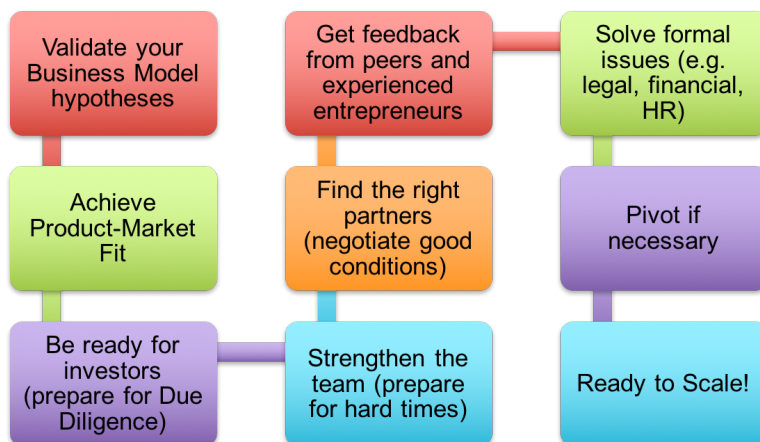

Figure 1. The Business Model Validation process

Business model design should not end on paper. Building a business model architecture is only the first step of a, maybe long, series of iterations in adapting the made assumptions to the reality. Reality check is often a hurdle that engineers try to avoid, but which is extremely important for the creation of successful products.

The diagram is only an ideal path. It must be observed that when a pivot happens, depending on the seriousness of the issue, one would have to go back to the starting point and restart validating the new assumptions. We purposely put "feedback from experienced entrepreneurs" (also known as "coaches") after the validations. We believe that coaches should provide feedback on real data not on subjective judgment based, as happens unfortunately too often, on just personal experience. Although this discussion falls outside of the scope of the paper, we believe that in business what worked in the past might not (and usually does not) for the future, especially in innovation.

The Innovation Canvas

When innovating, most companies focus on features. This simply means that they maximize the number of features they can stick into a single product, often regardless of the value they create. They assume that the more the features, the higher the number of customers will be attracted as more (and more diverse) value will be delivered. This might be a reasonable assumption because if one product is capable to satisfy more needs and desires, it will be purchased by more people.
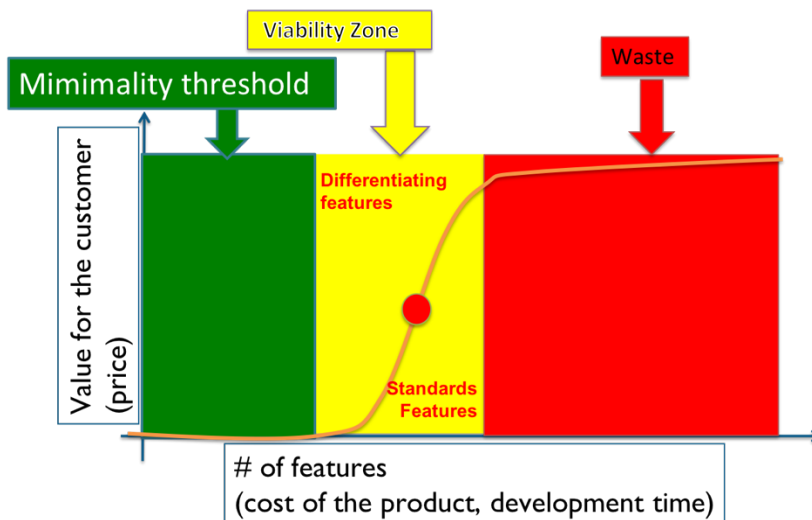

Figure 2. Relationship between features and perceived value

For better illustrating the issues in efficiency and effectiveness of the feature-based approach in new value creation, we present a diagram in Figure 2. This diagram represents the relationship between the perceived value and the number of features added to the product, which also correlates to development/production costs and time. There are essential features that are already present in existing products. These features

create no "new" value and are expected by the customer[1]. New value creation happens when added features differentiate the product from competitors' products (i.e. through differentiating features). This will happen to a certain point and only for "relevant" features. After that point, added features will provide no added value to the customer. In other words, they will be perceived as "superfluous". Unfortunately, adding more features increases development and maintenance costs (induced by accrued complexity) and does not guarantee by itself a return on investment. The resources needed to create/deploy those features are simply wasted.

