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An Online Tool for Business Modelling and a Refinement of the Business Canvas

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Abstract
We give a refinement of the well known business model canvas by Osterwalder and Pigneur by splitting the basic blocks into further subblocks to reduce confusion and increase its expressive power. The splitting is used in an online tool which in addition comes with a set of question to further structure the business modelling process and help doing thought experiments.

Keywords: Business models, Business Canvas, Online Tools, Education, Start-ups.

1 Introduction

The well known business model canvas (Osterwalder and Pigneur (2013)) is a valuable tool for planning new businesses, services and new business models. It has also become a tool for analyzing business opportunities and the viability of a business proposal from a startup. These characteristics have led to using the business canvas as a tool in education, to teach students the business relevance of theory, and help students thinking in an entrepreneurial spirit of opportunities. The accompanying book goes into-considerably more depth than the canvas itself, and provides a more methodological approach than the mere canvas. However, relatively few people read the book and even fewer students do when the canvas is used in education.

We felt the need for an easy to use tool that not only structured the business modelling process but also also gave ways to quickly do "thought experiments" on variations in assumptions (robustness of the business models in the sense of Reuver et al. (2013) and Haaker et al. (2012). In addition, we wanted to give canvas users, in particular students, some awareness of the fact that in order to create successful businesses, it is required to take risks. We therefore added risk management (rather than risk aversion) to discovery of opportunities as a goal of the business modelling methodology.

To fulfill this need, we developed some additional structure to the canvas. The additional structure helps to clarify the issues needing attention in the business model and give a richer, more precise vocabulary. To further structure the process of business modelling we developed a set of questions, which, when answered, guide a prospective entrepreneur to a much clearer view of the product or service (s)he wants to offer, the business opportunities, competition and pitfalls. It allows to give a judgment of the relevance of an issue and estimate of the uncertainty involved as part of the robust business model

methodology. We have specialized questions geared towards the media sector, which reflect our interest.

The combination is packed as an online tool. It has a clickable interface that keeps track of where we are in the business model, presents questions and computes a score for risk assessment, based on the risk assessment of individual questions by the user.

The tool and the business modelling work was done in the context of "the Future Now", a project that combined 5 Universities of Applied Sciences, 8 companies in the Media industry, and a public private research institution with considerable expertise on business models, we studied and developed new business models for the media industry. The project included the "Media Future Week", a one-week pressure cooker event in which students brainstormed on the future of the media sector, and developed creative solutions. It included a session on business modelling that was provided by members of the project.

The organization of this paper is as follows. In section 2 we discuss related work. In section 3 we discuss the refinement of the canvas we developed. In section 4 we make a remark about business models in the media sector. In section 5 we describe out online tool. We end with a conclusion

2 Related Work

The concept of a business model predates the business canvas and has roots in the strategy and management literature see e.g Hedman and Kalling (2003).

The canonical reference on the business canvas is Osterwalder and Pigneur (2013). Ching and Fauvel (2013) give an overview of several alternative business canvasses found on the internet. They critizise the standard canvas for leaving out a view on competition and the difficulty in describing a value proposition. They mention in particular the advanced business model canvasses that can be and mentions in particular the advanced business model canvas by King who gives a fine structure to the different blocks and puts them in a 2x2 grouping of business vs customer and value vs infrastructure, the value model canvas by Kraaijenbeek who includes key competitors as well as key partners but leaves out a revenue and cost model.

Maurya (2012) in his book on the lean start up method presents a canvas that throws out partners, activities, resources and customer relations and replaces it with problem solution metrics and unfair advantage, the latter being a measure of the competitative advantage of the product or service. The lean service canvas by Ojasalo and Ojasalo (2015) keep the original business canvas but, like our tool, supplements it with explicit questions that make filling in the canvas much more specific. The paper also includes an extensive background on service logics and the creation of customer value.

The business model canvas was preceded by the business model ontology a formal set of concepts to describe a business model and the relations between them (Osterwalder

(2004)). Meertens et al. (2012) describe a representation of this ontology in the Archimate language for ICT architecture. We find some of the same elements of our business model refinement in his ontology notably the use of the notion of actor and process. The Archimate modelling language has extensive tool support. Such models tend to be focussed on entreprise architecture.

