Application of design-thinking models to improve the quality of tourism services

Introduction

Today the need to undertake improvement activities is an indispensable element of the functioning of most traders. This results from the growth of competitiveness, on the one hand, and from operating in a dynamically changing environment, on the other. In every industry, both manufacturing and service-type industries, improvement activities will adopt a diverse character, influenced both by the particular industry specifics as well as by the company itself and the conditions in which it operates.

One of the more specific service industries is the tourism sector. Its specificity arises directly from both the mass numbers of tourists, but also from a high degree of differentiation of the service itself. This is because of its modular nature which enables the client to experience an individual selection of various service components, modified flexibly even during the tourist’s stay at the place of residence. The entire package of composed service can also be acquired based on individual needs.

First part will introduce the term “design-thinking” and three selected service design models based on the concept cornerstones.

The main aim of this article, however, is to show how the models presented could be applied so that the specific features of “design-thinking” are explored to achieve the best possible service proposal. In order to assess the effectiveness of model implementation, the results will be combined with the quality determinants for the tourism industry. The particular components of the models will guide to the creation and improvement of a service which is a direct response to the sector’s specific determinants of quality.
1. Design-thinking concept introduction and model presentation

“Design-thinking” term stems from an attitude which was formerly adopted by industrial designers, that is, it involved an organised, well-thought process they had to go through from the primary concept to the creation of a new product. The crucial point along the way was to fulfill the constructive, functional and utilitarian requirements so that the final product responds to specific user needs [Brown, 2008, p. 85; Serafiński, 2009, p. 40]. The attitude which has evolved from the term has one characteristic which made it distinct from classical new product development processes. The traditional approach, for instance, presented by: [Handfield, Minahan, 2009; Trott, 2008; Kotler, Keller, 2012; Aaker, McLoughlin, 2007; Cooper, Press, 1995], often base on a structure of taking the initial concept through technical assessment, up to engineering phase, design, prototype building, testing, validation and launch. What makes the new product or service development model based on “design-thinking” concept distinct from classical models though, is the fact that it focuses on the crucial role of an individual designer and his skills and competences to achieve the final result. In that case, the process is often quite personal, intuitive and based on deep, inner thoughts of a certain individual rather than on external factors deriving from limitations at a strategic level [Design Council Desk Research Report, 2007, p. 7]. Although the structure of a model still imposes typical new product development stages, the fact that it underlines the individual, personalised role of a designer, draws attention to the aspect of creativity, the core feature of all design-thinking models [Best, 2009; Brown, 2008; Cross, 2011; Plattner et al., 2011; Van Zyl, 2008]. Fundamentally, every time a model involves the term design or design-thinking, it is predictable that the structure of the model entails achieving the final results by the means of creativity. The goal would be meeting the needs of users through their deep understanding and empathetic approach in the majority of cases [Nixon, 2013, p. 24; Service design and experience design..., 2013, pp. 10–13; Tripp, 2013, pp. 58–64]. Previously the utility, function and purpose were the top priority. Design was applied at the very end of the process, bringing a decorative function, also partly helping to create a message, add narration which would make the product more complete [Nasseri].

The design term nowadays goes much beyond what was described above. Deriving from the approach adopted by industrial designers, it has moved to the area of strategic thinking, that is, incorporating all possible
external factors to the design process. This obligatorily covers minding the user all along the process, yet watching the triangle of economic, technical and functional conditioning at the same time.

In order to show what stages the design team goes through at applying the “design-thinking concept for new product or service development, three exemplary models (table 1) will be briefly presented in the following part.

Table 1. Examples of the design-thinking models

<table>
<thead>
<tr>
<th>MODEL 1</th>
<th>MODEL 2</th>
<th>MODEL 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bruce Archer, 1965</td>
<td>Stanford d.school</td>
<td>Rotman’s 3 Gears of Business Design, University of Toronto</td>
</tr>
<tr>
<td>Analytical</td>
<td>Programming</td>
<td>Understand</td>
</tr>
<tr>
<td></td>
<td>Data collection</td>
<td>Observe</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Empathy &amp; Deep Human Understanding</td>
</tr>
<tr>
<td>Creative</td>
<td>Analysis</td>
<td>Define</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Point of view</td>
</tr>
<tr>
<td></td>
<td>Synthesis</td>
<td>Ideate</td>
</tr>
<tr>
<td></td>
<td>Development</td>
<td>Concept Visualisation</td>
</tr>
<tr>
<td>Executive</td>
<td>Communication</td>
<td>Prototype</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Test</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Strategic Business Design</td>
</tr>
</tbody>
</table>

Source: [Archer, 1965, pp. 5–6; Plattner et al., 2011, p. xiv; Rotman School of Management, 2010].

