

Cómo crear un modelo de negocio: el caso de Taxiwoman

How to create a business model: Taxiwoman case study

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RESUMEN

El proyecto Taxiwoman es un caso exitoso de diseño de modelos de negocios mediante la aplicación de la metodología Canvas. Esta metodología permite estructurar adecuadamente todos los elementos de un proyecto ya que se presta apropiado para abarcar los aspectos claves de un negocio. El objetivo de este artículo es presentar la aplicación de la metodología Canvas a través del estudio del caso Taxiwoman.

ABSTRACT

The Taxiwoman Project is a successful example of a business project design using the Canvas methodology. This methodology allows for the appropriate organization of projects in that it encompasses all of the fundamental business elements. This article's objective is to present a successful use of Canvas methodology through the Taxiwoman case study.

INFORMACIÓN ARTÍCULO

Recibido: 17 de Mayo 2016
Aceptado: 22 de Junio 2016

Palabras Claves:

modelo de negocios
canvas
creación de valor

ARTICLE INFO

Received: 17 May 2016
Accepted: 22 June 2016

Keywords:

business model
canvas
value creation

INTRODUCTION

Business models are useful in the design of comprehensive business projects. This is why companies need to incorporate them into their business plan in order to achieve successful operations. Canvas methodology facilitates the design of business projects because it allows the structuring of business ideas by explicitly integrating the projects elements into nine blocks which are consistent with the proper structure of a company.

BACKGROUND

How the idea came about

The origin of the Taxiwoman Project was at an event for entrepreneurs called START UP WEEKEND 2013 (Heraldo, 2013) which took place on November 22-24, 2013 at Instituto Tecnológico de Aguascalientes, México. Its purpose was to create a company in a weekend. According to START UP WEEKEND (2013) "Startup Weekend is a full weekend event in which a group of entrepreneurs, technology developers, designers, and enthusiasts gather to share ideas, create teams, build products and launch startups."

"The START UP WEEKEND 2013 event (UTAGSa, 2013) was a detonator of business ideas which included the participation of highly trained advisors who supported groups of entrepreneurs by aiding them in posing their ideas and detailing every aspect to conclude their exhibitions. The advisors then chose the three best projects." In this event, Taxiwoman was not chosen among the top three places; however, development continued in order to participate in the following local event: Evento Nacional de Innovación Tecnológica 2014 (hereinafter ENIT).

ENIT is organized at a national level by Tecnológico Nacional de México (TNM). Its goal is to "Promote the development of science, technology and innovation by applying technologies focused on sustainable development, for projects that respond to domestic problems, and generate economic, social and ecological benefits" (TNM, 2014). The event has three categories: product, process and service, along with three stages. The first stage is local and takes place in each University. The top two places of each category at each University are selected to participate in the regional competition. In the final stage, the top places of each category, in the regional competition, parti-

cipate in the national competition (TNM, 2014). The Taxiwoman project, led by a team of students, participated both in local and regional competitions.

ENIT was an event characterized by the objectivity of its results. Specifically, evaluations were given by a team of juries, which consisted of three members: two entrepreneurs (or consultants) from outside the university and one professor from the university. An external jury was provided in an effort to avoid favoritism when choosing the winners.

In the initial phase (i.e., the local phase), participants were students at Instituto Tecnológico de Aguascalientes, which belongs to Tecnológico Nacional de México. The team consisted of 6 undergraduate students: five students in their 9th semester of Business Management, whose ages ranged between 22 – 24 years, and one student in his 7th semester of Administration, who was 21 years old. All members were required to be enrolled as students during the semester in which the competition took place.

Each project was assessed by a professor from Instituto Tecnológico de Aguascalientes. Participants in the local contest came from a variety of majors (e.g., electronics, computer technologies, chemistry, industrial engineering, mechanical engineering). A total of 9 projects were part of the competition. The Taxiwoman project competed in the service category, obtaining not only favorable scores (i.e., 89.5 out of 100 points) but also the first place on the first stage of the state competition at ENIT 2014.

THE PROBLEM

Focused demand

Transportation services satisfy an essential need for citizens: travelling from destination to destination to accomplish everyday tasks (i.e., school, work, appointments, etc.). Nevertheless, women, in particular, may encounter problems with public transportation services. The insecurity of travelling along in a taxi is an example of this. This aggressive behavior could take the form of verbal, emotional, psychological, physical or sexual violence. Due to this harassment, female passengers may experience anxiety when they find themselves commuting alone with an unknown driver.