The issue with the feature-based approach lies on the fact that not all features have the same impact on customer's adoption and therefore a *prioritization* is not only preferable but also needed for competitiveness. Only a few companies focus on overall delivered value from their products, regardless if they have all (or most) features implemented. They usually follow the ubiquitous Pareto 20-80 law where 20% of possible features will produce the 80% of satisfied customers. Moreover, it provides two additional advantages:

1. It leaves the product open for future improvements.
2. It reduces the product's complexity to its minimum.

Lean Startup (Ries 2011) advocates for value-based product development and it provides tools to measure (quantify) the value delivered to customers (and precisely to whom) with the product. However, it fails in providing a conceptual (and design) tool to prioritize value creation through the understanding of actual market needs by taking into due account the existing offer by competitors. The Innovation Canvas serves exactly this purpose. It helps in framing the value that is actually needed by the targeted market not only as added value to existing products, but also as a trade-off between necessary and unnecessary features.

The Innovation Canvas shown in Figure 3, has 8 components. The first three, are the obvious ones, namely the description of the Technology/Product, the targeted Customer Segment and the Existing Competition. It is important to notice that innovation takes place in a given context provided by the market in two fashions: customers and competitors. Without considering the existing (or even future) context, is hard to position innovation in an effective and efficient way.

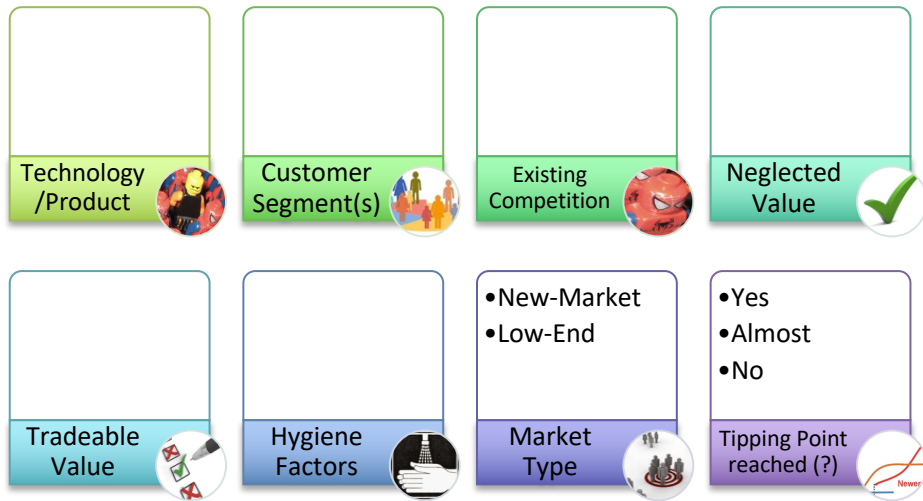[1] We will rename "essential features" as "hygiene factors" in the Innovation Canvas.

Figure 3. The Innovation Canvas

In the remaining components, we consider 3 interlinked elements of the *Value Proposition* considering also the current competition, namely:

Neglected Value: the value that a customer segment or a stakeholder is currently missing from existing value propositions on the market. Usually, neglected value represents "pains" for the customer segment or stakeholders, which prevent them to achieve their goals through existing "mainstream" value (i.e. products, services, technologies). In other words, the segment is *under-served*. We believe that effective innovation should primarily addresses unfulfilled compelling needs. This view does not necessarily limit to utilitarian (rational) needs, but it can be extended to more emotional and maybe unconscious needs. Key is the way of how those needs are elicited, as they can be difficult to express when they are not yet manifested[2].

Tradeable Value: describes what type of value the customer segment or the stakeholder is ready to trade (or give up or sacrifice) in order to obtain the Neglected Value. We are convinced that it is extremely rare the case where customers can get better value at a substantially lower price of what already exist on the market. There is always a trade-off. Usually, for more value, the price is higher. For lower prices, the value is less. Our main point is understanding what can be conceded (or traded) for obtaining the relevant value, which can be missing today for the targeted customer segment or stakeholder.

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[2] Relevant here is the quotation of John Ford's « if I asked customers what they wanted, they had told me: faster horses ». If re-framed as Neglected Value, certain users of horses were in strong need to travel faster. Not every horse owner switched to cars. Only those who were compelled to do that because they were underserved by horses.

Hygiene Factors: These are the *constraints* that need to be respected for enabling the adoption by the targeted customer segment. In other words, it is the existing value that cannot be traded for the Neglected Value. In some cases, hygiene factors do not represent themselves direct value for the customer or stakeholder, but their absence of them make acceptance of the overall value unacceptable. As a simple example, consider the value provided by Solar Panels. The *Neglected Value* is independence from the grid that for somebody is extremely relevant and necessary (e.g. houses and appliances in remote places). *Traded Value* is high-power and efficiency of panels. *Hygiene Factors* are power continuity (achieved through batteries) and reasonable operational cost.