The first model plays the key role for design method movements due to the fact that it breaks the model into core stages – the analytical, creative and executive part aimed at protecting the design team from overwhelming amount of data and doubts. All this so that the creativity flow is not disturbed. The underlying reason is to create an awareness that the model carries both cognitive and intuitive levels of thinking, thereby trying to formalise the aspect of intuition into a standardised procedure of the work flow [Archer, 1965].
The second model, called “classical”, is the most popular and commonly used as it was brought to life by the team of the famous d.school: Institute of Design at Stanford, David Kelley and Tim Brown. Advisors for world-known brands have used the model to show the spirit of crossing the barriers and the art of treading on the unknown fields thanks to its simple line of steps acting as guidelines along the process. [Brown, 2008, p. 88] The aim was to find a simple reply to questions like “What?”, “How?” and “Why?”, and use the process to explore its phases, not just to rush through it to get the result [Brown, 2008, pp. 84–92; Kelley]. In consequence, one can start to make innovations in a complex, organised way, starting just from an initial thought [Brown, 2008, pp. 84–85]. The creative part mentioned in Model 1 is covered in Define – Ideate phases, which implies that the design team has to know exactly what they are doing (table 1). Without having this awareness, search for the best ideas among the multitude of data gathered, makes the process hardly adaptable. As visible in Model 2 structure, the creative phase covering Define – Ideate phases, can also be interpreted as Point of view – Ideate. This further shows how important the personal impression of a designer is. His individual opinion is actually a baseline of what has to be done or in other words, what is the problem defined.

The last design-thinking model, Rotman’s 3 Gears of Business Design, was developed by the Rotman School of Management in Toronto. It implies the search for new opportunities, creating more and more breakthroughs and accelerating success [The University of ...]. This is achieved by using three tools – empathy and deep understanding of the user, the visualisation concept and well-planned business strategy. All the tools are in close correlation with each other, that is, they cannot function without each other. What makes the models distinct is the fact that the executive, that is, the Build phase is not just another stage of new product development but in Rotman’s model it actually overlaps with the area of strategic business management. The former stages, that is, the analytical and creative, should ideally derive from the core elements of the strategy and bring products which are still signed within its assumptions.

An addition to the correlating three spheres within Model 3 is the presence of the Empathy term. It shows the importance of understanding the user needs, not just by their close observation as that is the case with Stanford and School of Design Uni Potsdam models, but by deep exploration and human treatment. The involvement of the designer and his
individual view are on top of the priorities in the design process in that case, serving as a unique source of data.

2. Design-thinking model implementation to improve the quality of tourism services

Tourism services are one of the more specific service industries. As each service, they can be referred to as “a useful human activity, process or work which does not bring any new material object in effect but meets a specific need” [Kolman, 2003, p. 248]. Also as a need connected with other place than common living [Oleksiuk, 2007, pp. 16–17; Kachniewska, Nawrocka, 2012, pp. 16]. Another definition describes them as “a set of relations and phenomena which result from the travel and stay of visitors, if they in consequence do not lead to settlement and undertaking of professional activity” [Szostak, 2009, p. 28]. This approach also aims at meeting the needs, in that case those arising from the travel and stay away from home location.

The quality determinants selected for the tourism services will in some cases also refer to other service industries, such as, among others, materiality, reliability, response to customer expectations, professionalism and trust, empathy [for example Karaszewski, 2005, s. 267]. Most of all, however, they will be based on the determinants of quality adequate for the specifics of the tourism industry. These include complexity and fulfillment, creativity, atmosphere, sentimentality, values of natural environment, the key role of staff, effective fulfillment of the objective pursued, or coherence of the activities with the business strategy of the tourism entity [e.g. Zieliński, 2011a; Kachniewska, 2002, p. 17; Kolman, Tkaczyk, 1996, p. 20; Panasiuk, 2001, pp. 87–91; Zawadzka, Zieliński, 2012, p. 286; Zawadzka, Zieliński, 2013, pp. 429–430].