It is necessary for a female to feel physically and emotionally safe, while keeping her integrity, during a taxi ride. After analyzing the demand of the Taxiwoman

transportation service, it can be seen that this service is highly appreciated by women. Taxiwoman was created by women for women.

One of the benefits to Taxiwoman is security and respect that will be provided. Women interested in using the Taxiwoman transportation service will be contacted directly by a female driver which will be available 24 hours per day.

Challenges of the business model

It is important that citizens feel safe in society. Safety generates harmony and tranquility in people, allowing them to complete their daily-life activities in the best possible way. Because there has been situations demonstrating harassments by taxi drivers against female passengers, it is necessary to provide them with a safer alternative to commute.

In addition to being expensive, depending on distance, taxis are a service primarily provided by men. This generates an uncomfortable and risky environment for female taxi passengers. The challenges faced by the Taxiwoman model are presented as follows:

- Setting Taxiwoman service amongst female clients because they will have to pay an additional charge for the service to use Taxiwoman.
- Hiring female drivers, and encourage their acceptance among male taxi drivers so as to avoid sexism and/or rejection.
- Strong competition with established taxi sites and private taxis (without affiliation to taxi sites)
- Provide safety to female passengers all hours a day.
- Establish an environment of harmony, comfort and security between female passengers and female drivers.

The Canvas methodology was the perfect tool supporting the design of this project. To begin with, participants (students) augmented the project by adding a "plus" factor to the transportation service offered to women in the State of Aguascalientes. This factor consisted of allowing the customer to request a taxi by using either the Smartphone application "waze" or a landline, which implies paying a fee. As mentioned above, the taxi driver would be a woman and the service would be exclusive to women. This was expected to lessen the risks of having to confront male drivers in risky situations. The final product was

delivered using the Canvas methodology due to its clear definition of the company's most relevant aspects (Table 1).

BRIEF DESCRIPTION OF THE CANVAS METHOD

Creating value

The goal of a business is to create value, and therefore to generate profits to both the employer and her shareholders (Rapallo, 2002). In order to generate an increase in capital and other assets, there should be a positive relationship between shareholders and their concentration of ownership (Shleifer and Vishny, 1986). Previously the objectives of the companies were maximizing profits, however, today this philosophy was replaced by the creation of value. When creating value, we should not only focus on a proper management of finances but also on meeting the needs of customers. It has been demonstrated that both factors generate higher benefits for the company in the long term (Porter and Cramer, 2011, p. 77). Moreover, creation of value starts from the creation of the company, and financial, internal or external income were obtained to create it (Veritas, 2012).

Business models

In creating value one must consider the appropriate actions for the successful functioning of a company. Ricart (2009) points out that the business model relates strategy formulation and implementation. According Zoot, Amit and Massa (2011, p. 18), the business model can be seen as an archetypal model of e-business, as well as a system of architectural activities or cost-benefit ratio. In addition, the business model shows the operation of a company, a very close representation of reality (Salas-Fumás, 2009). The activities performed by a company are considered a business model (Magretta, 2002). The business model considers the creation and delivery of value through relationships between the different areas of the Company (Osterwalder, Pigneur and Tucci, 2005, p. 12). Notwithstanding its importance, there are very few theories on how to generate business models, which has created a need for their development (Teece, 2010). Moreover, although there have been some attempts on building such theories, they are still an ongoing work (Zoot et al, 2011, p. 18). It can be noticed that the business model is a lost treasure in strategic direction and according to Ricart (2009)

Table 1. Canvas Business Model Description Areas.

| Area | Description |
|------------------------|---|
| Value proposition | Describes the bundle of products and services that create value for a specific customer segment. |
| Customer segments | Define groups of people or organizations an enterprise aims to reach and serve. |
| Customer relationships | Describe the types of relationship a company could establish with specific customer segments. |
| Channels | Describe how a company communicates with and reaches its customer segments to deliver a value proposition. |
| Key resources | Describe the most important assets required to make a business model to work. |
| Key activities | Describe the most important activities a company must carry out in order to make its business model work. |
| Key partners | Describe the main strategic alliances the company should establish in order to create value to customers. This requires integrating resources and/or activities beyond the internal operation of the company. |
| Revenue streams | Describe the network of suppliers and partners that make the business model work. |
| Cost structure | Describes all costs incurred to operate a business model. |

Source: Own elaboration, based on Osterwalder and Pigneur (2004).

strategic direction is the missing link. At present, all companies have a formal or informal business model (Teece, 2010). The concept of business model, according to Osterwalder y Pigneur (2009), considers that the objective of the company is creating value, as posed in its structure by the Canvas methodology.