Tools to help the business modelling process in the sense of designing a business around new service and product ideas are relatively rare or are geared towards modelling and simulating business processes. In fact the tool of choice seems to be some version of the canvas and yellow stickies or an online version thereof like the canvanizer or strategizer. There is however the Plan cruncher tool and the visual building blocks of the board of innovation that start from a textual business plan or building a graph like value web.

Business models in the media sector where studied in Alt and Zimmerman (2001), Preston et al. (2009) and Zimmerman (2000).

3 Fine structuring the business canvas

The business model canvas (Figure 1) has become the tool of choice in brainstorm sessions to create new businesses, services and new business models and work out a business plan. It has also become a tool for analyzing business opportunities and the viability of a business proposal from a startup and has been widely adopted in education.

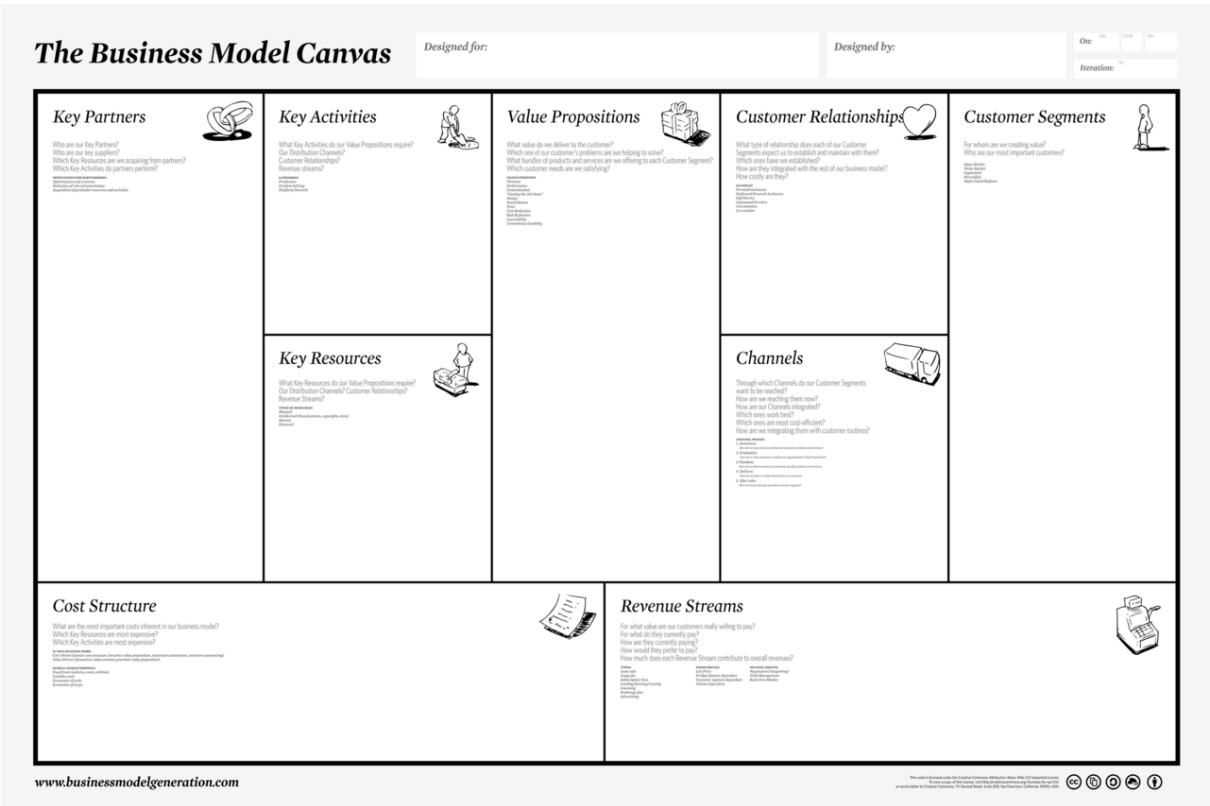

Figure 1 The conventional business canvas from Osterwalder and Pigneur (2013)

However, in our experience, it is easy, especially for students, to fall in the trap of allowing a degree of "gratuity" into filling in the canvas, leading to what, in reference to the comic series "Southpark", may be called "underpants-gnome business models". Such a caricature of a business model is of the form

lofty idea → ??? → profit.

