0KG: creating and developing an innovative clothing service

J P Bernardes[1], M Nogueira[2]

[1,2] IPAM Lab, research centre for marketing and consumption studies, IPAM Porto, Rua Manuel Pinto de Azevedo, 748, 4100-320, Porto, Portugal, joaopedro_bernardes11@hotmail.com

Abstract: This paper explores the creation, analysis and understanding of the feasibility and potential of an innovative service called 0KG, which focuses on the question: "are people willing to use second-hand clothing and/or leased when traveling?". 0KG is a rental service for the day-to-day, business, and also cultural clothing, depending on the country where tourists are traveling. The main benefit of this service is to be a facilitator in the traveling moment, allowing displacements to be made with greater tranquility, without concern for the luggage and still offering a varied range of clothes to use that normally tourists would not have in their closet. Inspired by the 'slow fashion movement', 0KG intends to be an inovation promoting the re-use of clothes. The creation and development of this service happened through the use of various methodologies, such as design thinking and business models. The analysis to these methodologies allows an explanation of 0KG through a process of design thinking and the creation of a business model called Kaleidoscope. Regarding its validation, it was achieved in the format of a questionnaire with 430 responses and a focus group with people of interest. Finally, the paper culminates with the positive response to the problem.

1. Introduction

Society is constantly evolving as a result of the considerable changes in cultural, demographic and economic aspects that are changing and influencing lifestyles, consumption patterns and social paradigms. The tourism sector, in particular, is been experiencing considerable changes in relation to tourists' demand patterns, namely, in relation to their desire to live new experiences and enjoy high quality activities [1]. Fashion industry is also evolving in a fast pace manner and presently witnessing situations of contradictions in consumer behaviour: on one hand, consumers are becoming more conscious of the impact of their purchasing behaviour, and willing to support a more sustainable fashion industry but on the other hand are complying with unsustainable business models where production is achieved to the lowest price in the shortest time possible. People say they want to become more sustainable but at the same time cannot resist buying 'cheap' fashion. In fact, consumers' attitude and behaviour are in tune with fast production. It is known that approximately 16% of consumers are heavily influenced by media and are likely to quickly adopt the latest fashion trends [2]. Figures from the UK show that people are buying more today than twelve years ago. According to Statista [3], in 2005 consumer spending on clothing and footwear (in million GBP) was 44.4 M, and in 2015 was 66.1 M. Experts blame fast fashion as the reason for the dramatic expansion of our wardrobes, which means that manufacturers are working with shorter production cycles, with some generating up to 15 "seasons" per year [4].

Fast production and fast consumption inevitably lead to the systematic decrease of resources and increase of waste, thus stressing the earth's capacity to regenerate at a natural pace. This is why the 'slow fashion approach' appears as a new model that intervenes as a revolutionary process in the contemporary world. It is focused on its link with human needs, awareness and responsibility. Slow Fashion designs, produces, and consumes in a way that acknowledges its impacts on society and the environment [5]. By using the concept of slow in the fashion industry it is possible to re-invigorate a healthy rhythm of production, meaning that the environment and people could healthily co-exist and the earth would have time to regenerate during production cycles [5]. This research suggests 0KG as a new fashion model, in

accordance to the slow fashion movement because it is a more viable alternative to move the fashion industry toward more sustainable business models. It is a service that allows tourists to rent vacation clothes. This cycle that is created for clothing usage works against the fast fashion movement which means huge quantities of cheap clothes that is produced under an intense time pressure as to the just-in-time principle. This way slow fashion challenge us to strengthen our connections with clothing, their social and cultural meaning and their producers while including values of community, sustainability, and diversity and see it as a reaction against the consumer society of today, where the developed countries consume on the cost of the developing ones.

2. State of the art
This research focuses on two themes that are essential to the development of 0KG project: design thinking and business models. Section 2.1 supports the creation of the service, while the section 2.2 offers theoretical support for the development of a new business model that results from the connections between the two models analysed (Business Model Canvas and McKinsey 7S).

2.1. Design Thinking
Nowadays, design thinking is identified as an exciting new paradigm to deal with problems in many occupations, mainly involving information technology (IT) [6] and business [7]. The definition of design thinking, however, is not consensual and actually confusing [8]. These authors present differences between *thinking of*, *thinking about*, and *thinking through* and suggest that the most accurate definition brings together these three perspectives. They further add that a new way to apply design thinking is emerging – thinking through design – which is to think like designers do. For Cooper, Junginger, and Lockwood [8], design thinking (think through design) involves the ability to quickly visualize problems and concepts, the development of scenarios based on people, and the construction of business strategies based on designers' research methods. Brown [7], in turn, states that design thinking is about observing an unclear phenomenon and try to look at it away from conventional scenarios in order to preview future scenarios. Hence design thinking allows for a connection between designers' sensibility and methods that enable to respond to people's needs, along with available technology, that is appropriate and feasible. In this way, by using an appropriate business strategy, it is possible to turn customers' needs into value and create a market opportunity. Still according to Brown [7], design thinking is a knowledge creation tool since it becomes an ally in time of more complex troubleshooting and still an agent of change that allows a better understanding of the current global challenges.