Canvas Business Model

When modelling strategy analysis, Osterwalder (2004) defined a new business model, named Canvas. His contribution was the study and definition of the essential elements of a business model. The objective of the business model is to generate alternatives for Canvas organizations by conceptualizing the business model (Meertens, Iacob, Nieuwenhuis, Van Sinderen, Jonkers, and Quartel, 2012). This proposal of a Canvas business model is geared to clearly identify the process, definition, and implementation and monitoring of a business strategy; therefore it was given a great deal of importance for the development of business models (Osterwalder, 2004). The relationship among the elements considered in the Canvas business model aims at the companies' generation of value. In order to do so, the company should generate value by its customers while preserving the profitability of the company (Meertens et al., 2012). There are four key areas when implementing such an approach: (1) product; (2) client perspective; (3) management of infrastructure; (4) financial aspects. These areas serve as the core of the business model (Kaplan and

Norton, 1996), and they are all integrated in the Osterwalder model.

Structure

Each of the areas in the Osterwalder's business model have detailed descriptions, as shown in Table 2. However, it was not until the development of the joint work with Pigneur that Osterwalder's model became a tool of strategic innovation (Osterwalder and Pigneur, 2009). The Canvas business model methodology translates into a business canvas, taking the design, understanding and innovation of current business models into consideration. The development of the model is performed on a page, which is also called canvas (Banchieri, Blasco, and Campa-Planas, 2013). This model is a tool for strategic management, generating a clear vision of the enterprise, facilitating knowledge of the relationships between the functional areas of the company, as well as the analysis of key factors necessary for the exploration of strategic information (Banchieri et al., 2013). Figure 1 shows the graphic representation of the Canvas model.

Key Questions

From the nine blocks of the Canvas Model various questions may arise. Answering these questions can help generate an analysis of this model by serving as a mechanism to define the strategy (Banchieri et al., 2013). Table 2 describes some of the questions that

Table 2. Key Questions by Area in the Canvas Business Model.

| Area | Description |
|------------------------|--|
| Value proposition | What are the core values the company deliver to customers? |
| Customer segments | What is your most important customer? |
| Customer relationships | What is the relationship a target customer expects the company to establish? |
| Channels | Which channels work best? |
| Key resources | What key resources does your value proposition require? |
| Key activities | What key activities does your value proposition require? |
| Key partners | Who are your key partners/suppliers? |
| Revenue streams | Which values are your customers willing to pay? |
| Cost structure | What are the major costs in your business? |

Source: Own elaboration, based on Osterwalder and Pigneur (2004).

can be formed from each block of the Canvas Method.

“The business model will capture, visualize, understand, communicate and share the business logic” (Osterwalder et al., 2005, p. 19). The model is centered on the use of common language, integrating the diversity of points of view in companies. Also, it improves channels of communication, since it allows setting priorities that contribute to the generation of a general strategy for the company, taking into account the views of the professionals from different areas of knowledge (Banchieri et al., 2013).

One of the main strengths of this approach is that it makes the analysis simple. Moreover, since it introduce various factors in detail, it facilitates the identification of indicators and relevant information for the evaluation and operation of the strategy (Banchieri et al., 2013).

The main drawback of this method is that Canvas only defines one business model, which is the implementation of the strategy. However, it is necessary to have a general view, showing the relationship between the different areas of the company. Consequently, a sustainable model can be also developed by allowing an easy identification of the elements that must be included in a business (Banchieri et al., 2013). In addition, by encouraging managers’ participation, Canvas also generates relevant knowledge about the company, which could facilitate decision-making (Banchieri et al., 2013).