In our opinion, the main point of the business canvas is that it forces people to think in a somewhat structured way about the question marks, i.e. the "details" of what allows to start up a business, very much including what actually makes up the business proposition of the idea. However, we have observed business ideas being described in rather unspecific terms like "the next generation interactive mobile content platform" with the value proposition described as "for free", with customers that are "young urbanites" which generate revenue by "data traffic". It tends to take some convincing (not to mention creating sour faces) that customers of mobile content *platforms* tend to be content distributors who want to sell content, adverts or subscriptions, and that data traffic represents a cost for them (albeit one directly related to both cost and revenue of telecom operators).

In the above case the business modeler or prospective entrepreneur has made the mistake that customers are not the same as end users and moreover, in part because of this mistake, has described the business proposition as one that is attractive for its end users but not necessarily for its customers. While such mistakes could be avoided by a more thorough explanation of the canvas, one can also argue that the simplicity of the canvas should be preserved and that a tool should simply elicit more precise answers.

We have refined the structure of the business canvas by splitting up most blocks to smaller blocks that address more uniform issues. The splitting of the canvas has a direct visual and interactive representation in our tool (Figure 2). We discuss the rational of the splitting per conventional block below.

Figure 2 The refinement of the business canvas

3.1 Key Partners

The conventional Key Partners block is split in a block "Roles" and "Partners". This is a split between the abstract and concrete and is somewhat analogous to the computer science notion of interface and implementation.

Colloquially, the "Role" is the "hat" one is wearing. Thinking in terms of roles allows a separation of concerns and an enumeration of responsibilities that have to be distinguished. Different roles interact and in particular it is useful to distinguish different roles in different places in a value web. Since roles are abstract, it is, in particular, quite possible that one person or organization takes different roles, i.e. wears different hats. While the "role" concept is a powerful abstraction, it may unfortunately also create some confusion, especially when roles like consumer or distributor for which there is a common understanding are used as abstract roles. For example, in the media industry, the statement "the consumer has become the producer" is heard quite often. The statement is nonsensical in terms of abstract roles: the whole point of abstract roles is to distinguish different roles. Of course it has a meaning when "consumer" and "producer" are taken in a more colloquial sense: the same people or organizations that usually take on the role of consumer, increasingly also take on the role of producer. That is of course perfectly reasonable if somewhat pedantically formulated. It is no more paradoxical than the colloquial sentence that novel writers are avid novel readers, which is equally nonsensical when taken to be a statement about formal roles in a production chain. Given such explanations people can handle this difference between the abstract role and the colloquial term, but so strong is the ingrained notion of "consumer", "customer" or "producer", that many may still mix them up.

The “Partners” block elicits naming existing people, organizations and parts of the organization. Thinking about explicit people partners ensures that the modeler is forced to think about their strength and weaknesses and the opportunities and risks they represent. Given the crucial importance of people to start something new, we believe that in many cases thinking through responsibilities to the level of individuals may be the key to success and can change the entire perspective

3.2 Key Activities

The activities part of the business is renamed “Activities and Processes”. This reflect that not only that certain things have to be done to provide a new product or service, but that a process is required to keep it going. Processes are often distributed among different roles. In fact, process boundaries are often natural delineations of responsibilities, and a role responsible for different processes is often a sign of the existence of some strong coordination between processes, possibly requiring a separate process.

There is something to be said to properly splitting up in activities and processes but it would create too much visual clutter. Processes and activities also both have a temporal aspect, and so are a beginning to think about deadlines.

3.3 Key Resources.

The conventional resources part of the canvas is split in, “Technologies and Skils”, “Information” and “Resources”. This part is heavily inspired by the STOF business modelling methodology (Bouwman et al. 2008.), that puts heavy emphasis on technological capability.

The “Technology and Skills” block elicits the answer to what one has to be able to do, to deliver a new service or product. This is as much about the availability of technology as it is about the know-how to muster it, either by having the required expertise in-house or by a suitable partnership. Many innovations start from a technical innovation that is being developed, other innovations start from using existing technology in novel ways. In either case, being aware of the required technology and know-how and what is available and what should be developed, greatly enhances the realism of the business model, especially if a new business model is driven by technological innovation.