   Kees Dorst [9] describes a new approach, focusing on problem-solving innovation in organizations: creation of frames. Dorst applies design thinking, but goes beyond the tricks and techniques that normally characterize the term. Creating frames focuses not on creating solutions to the problems, but on the ability to create new approaches to the analysis of the situation of the problem itself. The strategies featured by Kees Dorst [9] are drawn through the consistent practices in several sophisticated and unique layers from top designers, and also through ideas that emerged from 50 years of research in Design. Dorst describes nine steps in the process of creating frames and illustrates its application to real-world problems. It maps innovative solutions and provides tools and methods to implement the creation of frames, that is, it is a way of thinking in design that helps professionals to develop their own approaches to problem solving and creating innovation along with the Design. This way it is possible to see companies as a series of frames: frames for resiliency, Kees Dorst [9]. The 9 steps are: 1-Archeology of the problem (why is it the problem? how did it become a problem? Why haven't been solved? who has this problem?); 2- Paradox (what makes this problem difficult to solve?); 3- Stakeholders (who are the stakeholders?); 4- Problem Arena (what else is part of the problem?); 5- Themes; 6- Frames; 7- Future; 8- Transformations (what needs to change to be implemented?); 9- Connections (how does it connect to the rest of the world?).

2.2. Business Models
Osterwalder [10] states that the word "model" in "business model" refers to a simple way to describe a very complex process that requires a strong design effort, and that the word "business" refers to activities that are connected to supply (goods or services). The two words together form a unit of analysis that can be compared and observed, providing indicators that support decision-making in organizations Osterwalder and Pigneur [11] report that business models play a major role in how organizations have improved the way of conducting business under conditions of uncertainty. According to Klang, Wallnöfer and Hacklin [12] in the

same way that there is no single concept of business model, there is no single set of components. They argue that each component of a business model can be operated as a building block of logic of organization creating and capturing value. Baden-Fuller and Morgan [13], in turn report that a business model cannot be evaluated and created only by its components, but also by the way the organization integrates and organizes them internally, with a specific goal in mind.

This research was based on two theoretical frameworks aimed at exploring business models: the McKinsey 7S's model and business model canvas. The central idea of McKinsey 7S's framework is that managers and leaders should consider seven factors together to make sure that a strategy is implemented successfully. The model demonstrates that the organization is not formed only by a structure, but by seven elements divided into two areas: hard (strategy, structure and systems) and soft (style/culture, people, skills and shared values) [14]. The Business model canvas, in turn, underlines a tool that allows institutions or individuals to modify or even create their own business model [11]. This way they have access to a common language that allows for an exchange of ideas and experiences, with more people who are involved in the same process. The authors affirm that a business model must be a logical description of how a company creates, delivers and captures value. It also works as a guide for the creation and implementation of organizational strategies, systems or processes through nine blocks (Key activities; Key partners; Key resources; Cost structure; Revenue streams; Distribution channels; Value propositions; Customer segments and lastly, Customer relationships). The nine different blocks represent an interconnected scenario where the links and exchanges between the different actors and environments are explained.

3. Research Methods

The research goal is to analyse the feasibility of 0KG and realize the acceptance of this type of service, in order to respond to the problem: "Are people willing to use second-hand clothing and/or leased when traveling?".

Table 1. Specific objetives and respective methodology

Specific objetives	Methodology
Creation of 0KG	9 steps framework
Feasibility of 0KG	Creation of a new business model: Kaleidoscope
Validation of 0KG	Questionnaire & Focus Group

The methodology adopted in this study (Table 1) is based on a qualitative approach, resorting to the focus group technique. Quantitative technique will also be addressed through the application and analysis of questionnaires, although it only complements the qualitative exploratory research.