These categories of values can be quantified and prioritized accordingly. For Neglected and Traded Value, we would suggest using metrics such as: *relevance*, *utility*, etc. For Hygiene Factors, we can value the *strength* of those constraints. Of course, if a hygiene factor can be released (traded) it no longer belongs to that category and becomes traded value.

Depending on the type of Neglected Value, there are usually two possible cases of market penetration:

1. The creation of a *New Market* for that segment or stakeholder by providing them with relevant value.
2. When a too high price is expected, that prevents targeted customer segment to obtain the desired value. This situation can be described as "democratization" (or *Low-End market*).

The last components, *Tipping Point* reached, is simply an assessment of the status of innovation, or in other words it provides an indication of its disruption power (and if the disruption has been achieved).

At this stage of analysis, we are considering the relationship between current (partially satisfied) demand and existing offer. We are thus focusing on *problems* rather than solutions. Methodologically, we recommend avoiding making assumptions on solution's technical feasibility and economic viability. These aspects are addressed in the remaining part of the Business Model (canvas). By framing value creation (hence innovation) this way, we can better articulate the architecture of complex business models by combining multiple neglected, tradeable values and hygiene factors of multiple parties (customer segments and/or stakeholders). This provides the necessary first level of coherence of a business model, a foundation on which we can build the remaining part of the model, such as Key Activities and Resources, Value Distribution, Customer Relationships, Cost structure and Revenue streams.

Case Studies

We present two examples of retrospective analysis with the Innovation Canvas. We fully understand the limitation of retrospective analysis, but the purpose is only to illustrate how the framework works. In reality, the analyst will make assumptions that need to be validated with field research and market tests.

Digital Photography

The first example is a case of New Market creation induced by the introduction of Digital Camera technology. We all know the story that Digital Cameras were invented in Kodak labs. In Figure 4, the first ever digital photo taken was made by a prototype developed at Kodak. Although, they invented it, they failed in understanding the value of digital photography just because it could threaten their core business model based on the sale of films and supply for chemical processing of them and for printing. Digital photography did not take off overnight and did not replace immediately chemical photography. This disruption took more than 10 years to occur.

Figure 4. First picture taken with Kodak digital camera prototype[3]

Today, digital cameras are the standard technology for photography, but back in the '80 the situation was completely different. Early manufacturers of digital cameras had to figure out which segment of the market to target in order to make this invention valuable, thus turning it into a real innovation. The segment chosen (or more probably that had early adopted this technology) turned out to be that of "War Photo-Reporters". At that time, their requirements were not fully met by ordinary photography technology. What we now call the Neglected Value for them was the need of getting rid of the time spent in developing films and printing pictures taken on the war field and have them ready to be sent as fast as possible to the journal through faxes. Removing this pain was essential to them. Digital camera offered this value to the expenses of reduced image quality. The question was then: were they ready to "sacrifice or trade" image quality for more convenient use of the camera? Today we know that the answer was Yes, but at that time we guess that it was not so clear to determine what the Tradeable Value exactly was. For sure, it was not framed that way.

In retrospective, we can easily understand that key factors for adoption were how fast picture could be sent to the journal headquarter. The faster the image was available for printing, higher were the chances to get copies of newspaper sold. Image quality was not actually a key factor because pictures' quality was eventually degraded during the

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[3] https://en.wikipedia.org/wiki/Digital_camera

transfer through the fax machine, and besides, the image quality of printed on the newspaper was not in general very high.

Concerning the constraints that need to be met for war photo-reporters, we imagined that some sort of reliability of the memory and long-enough battery life need to be guaranteed. In Figure 5, we filled the Innovation Canvas with the above-discussed elements. Since the innovation was based on differentiation from the existing products, we frame it as New-Market. Of course, we can observe that the Tipping Point for this product has been reached.
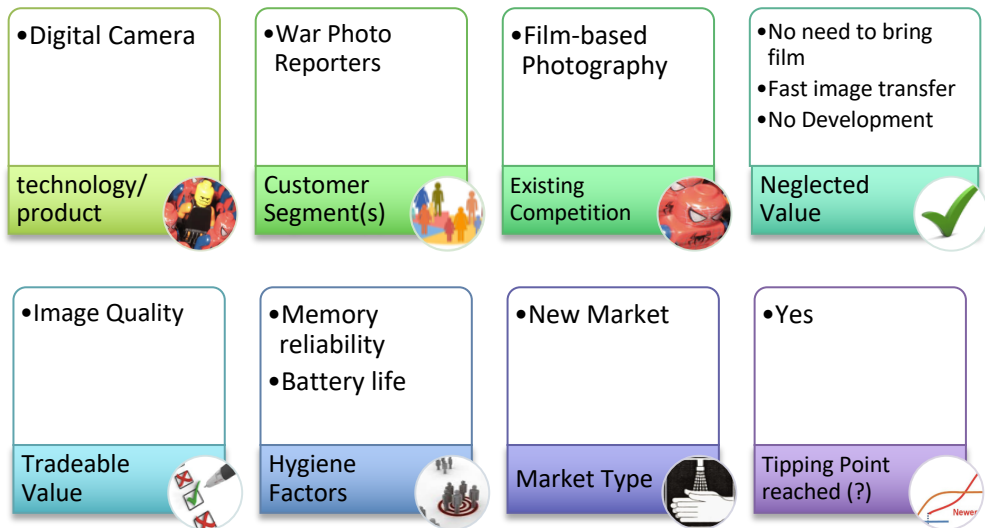