In the literature, there are a number of approaches to the analysis of the determinants for more effective improvement activities. An example of such analysis is a hierarchical attitude allowing to assign the determinant to certain groups [e.g. Zieliński, 2011b] and areas of the core services within the tourism sector, such as, accommodation, meals, transportation, or tourist attractions [Zieliński, Ferenc, 2011]. This is extremely important because of the rapidly changing environment in which the tourism industry operates. Therefore, the identification of areas which are subject to the changing approach is necessary, at the same time, placing them on top of the improvement activities list [Zawadzka, Zieliński,
Compilation of the quality determinants selected to further analysis together with a short explanation is presented in table 2.

Table 2. Quality determinants in the tourism sector

<table>
<thead>
<tr>
<th>Determinant</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>Adequate for the quality / minimum financial contribution at possibly the best customer experience</td>
</tr>
<tr>
<td>Reliability</td>
<td>Compliance of expected service perceived service. Full compliance with customer requirements is a minimum requirement.</td>
</tr>
<tr>
<td>Extras</td>
<td>All elements where perceived service exceeds expected service level e.g. trips, enrichment of the standard offer, promotions, any free gifts</td>
</tr>
<tr>
<td>Fulfillment of the trip aim</td>
<td>Possible aims: relaxation, active spending of time, business travel</td>
</tr>
</tbody>
</table>
| Staff                    | - Positive attitude  
                            - Polite treatment  
                            - Smile  
                            - The ability to advise the client  
                            - Competence, knowledge about the offer  
                            - Functionality – the speed and efficiency of service  
                            - Aesthetics and neatness  
                            - Competence and professionalism – including the ability to communicate in different languages  
                            - Responsibility  
                            - Information about company services – the availability of information, wording suited to all types of buyers  
                            - Sensitivity, trust, empathy |
| Atmosphere               | - Aesthetics, appearance of the company premises, cleanliness  
                            - Convenience  
                            - Temperature  
                            - Access and security |
| Materiality              | Condition of the equipment, infrastructure, e.g. office appearance, equipment, coaches on offer |
| Appliance to standards   | Relevance to adopted standards. Consistency of quality activities with the company’s strategy and business management concept. |

In the literature of the subject there are some examples of direct usage of design methodology in tourism industry (e.g. Zehrer, 2009, pp. 332–349). In that case it could be interesting to describe an exemplary design-thinking model applied to show what form a service adopt while being developed based on the concept rules.

The model selected for practical implementation is Rotman’s 3 Gears of Business Design, developed by the Rotman School of Management in Toronto (figure 1). It plays the key role for design method movements due to the fact that it breaks the model into core stages – the analytical, creative and executive part aimed at protecting the design team from overwhelming amount of data and doubts. The approach was visible in former model of Bruce Archer [Archer, 1965], precursor in the breakdown into three stages. The reason was to avoid disturbing the creativity flow and allow the intuition of a designer to be explored without limitations in a specially dedicated phase. As mentioned in the former chapter, the model allows to use three different areas – empathy and deep understanding of the user, the visualisation concept and well-planned business strategy – which act as gears of a perfectly working crown wheel.

**Figure 1. Selected design-thinking model used for practical application in the tourist sector**

<table>
<thead>
<tr>
<th>Rotman’s Gears of Business Design, University of Toronto</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empathy &amp; Deep Human Understanding</td>
</tr>
<tr>
<td>Concept Visualisation</td>
</tr>
<tr>
<td>Strategic Business Design</td>
</tr>
</tbody>
</table>

Source: [Rotman School of Management, 2010].

Successful implementation of the model assumes a significant impact on the value and competitiveness of the company. Laying the stages in a form of gears highlights their dependence on each other. This same feature could be attributed to the classical, linear arrangement of the model, which even with its iterative, unstructured sequence of events, emphasises the strong relationship between the phases. On the one hand, the discoveries made at the initial stage determine the prototype solution realised in the further phase of the process. On the other hand, in circumstances where there are no wrong answers in the creative phase and all
ideas are given a chance, an automatic rejection of unsuitable ideas deriving from the linear structure of the process contradicts the whole idea of design-thinking and creativity.

What makes the model distinct is the fact that the creative phase, is not just another stage of new product development but it actually overlaps with the area of strategic business management. The former stages, that is, the analytical (Understanding) and creative (Concept Visualisation), should ideally derive from the core elements of the strategy and bring products which are still signed within its assumptions. An addition to the correlating three spheres, an important aspect is the presence of the Empathy term. It shows the importance of understanding the user needs by deep exploration and human treatment. The involvement of the designer and his individual view are on top of the priorities in the design process in that case, serving as a unique source of data.