APPLICATION OF CANVAS TO THE TAXIWOMAN PROJECT

We considered the essential elements of the Canvas methodology in the development of the Taxiwoman project. Table 3 shows the results. These results were used for the preparation of the project presented at the local stage of ENIT 2014, in Aguascalientes, Mexico (TNMa, 2014). According to La Jornada (2014) “The awards ceremony of the six winners of the local stage of ENIT 2014 was held in the academic unit of Instituto Tecnológico de Aguascalientes (ITA). The winners were selected to represent Aguascalientes in the regional stage of the same event”

Because of the good results obtained through the application of the Canvas methodology, which addressed a social problem, the Taxiwoman project was awarded the first place in the service category, in the local phase of INAT (La Jornada, 2014). According to the UTAGSb (2014) “The students of the Taxiwoman project heartedly deserved the first place in the category of Service”. The jury was quite pleased with the project because it fulfilled a great need of Aguascalientes’ society, providing a sense of security, particularly to women.

The following are the results of applying the Canvas methodology to the Taxiwoman project, based on Osterwalder and Pigneur model (2009):

- Key Partners: Female taxi drivers.
- Activities: communication, customer service.
- Resources: telephone line, waze, client and driver database.

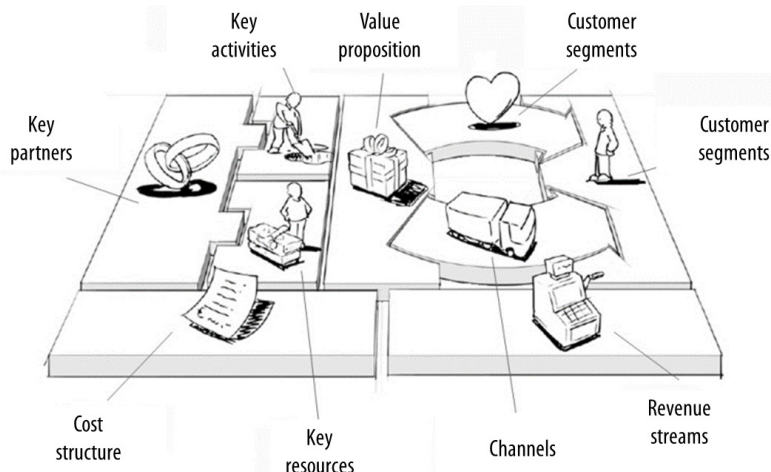


Figure 1. Canvas Business Model. Source: Osterwalder and Pigneur (2009).

- Costs: office rental and telephone service, salary of telephone operator (including commissions), salary of drivers.
- Value of proposal: taxi service door to door, taxi driven by women, taxi service requested by phone.
- Relation: personal relationship maintained over time, telephone – waze.
- Channels: telephone, waze.
- Customers: female taxi users in Aguascalientes, women in search of both security and exclusivity of taxi drives.
- Income: contact of female taxi drivers, post service – sale.

With the information obtained through the application of the Canvas methodology, the Taxiwoman Project had good results since it covered all aspects assessed by jury members, which gave it an outstanding review. Being awarded the first place in this local event is a great achievement because competing teams consisted of multi-disciplinary students of all majors of the Institution. The following is a list of all major that competed in the event: Business Management, Industrial Engineering, Electronic Engineering, TIC's Engineering, Computer Systems Engineering, Mechanical Engineering, Material Engineering, and Administration.

Subsequently, given the results of the Canvas application, the Taxiwoman Project (ENITa Regional, 2014) qualified for the Regional Stage of the ENIT 2014 (ENITb Regional, 2014). This event took place at Ins-

tituto Tecnológico de Tlajomulco in Jalisco, México (ENITc Regional, 2014) during September 16-19, 2014 (ENITd Regional, 2014). At this stage, the Taxiwoman Project had outstanding performance; an exhibition stand was displayed in front of a team of jurors. However, this time the project did not qualify to participate at the third and final stage of ENIT 2014 (i.e., at the national contest).

Despite this result, the experience gained by the entrepreneurs of Taxiwoman was vast. The project benefited to a greater extent from exchange of opinions and comments by those attending the first two stages of the competition. Many people visited the Taxiwoman stand and asked relevant questions about the project. The judges also questioned the feasibility of implementing this project in real life. The students were then obliged to communicate their knowledge. This sort of interaction allowed them to reflect and identify opportunities to improve their project and make it a reality.

