Features of the using of the design-thinking methodology in the area of restaurant business and wine production

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Abstract.

Main models of the design-thinking methodology of the most recognized schools of design in the world were mentioned in this article, its stages and methods were briefly described. The trends in the development of public catering in Russia and especially in Nizhny Novgorod were also highlighted based on the online survey of more than 500 respondents, the most of whom were residents of Nizhny Novgorod. The results are presented in the article in the form of pie and bar diagrams. In addition, the list of the main trends of consumption and innovation in the field of public catering in Russia in 2018 – 2019 is presented in the form of tables.

Moreover, experience of use of design thinking techniques in non-standard areas is described in this article: in catering business based on the restaurant «Ribs» and also in the winery industry based on the company "Milestii Mici", to test the applicability of the design-thinking methodology in such closely related areas as the restaurant business and the winery production. A description of the sessions according to the rules of design thinking is briefly described and is given in the relevant sections of the article with the results.

Keywords: a methodology of design-thinking, models of design-thinking, methods of design-thinking, the catering business, the winery production.

Introduction

Every year the market is changing, expanding. Standards of business practice have ceased to produce effective results, as before, due to the culture of consumption, the needs of the population have changed, and digital technologies have become an integral part of every person. Keeping up with the rapidly changing consumers' needs is becoming increasingly difficult. Companies which will use old approaches to doing business and have no time to rebuild their business models and business processes in

accordance with the new realities will be forced to leave the market soon, giving way to their competitors, therefore, in order to withstand the competition nowadays , companies need to make a transformation.

Design-thinking is widely used in the field of information technology abroad, but in Russia this methodology has not yet received widespread recognition and is practically not used in other areas except IT, so the question arises about the applicability of the design-thinking methodology in non-standard areas and its prospects of widespread use in Russia. So, the aim of our research is to answer the question posed earlier.

1. Existing models of design-thinking

Nowadays there are several schools that study and actively practice design-thinking. Further, consider the most famous of them. In the course of their research, each design school has created its own approaches to highlighting the stages of the design-thinking process.

1.1 Model of design-thinking process by IDEO

Model of design-thinking process by IDEO includes three stages: Inspiration, Ideation and Implementation.
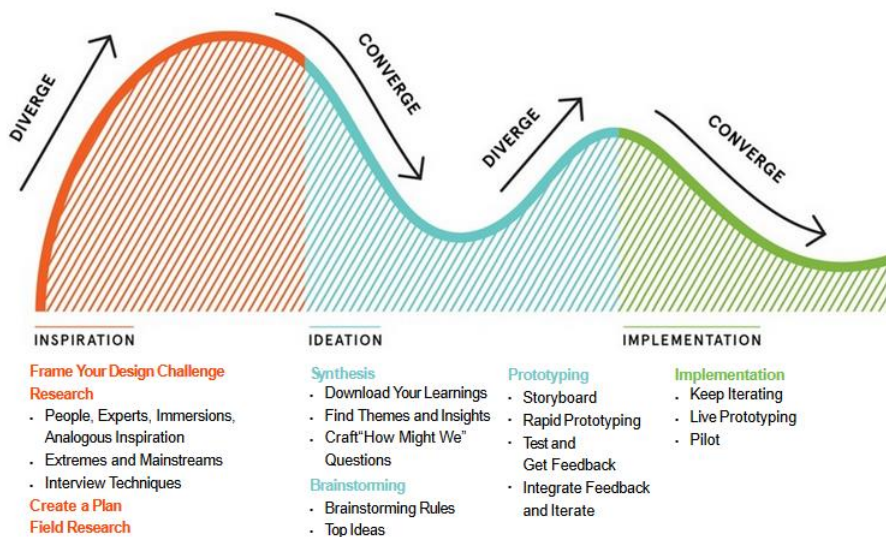

Fig. 1. Model of design-thinking process by IDEO [3]

1.2 Model of design-thinking process by IBM

The model of the American company International Business Machines (IBM) is based on the behavioral model of understanding the needs of the user and predicting his interests, which is depicted in the form of a loop enclosing an endless repetition of a continuous cycle of three stages: Observe, Reflect и Make.