The “Information” block elicits thought about knowing where, when, and by what role information is required or collected, what information has to be exchanged between partners, and how it must be organized. Information can be considered as a particular resource, but its role is rather different: information is required to keep track of processes and to make collaboration possible. Such information includes key performance indicators. One can now routinely deal with enormous amounts of information, and many innovative business ideas depend on this capability. This can become a highly non trivial task which is integral to setting up (and analyzing!) such an information based business proposition. However, even in less information intensive business models it is im-

portant to think about which role (and ultimately which partner) is responsible for monitoring and guarding which part of the process and who needs to inform who.

The remaining "Resources", are resources proper, simply everything from software to supertankers, and shoes to digital movies required to realize a service or product. There can be some confusion about resources that are born digital, like media content. While at some level they are represented as bits and bytes (which greatly affects possible business models), they are not the kind of process oriented information that we intended in the "information" block. Calling the block "Resources" is somewhat of a choice for lack of a better name. Resources also do not include people, as they are already separate under partners.

3.4 Value Proposition

The block "Value Proposition" is split in service/product description and value proposition.

The "Service or Product" block is intended to elicit a factual description of the service or product, by listing functionality, similar products or services, looks, technical specifications, price etc. It answers the question *what* one has to offer.

The "Value Proposition" describes why this service or product is particularly attractive to customers, especially compared to similar products or alternatives from competitors, and why he or she could be persuaded to buy. This also determines which aspects could or should be stressed in marketing.

3.5 Customers

The Customers block is split in "Customers" and "End Users".

"Customers" are those who pay and who have to decide whether or not to buy (or get) the product or service. While this may seem easy in theory, in practice, many business models, in particular in the media sector, rely on a revenue model where revenue flows through several intermediaries who have their own stake in adoption or non adoption of a service, Thus the question who decides and who must be serviced may be as important as the question who pays, which is key input for marketing activities.

The "End User" block focusses on the end user of the actual product. These may or may not be the customer depending on whether there is a B2C or B2B offering. For offerings for the B2B market, the endusers are the customer of the customer (we realize that this may be an oversimplification) and it is wise to be aware of the "customers of their customers", because if they are not satisfied, the customer is likely not satisfied either.

3.6 Customer Relationships

The block "Customer Relationships" is split up in a block "Marketing and Sales" and "Customer Care"

The “Marketing and Sales” block elicits the ways we can reach and woe a *prospective* buyer of a service or product, (i.e. a customer) over different channels. This includes both advertising and setting up a distribution channel adorned with all the enticements that may seem useful and appropriate, where prospective buyers can physically or virtually go to. When the customer is not the enduser it is wise to include the channels through which he can be reached

The “Customer Care” block is about the longer term processes that needs to exist to support customers in a longer term relationship. Such a longer term relationship may be anything from a loss leader to the main source of revenue for services and further products. It is also a major point of contact for marketing and a source of repeated sells.

3.7 Channels

The channels block is separated in a “Aggregation and Distribution channels” and “End User Contact”.

The block “Aggregation and Distribution channels” deals with the logistics of getting the product or service to end users. Whoever controls aggregation and/or distribution to endusers is in a strong position in the market (not least in the media sector) and may well ask a hefty fee, so this is of great importance to the viability of a business model. The distribution and aggregation channel is also very important for marketing.

The “End User Care” block is eliciting ways to deal with end users of the product. This may or may not include further marketing, but the primary role of this block is to think about end user care as an integral part of the the product or service and its value proposition.

3.8 Revenue

The revenue model of the canvas is split up in “Tangible Revenue” and “Intangible Revenue”. The revenue of a service or product is why it is worth doing. It is up to the prospective entrepreneur whether this is expressed in hard cash, competitive advantages, cost reduction, societal benefits, windfall in other parts of a business or just personal satisfaction, but no business model (or business plan) is complete without it.

The “Tangible Revenue” block is supposed to elicit listing the sources of direct or indirect cashflow that is generated for the organization or cost reduction that is realized. Some tangible revenue may come from side effects of a service (e.g. the generation of user data) but the intention is to include them only if these side effects can be readily monetized.