4. 0 KG: Towards an innovative clothing service

Respecting slow fashion, and pointing towards the promotion of culture and more sustainable lifestyles, a innovative concept of provision of services is born called 0KG (zero quilos). It is quite simple and easy: clothes and accessories can be rented, online or at a physical store, and then delivered at desired locations (e.g. hotel, hostel, resort, company) or picked up at the store. Besides everyday clothes, 0KG also provides cultural clothing depending on the country to travel. After some research on the subject, the use of rented or second-hand clothes has not yet been given much thought in the moulds 0KG intends to act, so this is a problem that ends up becoming a business opportunity. The type of clothing that is possible to rent are carnival costumes and garments for specific events, usually parties and galas. Thus, the differentiation of 0KG would be in offering all kinds of clothing, with the possibility to also rent depending on the type of country (for example: snow clothes for the Nordic countries). There is also the possibility to rent cultural clothing in order to experience a greater integration into the culture and not be just another tourist (for example: Sari in India). Still, the service offers the possibility of renting clothes for business trips. Looking for a collaborative economy can enter as a solution to the crisis present today, since this is based on economic, social, technological and environmental pillars. And that is exactly what 0KG promotes: an economy in which people are the focus, and the exchange of goods and services between themselves, in this case, clothing and accessories, contributes to a healthy growth, not only mind-set wise but also of economies.

It should be noted that, in accordance with the results of the questionnaires and focus group, people feel awkward in acquiring second-hand products. To overcome this constraint there are various complicated

stages, among which raising awareness to solutions such as 0KG. It is also necessary to ensure total cleanliness and quality of clothes, to try to minimize the stigma about the use of clothes already used by other people. The biggest obstacle to the use of this type of service is the doubt in the consumers' minds if the clothes are clean enough and ready to use without having to question its cleanliness.

4.1. Design Thinking: 9 steps framework by Kees Dorst
This section presents the application of the 9 steps framework to 0KG:

1. Archeology of the problem. The research question emerged as a problem from the time when a global crisis started, both economic and restraining sustainable development. 0KG encourages a collaborative economy, by promoting sustainability values. It is a problem that was never solved because there is not yet a rental service similar to 0KG philosophy. The main holder of this problem is anyone who travels.

2. Paradox. According to the survey results, this problem becomes difficult to solve because people dislike the idea of using second hand clothes, because they doubt its quality and cleanliness. A change of mentalities and a resistance to leased and/or used clothing is what makes this a complicated problem to solve.

3. Stakeholders. The interested parties on 0KG are essentially: designers (national, international and local talent), the community (partnership with travel bloggers; and business partners as advertising agencies), institutions (municipalities, airports and national tourism departments) and lastly, all customers who are able to share the vision of 0KG, and thus join the service. Essentially, it is expected that the adhesion to this service is made mainly by people that show values of sharing and community, which are part of generation Y and support and share this vision of a more collaborative economics.

4. Problem arena. Dorst [9] states that the design problems are open problems and the chosen problems are closed. The construction of a closed problem with an arena of an open problem is not a deduction step, but rather a creative act in itself. Therefore, inherent to the problem of renting clothes, are all the cultural misunderstandings that can arise at the time of a journey to a country with a different culture. 0KG intends to not only facilitate the traveling moment by providing all the clothes for day to day, but also aims to be a link between the tourist and the culture of the country that this will meet. Another issue that is in the problem arena is the luggage itself. The fact that tourists have to pack, causes and inconvenience to the extent that they need to select the clothes they want to take, and later, the psychological cost of a potential loss of bag is quite high. With this service, the tourist's clothes are "safe and sound" at home, and they don't need to worry at all with luggage. It is only necessary to bring their essentials more geared to hygiene.

5. Themes. In this step, themes start to emerge, and they are the bases for new frames. In this case there are four major themes for the service that make it possible to exist: clothes and accessories; Physical stores, Website and mobile application (app).

6. Frames. The main frame of 0KG is its motto: "Traveling never felt so light". This is because tourists don't need to take anything with them. They bring home a rich experience and a cultural baggage, that it is only emotional and not physical. This is how 0KG wants to position themselves, because looking at the problem from this perspective, shows that 0KG serves not only to facilitate the travel but to enrich it.

7. Future. Society is changing daily and facing a change of mentality of the population in general. It is possible to witness people being more collaborative with one another, either in the sense of physical goods, experiences and information. 0KG, is just one of the mechanisms of this collaborative economy, where people can share tastes, styles, goods, but, above all, experiences.

8. Transformations. For 0KG to succeed, the mentality of people when it comes to renting clothes that has already been used by third parties, needs to change. 0KG offers an entire structure that ensures comfort and well-being to the users of these clothes, especially regarding cleanliness (hygiene), and not just a store to sell clothes. For this to work a major campaign of demystification of the service needs to be in place, to help people understanding the advantages of a service like this. As shown by the survey results, the question of hygiene and cleaning of the clothes is in fact a barrier and a huge resistance to this kind of services.

9. Connections. If 0KG reaches the needs of the population in general, it has the potential of becoming a social collaboration tool. That way this model can be quickly replicated in other cities around the world, always respecting the way of dressing and the fashions of each culture and country.