***Figure 5**. Innovation Canvas for the Digital Camera technology*

Low-cost Airlines

The second example is a case of Low-End market. Low-cost airlines[4] are a typical example of Business Model Innovation where the value for customers is created through innovative way of cutting or mutualizing costs. This case is less technology-driven than the Digital Camera one, but nevertheless equally disruptive. After the introduction of low-cost airlines, aviation business has completely changed. Today, the only existing model for airlines companies is low-cost. All airlines have switched to this business model. However, casualties derived by this new disruptive business model are rather travel agencies. Traditional airlines were able to easily imitate this model and get

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[4] https://en.wikipedia.org/wiki/Low-cost_carrier

through the disruption. It was not the case for the process of disintermediation that killed travel agencies. Therefore, the Tipping Point is reached. The Innovation Canvas for Low-Cost airlines is shown in Figure 6.

Figure 6. Innovation Canvas example for Low-Cost Airlines.

For Low-End markets, the only relevant Neglected Value is (affordable) *Price*. Everything else is accessory. Customers simply could not afford the existing product or the service because of its price. To get an affordable price, are they ready to "trade" some value? Which one? The answer was (and still is): yes. There are several features that can be excluded from the ticket without dramatically affecting the flying experience, namely: luggage allowance, meals and snacks, Business Class, booking through a travel agency, paying only by credit card, flying to peripheral airports, etc. What is interesting are the constraints that need to be guaranteed: The Hygiene Factors. We assume that nobody would fly with an airline which would not guarantee *flight safety*, for instance lowering aircraft maintenance costs or using old airplanes. We also suspect that *punctuality* has to be guaranteed, although is a less stringent constraint than the previous one.

Conclusions

In this paper, we have discussed a key element of the Innovation Canvas is the notion of Neglected Value, namely value delivered to market segments that are currently underserved by existing products or services. The Innovation Canvas is a conceptual tool for position innovation in competitive markets. We have also outlined a methodology for validating business models which integrates the Innovation Canvas tool as a scoreboard for tracking value creation and achieving product-market fit.

We think that a new product or service cannot be both *better* and *cheaper* than existing competitors' products or services. We rather believe that market-driven innovation usually spins off from existing *market gaps* where mainstream products fail to satisfy the specific demand of a customer segment. It is not unusual that an initially small underserved segment can grow bigger if the Tradeable Value for obtaining the Neglected Value can be reduced and eventually eliminated to serve the mainstream market. This is exactly when the Tipping Point is reached. For example, in the case of digital camera, the technology evolved (thanks to its success in the initial segment) to the point that low image quality was no longer an issue. At that point, the product could retain the best of the two worlds: the (initially) neglected value and the tradeable value. When this happens, the product/technology becomes itself mainstream.

In the context of the STarmac pre-incubator, we noticed that the Innovation Canvas tool is a good companion for the Value Proposition and Business Model canvases because it helps the innovators and entrepreneurs in positioning their value proposition with respect to existing competitors' products or services. Moreover, it helps them in formulating hypotheses on *value relevance* for targeted customer segments. We observed that a quick reality check is done by linking pains and gains to existing market offer, which leads to the precise identification of market gaps and underserved market sub-segments. For the moment, the appreciation of the effectiveness of Innovation Canvas in detecting and framing market gaps comes only from qualitative observations. Users of the Innovation Canvas have mostly provided a positive feedback on its use, especially on the fact that the tool forces them to search for real issues of existing products for targeted customer segments by focusing more on the "why" aspects rather than on the "what" and "how" aspects in product and/or business development.

As next steps, we envisage to provide a better outlined validation process with a set of pre-defined experiments that can be executed to validate the Innovation Canvas hypotheses. Quantitative experiments to prove the effectiveness of the Innovation Canvas results will be conducted and data collected in the framework of the STarmac acceleration program Business Validation.

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