Rotman’s model was implemented after combining it with the quality determinants specific for the tourism sector listed in table 2. As a result, a service proposal adjusted to the tourism sector special conditioning was developed. The implementation process is presented in table 3 in a form of a list of questions which need to be asked at every consecutive stage of the model application. Such a form was designed to show the simplicity of the procedure.

Gear 1 and 2, that is, Empathy and Deep Human Understanding and Concept Visualisation stages were connected for the need of this article due to limitations of showing the results of visualising the prototyping phase. For this reason, introduction of additional design-thinking tools such, as scenario building or developing personas, would be recommended.

Following the questions listed in table 3 is a simple guidance, “tick off” list which programs the designer’s way of thinking in the process of service development. Answering them results in a well-prepared, though over service proposal, suited both to the target group needs as well as to the company’s direction of strategic development. The final result, however, lies in the hands of team members participating in the process. This derives from “polar opposites” rule suggested by Beckman and Barry [2007, pp. 28–29] where different learning styles and experience as well as social or interpersonal features of team members generate a unique flow of work. As a result, different team members would suggest different replies to questions listed in table 3, thus suggesting different service proposals.
Table 3. Application of Rotman’s model in the tourism sector

<table>
<thead>
<tr>
<th>Determinant</th>
<th>Gear 1 &amp; 2: Empathy and Deep Human Understanding/Concept Visualisation</th>
<th>Gear 3: Strategic Business Design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Price</td>
<td>What level is suitable for our target group? Will they feel the service is of better quality if the prices rise or will they feel that the service is beyond reach?</td>
<td>How our company is aspiring to be perceived? With high- or low end segments? Is a low price not destroying the whole company image?</td>
</tr>
<tr>
<td>Reliability</td>
<td>What makes the client feel safe and assured about the offer?</td>
<td>How do we create a brand image of yearlong tradition of reliability?</td>
</tr>
<tr>
<td>Extras</td>
<td>What would please our client the most?</td>
<td>What kind of extras suit the expectations of our core target group?</td>
</tr>
<tr>
<td>Fulfillment of the trip aim</td>
<td>What can be the possible aims of travel? What is required in each of them?</td>
<td>With which of the trip aims would we want to be associated with?</td>
</tr>
<tr>
<td>Staff</td>
<td>What kind of attitude would please different types of clients?</td>
<td>What kind of attitude is an absolute minimum and what would be the direction of improvement?</td>
</tr>
<tr>
<td>Atmosphere</td>
<td>What kind of atmosphere would clients travelling with different aims expect? e.g. at business trip</td>
<td>What kind of atmosphere is most suitable to brand image? How do we position our brand? e.g. problem-free business trip or low budget guided tour</td>
</tr>
<tr>
<td>Materiality</td>
<td>What standard of infrastructure should be provided so as not to cause negative associations for any of the clients (even low budget trips)?</td>
<td>What standard of infrastructure is provided now and how does it suit the company status? In which area should we improve or develop?</td>
</tr>
<tr>
<td>Appliance to standards</td>
<td>What standards are currently a requirement or the tourist sector? What are the options for improvement in the future?</td>
<td>What standards are currently a requirement or the tourist sector? What are the options for improvement in the future?</td>
</tr>
</tbody>
</table>

Conclusion

The adaptation of “design-thinking” concept for service design or improvement of tourism industry service offer does not exhaust the subject. It should be stated with certainty that every tourist operator will have to make the practical data used for model adaptation much more precise and suited to individual conditioning and needs. It is therefore worth considering which factors may in further consequence determine the need to select more precise data for implementation or which of them are recommended to be taken into account. It may also be important to identify the factors that may affect the need to make changes in the planning and improvement process of the tourism industry service with the use of specific quality determinants one the one hand, and particular “design-thinking” concept assumptions on the other.

References

Application of design-thinking models to improve the quality of tourism service (Summary)

The paper presents basic aspects of improvement activities for the quality of tourism industry service through its specific determinants of quality. The authors suggested an the application of design-thinking concept in the development of the service itself and an attempt to undertake improvement activities. The concept was presented through a practical implementation of one of the popular models used for new product or service development according to design-thinking specific rules. Next, the model’s particular phases where transformed into a practical development of a tourism industry service.

Keywords
quality, tourism industry service, improvement activities