The “Intangible Revenue” are those that cannot directly be expressed in cash but are considered of value none the less. Intangible revenue includes societal benefits, increased knowledge for the organization and personal satisfaction. An interesting category of intangible revenue, however, is competitive advantages like greater attraction for (new) customers increased name exposure, more customer information, creating a more

complete offering for a market or pre-empting competitors that, one may reasonably hope, lead to greater market share or consolidation of existing markets. Such competitive advantages may or may not bring in hard cash in the future. Another competitive advantage that may be easily overlooked is a reduced exposure to risk, that one may hope leads to reduced capital costs and reduced costs when things go wrong. There exist models for valuing such competitive advantages (e.g. Peteraf (1993)), but the primary goal of this block is to bring intangible rewards out in the open.

3.9 Cost

The cost block is split up in "Investments", "Operational Costs", "Intangible Costs" and "Risks".

The "Investments" block elicits listing the investmentments that have to be made to start a new service or product, and the cost of getting the require capital.

The "Operational Costs" block elicits listing the cost that has to be made to keep producing a product or delivering a service.

The "Intangible Costs" elicits everything from damage to the reputation to environmental damage, to having to make personal sacrifices. Again an interesting category is competitive disadvantages, like opening up markets for competitors, changing a brand image in a negative way or being cut of from strategic suppliers because one gets into direct competition. Another important intangible cost is opportunity costs; whether the money and energy allocated for a new product or service is not better spent on improving an existing product or service, or on something different altogether.

The "Risks" block elicits the risks one is taking by starting up. Taking risk is an essential part of entrepreneurship but risk management is not the same as risk avoidance. Risks may be considered intangible cost but are directly related to capital and flow costs. In this block one can list which risks one is taking if the idea does not become a success. This should of course include an assessment of the likelihood of success and failure.

4 The Online Tool

The tool has a clickable interface showing the "classic canvas". Once the mouse hovers over a block in the classic canvas the subdivision of the canvas described above is shown (*Figure 3*).

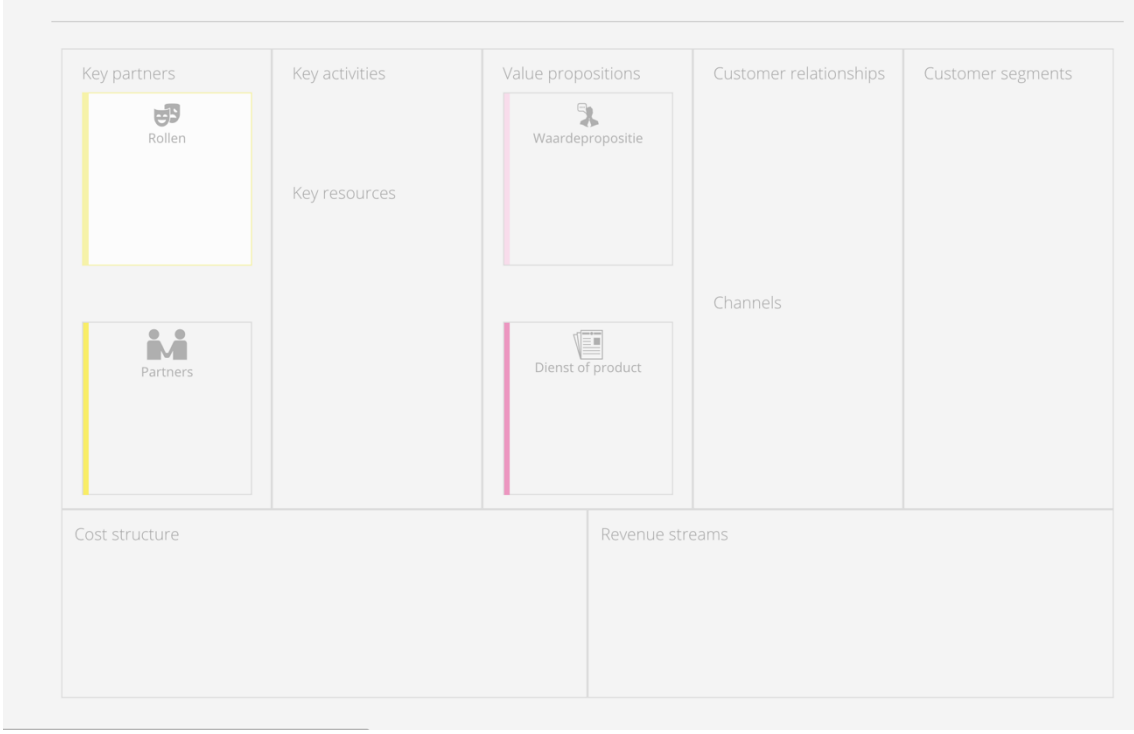

Figure 3 Refinement of the canvas in the tool when the key partners block is moused over.