4.2. Kaleidoscope: the new model

The model in Figure 1 was derived from two business models: the Business Model Canvas and McKinsey 7S's. This new model called Kaleidoscope, intends to offer a new and innovative business model, centred on the core and divided into 4 main dimensions: 1- Actuations (Shared values, Personality and Key activities); 2- People (Relationship, Partners and Segments); 3- Resources (Physical, Intellectual, and Financial); 4- Influences (Rivals, Government and Trends); 5- Core (purpose of existence)

1. Actuations represent how 0KG acts, including its core activities, its values, the basis expertise and its personality as a brand. This dimension is thus focused on internal factors and on how 0KG will act towards society, which implies looking at the proper functioning of the website and app; the clothing distribution system; values: social and environmental responsibility; brand personality: being a facilitator when traveling.

2. People represent the human side of 0KG, including its partners, customers and all stakeholders. This dimension not only refers to the people involved, but also to the relationships between them. 0KG promotes a relationship of trust and sustainability with the client, which is any tourist who presents a collaborative spirit. Regarding key partners, they are especially focused on: tourism industries, airports, suppliers, distributors and employees of 0KG.

3. Resources are all physical resources (clothing and accessories, warehouse and stores), intellectual resources (database/patent) and financial resources (inventory, rentals, website/app, digital and physical spaces) that directly influence the operation of the service.

4. Influences represent all external influences that directly or indirectly relate to the functioning and development of the service. This dimension represents the external character of 0KG, that is, its major rivals (competitors), Government (marketing legislation, tax policy, environmental regulations), and trends (focus on fashion developments and the growing acceptance of a cooperative lifestyle).

5. The Core, or the heart, represent the purpose of its existence: being the first store that combines the quality and price to rent second-hand clothes, facilitating the lives of tourist.
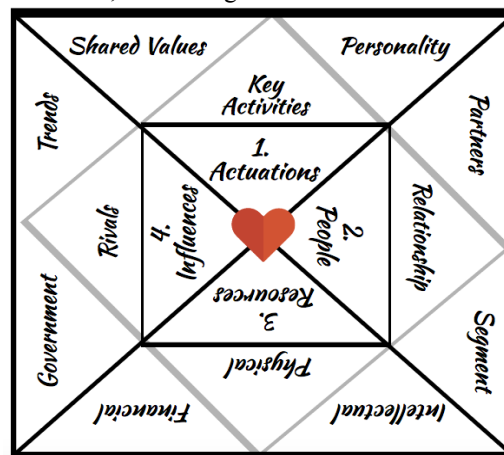

Figure 1. The new model: Kaleidoscope

5. Results and discussion - Questionnaire and Focus Group

The questionnaire resulted in 430 responses from which important findings emerged. 82.1% of respondents would consider or have used something used/borrowed. The main reason to use something used/borrowed is based on 'saving money' arguments, followed by greater variety in clothing and yet because the clothes were for a specific event (short duration). The Focus Group was conducted with 7 people, aged between 18 and 31 years, from different professional areas, because this was the age group with the highest response rate in the questionnaire. The same question "Have used or considered using something borrowed/used?" was then applied, and in general, all elements of the group indicated that they would use or consider using something used/borrowed. When questioned about their willingness to rent or purchase second-handed clothes or accessories, 66.5% answered "Yes". Participants of the focus group also responded positively, and referred as justification: the economic aspect because it allows saving by avoiding ongoing investments in new clothes and still be able to find different clothes, which encourages experimentation. Those who answered "no" to the previous question also justified that they would not to use clothes that were already

worn by others and because they doubt the hygiene of the items. In order to understand if the "lack" of hygiene and cleanliness would be one of the main barriers to the use of second-hand clothing and accessories, the respondents who replied "no" were asked if it was guaranteed the quality and cleanliness of the clothes, if they would change their answer. An astounding 39.5% of the 144 negative answers, changed their answer. Therefore, only 87 of the 430 respondents wouldn't wear second-hand clothes or accessories.

This way, most respondents showed great acceptance of service, and as long as the quality is guaranteed and well communicated few barriers may arise and more and more people may consider joining 0KG. Also after the focus groups it was perceived that 0KG is an innovative service that will be very well received, as long as the partnerships are made intelligently and the quality and hygiene of the clothes, well communicated. In general, all participants showed interest in the service, noting that each one of them would be a customer of the brand.

6. Conclusions

0KG intends to be a new way to promote sustainable systems, encourage alternative ways of critical thinking of consumption habits, and a new approach to a slow and sustainable fashion in the fast consuming world we live today. In general, the initial problem was positively answered. This research proves that people are willing to use second-hand clothing and/or leased when traveling but only if the questions of cleanliness of the clothes are ensured. The creation of the new model was intended to achieve the specific objective of the development of 0KG and it serves as an organizational unit of analysis, allowing the identification of opportunities for change and creation of business strategies, both extrinsic and intrinsic to the organization.

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