RESULTS

When carrying out the project design, using the Canvas methodology, the entrepreneurs clearly identified the direction the company should take in the near future. This was adequately addressed in the Taxiwoman project. The entrepreneurs worked hard in order to get the necessary information after noticing that several important aspects of the project had been omitted, focusing on the task at hand, which was to

Table 3. Canvas Business Model of Taxiwoman.

| Key partners | Key activities | Value proposition | Customer relationships | Customer segments |
|--|--|--|---|---|
| · Female taxi drivers | · Communication · Points of service <u>Key resources</u> · Phone · Waze · Customer data base and taxi drivers | · Taxi-home service · Taxis driven by women · Radio taxi service | · Personal relationship maintained through the time <u>Channels</u> · Phone · Waze | · Taxi users in Aguascalientes · Women looking for security and exclusiveness while commuting. |
| Cost structure | | | Revenue streams | |
| · Office lease and phone services · Salaries and commissions of phone operators · Taxi drivers payroll | | | · Networking with female taxi drivers · After-sale service | |

Source: Own elaboration, based on Osterwalder and Pigneur (2004).

find the data needed to complete the Canvas methodology.

Regarding the operationalization of the business, it is necessary to consider the main actors involved. The Canvas methodology helps to identify these actors accurately. Specifically, by using Canvas, the entrepreneurs generate precise ideas regarding the necessities of the business. At first, the entrepreneurs did not keep in mind many of the value drivers of the company, and the value generators that were required to modify the business strategy. The implementation of the Canvas methodology facilitated the execution of company objectives in business volume, required employees, marketing quota, economic and/or financial profitability, capitalizing, brand value, etc. Therefore, the business model was much more accurate after using Canvas.

DISCUSSION

The use of the Canvas methodology makes business design easy. The advantages of using Canvas is the ability to generate a strategic thought since it is necessary to consider various scenarios with their corresponding elements.

A diagnostic business model could be generated by applying Canvas. By displaying each value-adding element on a canvas, it is possible to generate a complete business structure in a small space.

It is important for the company to be looked at globally in order to implement strategies it could benefit from. While designing the project, the Taxiwoman

group had to develop a diagnostic of the company, in order to subsequently determine its objectives and generate its business strategy. These three stages were reflected in the Canvas methodology.

In addition, analyzing the business idea with the help of the Canvas methodology generates a conception of the company with regards to its relationship with the outside world. This allows taking into consideration elements of the social, political, economic and technological environments, etc.

One of the major elements of a business are the monetary resources that could be generated. The Canvas methodology provides insightful information in this respect, allowing the company to clearly identify its revenues and expenses, which in turn determine the viability of its activities in the short and medium run. Therefore, the application of Canvas method for the design of business models is a major contribution in the management of enterprises and investment projects, since it allows to determine the adequate strategy to be used in order to generate value.

One of the limitations of the Canvas methodology relates to space/size that can be allocated to each element under analysis. Consequently, information has to be concise, and therefore some important details could be forgotten. In addition, although this method refers mainly to the key factors when starting a business, there are many different costs associated to the business creation, which could reduce the profitability of the project. For such reasons, it is recommended to conduct an extensive brainstorming session prior to doing a Canvas. Finally, it is important to compare the Canvas analysis

with information obtained in early stages of analysis (e.g., brainstorming) so as to verify that it contains all the important details of the business project.

ACKNOWLEDGEMENTS

The authors gratefully acknowledge the valuable comments given by a number of colleagues from Universidad Autónoma de Aguascalientes, as well as the team of entrepreneurs that developed the Taxiwoman project. We are also very grateful to the anonymous reviewers and editors of the journal RAN, for their valuable comments and suggestions. We also gratefully acknowledge the language support provided by Karla I. Salazar and Paulina Macías, who translated this article.