On clicking one of these sub blocks, one is shown a list of questions to elicit an answer for the intended usage of the block as explained above. This includes questions about the competitive ramifications. Each question is accompanied by an explanation and an example. Examples currently come from the (Dutch) media sector. Answers are free text format, therefore as verbose or minimal depending on the user oft the tool. The tool allows to create an overview of the answers to all the questions.

Using an animated ruler one can indicate the amount of uncertainty one has for the answer of the question. Each block is accompanied by an assessment of the relevance of the block to the overall business idea. The amount of uncertainty weighted with the relevance for the business model gives an indication for the robustness in the sense of Haaker et al. (2012), en Reuver et al (2013) i.e. its sensitivity to assumptions made, with respect to the assumptions made in this particular block of the business model. This is indicated on a color coded canvas with colors from green (OK) through orange to red (needs thought) for each block.

5 Business modelling in the media sector

While the tool and the refinement of the business canvas are not specific to the media sector, we included questions that are. Many of these questions are geared towards alliances and competition in the value chain of the media sector. We use a model of the production chain of the media sector divided in media production, aggregation, distribution and consumption (Figure 4).

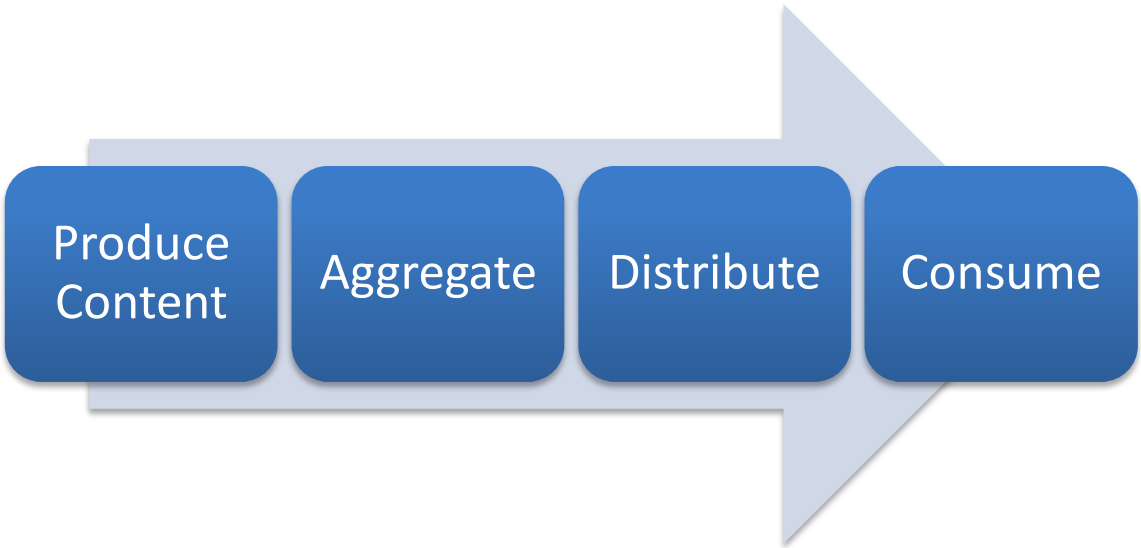

Figure 4 A simple model of the media sector. Competition arises companies operating in several parts of the chain.

Many important players in the media industry take on several different roles and many of the fiercest competitive battles come from realignments in the sector that were made possible by creating competing distribution and aggregation models using the internet and digital media. Conversely it created an influx of telecom operators and ICT companies in the media sector. This opens up many possibilities for creating alternative value webs between organizations wrapped around the essentially one dimensional production chain, among which letting a vast number of end users take on both a consumer and producer role (aka the "consumer" has become the "producer".

6 Further work

The online tool is a prototype, and there is room for further technical refinement and of the conceptual underpinnings and questions. We are planning to use the tool in education.

A particular weakness of tool in its current form is that the business canvas is often used by filling in different slots of the canvas in an informal process suitable for brainstorming, e.g. by sticking yellow stickies on different slots on a poster sized version of the canvas. While the current question based process of the tool is suitable for a more in depth analysis, it would be good if it also supported a more lightweight brainstorming process. However, the refinement of the canvas printed on a poster format is not more difficult to use than the original version while giving more structure and lines of thinking for the brainstorm process.

7 Conclusion

We presented a refinement of the well known business canvas of Osterwalder and Pigneur (2012). We believe that the refinement gives a more precise terminology and analysis framework than the original canvas and helps prospective entrepreneurs by presenting a more structured line of thinking. In particular, the refinement gives more emphasis to competition issues and risk management than the traditional business canvas. This is even clearer when used in combination with the set of questions presented by the online tool. The tool has examples and specialized questions geared towards the media sector but is otherwise industry agnostic.

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References

Alt, R., & Zimmermann, H. D. (2001). Preface: introduction to special section–business models. *Electronic markets*, *11*(1), 3-9. Available at http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.463.7710&rep=rep1&type=pdf

Bouwman, H., Faber, E., Haaker, T., Kijl, B., & De Reuver, M. (2008). Conceptualizing the STOF model. In *Mobile service innovation and business models* (pp. 31-70). Springer Berlin Heidelberg.

Fauvel, C. (2013). CRITICISMS, VARIATIONS AND EXPERIENCES WITH BUSINESS MODEL CANVAS Prof. Hong Y Ching. *European Journal of Agriculture and Forestry Research*, *1*(2), 26-37. Available at http://www.eajournals.org/wp-content/uploads/Criticisms-Variations-and-Experiences-with-Business-Model-Canvas.pdf

Haaker, T. (ed) (2012). Creating Robust Business Models: Practical Tools to Harness Your Business, Novay Publications (2012)

Hedman, J., & Kalling, T. (2003). The business model concept: theoretical underpinnings and empirical illustrations. *European journal of information systems*, *12*(1), 49-59.

Maurya, A. (2012). *Running lean: Iterate from plan A to a plan that works*. " O'Reilly Media, Inc.".

Meertens, L. O., Iacob, M. E., Nieuwenhuis, L. J., Van Sinderen, M. J., Jonkers, H., & Quartel, D. (2012, March). Mapping the business model canvas to ArchiMate. In *Proceedings of the 27th Annual ACM Symposium on Applied Computing* (pp. 1694-1701). ACM.

De Reuver, Mark, Harry Bouwman, and Timber Haaker. "Business model roadmapping: A practical approach to come from an existing to a desired business model." *International Journal of Innovation Management* 17.01 (2013): 1340006.

Ojasalo, J., & Ojasalo, K. (2015). Service Logic Business Model Canvas for Lean Development of SMEs and Start-Ups. *Handbook of Research on Entrepreneurship in the Contemporary Knowledge-Based Global Economy*, 217.

Osterwalder, A. (2004). The business model ontology: A proposition in a design science approach. Available from http://www.uniempre.org.br/user-files/files/TheBusiness-Model-Ontology.pdf

Osterwalder, A., & Pigneur, Y. (2013). *Business model generation: a handbook for visionaries, game changers, and challengers*. John Wiley & Sons.

Peteraf, M. A. (1993). The cornerstones of competitive advantage: A resource-based view. *Strategic management journal*, *14*(3), 179-191. Available at https://www.researchgate.net/profile/Margaret_Peteraf/publication/243771372_The_Cornerstone_of_Competitive_Advantage_A_Resource-Based_View/links/53ce8e2d0cf279d93530bc76.pdf

Preston, P., Kerr, A., & Cawley, A. (2009). Innovation and knowledge in the digital media sector: An information economy approach. *Information, communication & society*, *12*(7), 994-1014. Available at http://eprints.maynoothuniversity.ie/2900/1/ICS_Preston_Kerr_Cawley_09.pdf

Zimmermann, H. D. (2000). Understanding the digital economy: Challenges for new business models. *Zimmermann, Hans-Dieter," Understanding the Digital Economy: Challengers for New Business Models"(2000). AMCIS 2000 Proceedings. Paper*, *402*. Available at https://www.researchgate.net/profile/Hans-Dieter_Zimmermann/publication/241675515_Understanding_the_Digital_Economy_Challenges_for_new_Business_Models/links/02e7e52de2822efa40000000.pdf