REFERENCES

- Banchieri, L.C., Blasco, M.J. and Campa-Planas, F. (2013). Auto evaluación de la gestión por parte de pequeñas empresas y microempresas: Estudio exploratorio. *Intangible Capital*, 9(2), 477-490.
- ENITa Regional (2014). ENIT 2014, Etapa Regional, Instituto Tecnológico de Taljomulco: Equipo Taxiwoman. Retrieved from <https://www.facebook.com/ITecTlajomulco/photos/20000.1422907579./717438148331701/?type=3&theater>
- ENITb Regional (2014). ENIT 2014, Etapa Regional, Instituto Tecnológico de Taljomulco: Programa de Actividades. Retrieved from <http://www.ittlajomulco.edu.mx/enit/programa.html>
- ENITc Regional (2014). ENIT 2014, Etapa Regional, Instituto Tecnológico de Taljomulco: Inauguración. Retrieved from <https://www.facebook.com/ITecTlajomulco/photos/20000.1422907617./717437878331728/?type=3&theater>
- ENITd Regional (2014). ENIT 2014, Etapa Regional, Instituto Tecnológico de Taljomulco: del 16 al 19 de Septiembre. Retrieved from <https://www.facebook.com/ITecTlajomulco/photos/20000.1422907671./709457549129761/?type=3&theater>
- Heraldo (2013). Diario de Aguascalientes: Se realizó en ITA la tercera edición de Startup Weekend. Retrieved from <http://heraldo.mx/2013/page/32/>
- Kaplan, R.S. and Norton, D.P. (1996). *The Balanced Scorecard: Translating strategy into action*. USA: Harvard Business School Press.
- La Jornada (2014). Premia ITA a ganadores del Evento Nacional de Innovación Tecnológica. Retrieved from <http://www.lja.mx/2014/06/premia-ita-a-ganadores-del-evento-nacional-de-innovacion-tecnologica/>
- Magretta, J. (2002). Why business models matter. *Harvard Business Review*, 80(5), 86–91.
- Meertens, L. O., Iacob, M. E., Nieuwenhuis, L. J., Van Sinderen, M. J., Jonkers, H. and Quartel, D. (2012, March). Mapping the business model Canvas to ArchiMate. In *Proceedings of the 27th Annual ACM Symposium on Applied Computing*, 1694–1701.
- Osterwalder, A. and Pigneur, Y. (2009). *Business model generation: a handbook for visionaries, game changers, and challengers*. USA: John Wiley & Sons.
- Osterwalder, A. (2004). *The Business Model Ontology: a proposition in a design science approach*. Dissertation. University of Laussane, Switzerland.
- Osterwalder, A., Pigneur, Y. and Tucci, C.L. (2005). Clarifying Business Models: origins, present and future of the concept. *Communications of the Association for Information Systems*, (15).
- Porter, M., and Kramer, M. (2011). La creación de valor compartido. *Harvard Business Review*, 89(1), 32-49.
- Rapallo (2002). La creación de valor: una aproximación. Documentos de trabajo de la Facultad de Ciencias Económicas y Empresariales, (11)28.
- Ricart, J.E. (2009). Modelo de negocio: El eslabón perdido en la dirección estratégica. *Universia Business Review*, (23), 12–25.
- Salas–Fumás, V. (2009). Modelos de negocio y nueva economía industrial. *Universia Business Review*, (23), 122–143.
- Shleifer, A., and Vishny, R. W. (1986). Large shareholders and corporate control. *Journal of Political Economy*, 94(3), 461–488.

- Startup weekend (2013). ¿Qué es Startup Weekend? Retrieved from <http://aguascalientes.startupweekend.org/>
- Teece, D.J. (2010). Business models, business strategy and innovation. *Long Range Planning*, 43(2), 172–194.
- TNM (2014). Evento Nacional de Innovación Tecnológica 2014: Convocatoria. Retrieved from http://www.tecnm.mx/images/areas/c_academica/2014/convocatorias/ENIT_2014.pdf
- TNMa (2014). Evento Nacional de Innovación Tecnológica 2014: Manual de Operación ENIT 2014. Retrieved from http://www.tecnm.mx/images/areas/c_academica/2014/convocatorias/Manual-Operacion-ENIT-2014.pdf
- UTAGSa (2013). Se realizó en ITA la tercera edición de Startup Weekend. Retrieved from <http://www.utags.edu.mx/imgs/sintesis/28-noviembre-2013.pdf>
- UTAGSb (2014). Premia ITA a ganadores del Evento Nacional de Innovación Tecnológica. Retrieved from <http://www.utags.edu.mx/imgs/sintesis/04-junio-2014.pdf>
- Veritas (2012). *La creación de Valor de las Empresas*. México. Colegio de Contadores Públicos de México.
- Zoot, C., Amit, R. and Massa, L. (2011). The Business Model: Recent Developments and Future Research. *Journal of Management*, 20(10).