However, for solving complex problems, a researching only a behavioral model of understanding user needs is not enough, you must use keys: Hills, Playbacks and Sponsor users.
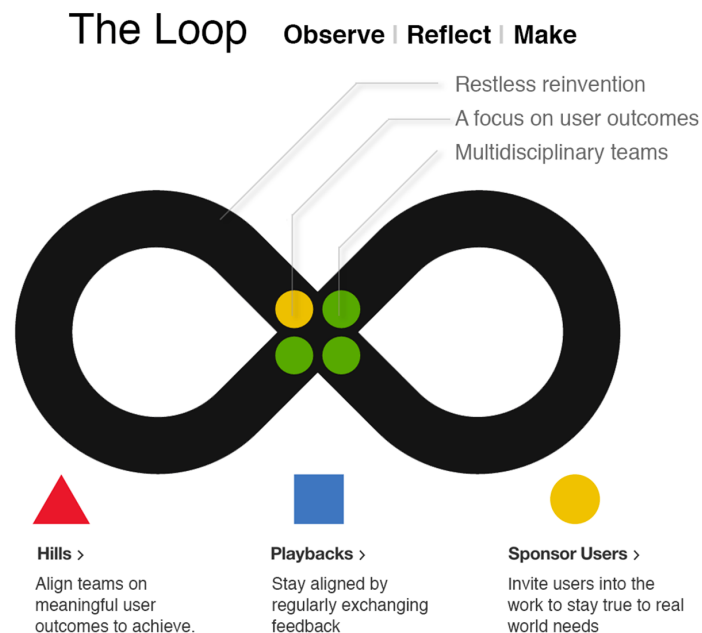
The Loop   Observe | Reflect | Make

Restless reinvention
A focus on user outcomes
Multidisciplinary teams

Hills ›
Align teams on
meaningful user
outcomes to achieve.

Playbacks ›
Stay aligned by
regularly exchanging
feedback

Sponsor Users ›
Invite users into the
work to stay true to real
world needs

Fig. 2. Model of design-thinking process by IBM [1]

1.3 Model of design-thinking process by Stanford d.school

Model of design-thinking process by Stanford d.school includes five stages: Empathize, Define, Ideate, Prototype и Test. Each stage, depending on the task, can be performed sequentially, independently of each other or iteratively.
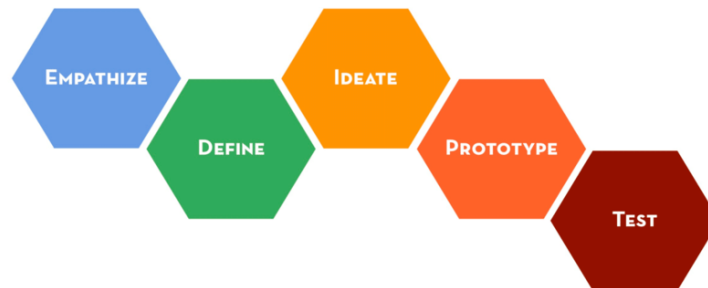
Fig. 3. Model of design-thinking process by Stanford d.school

Methods used in Empathy stage: observations and ethnography, stakeholder map, deep interviews, expert interviews, "boots", analogue research. Methods used in Define stage: empathy map, user journey map, clustering, point of view (POV). The methods Ideate stage include, as a rule, brainstorming and the Venn diagram.

Methods of Prototype Stage: paper and lego prototyping, storytelling. Method of Test Stage – testing experience.[4]

2. Analysis of public catering in Russia

An online survey was conducted among potential visitors of catering establishments, according to which was found that approximately 97% of respondents visit catering establishments with different frequency and 73% of them visit catering establishments regularly, it indicates that restaurant business demand (See Fig. 4).

According to this survey, the most popular segment of catering in Nizhny Novgorod, are cafes and restaurants of the middle price category, fast food and coffee shops. Moreover, it is worth noting that, in contrast with many cities in Russia, where fast food is the undeniable market leader, the popularity of cafes and restaurants of the middle price category lose to fast food only 4.5% in Nizhny Novgorod.

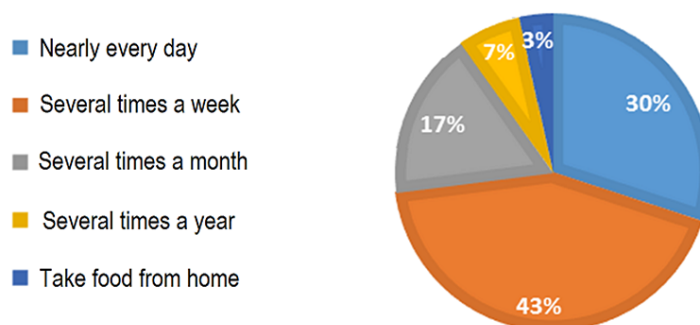**How often citizens of Nizhny Novgorod eat "out of home"**

- Nearly every day
- Several times a week
- Several times a month
- Several times a year
- Take food from home

Fig. 4. How often citizens of Nizhny Novgorod eat "out of home"

Undoubtedly, according to the survey, a good assortment of dishes and drinks is a significant reason why guests will want to stay, but it is also worth noting that more and more visitors pay attention to the atmosphere and interior, and are often in search of a cozy or stylish establishment.

2.1 Trends of restaurant business in Russia

Table 1. Trends of catering business in Russia in 2018-2019.

Trends in restaurant business	Short description
Farm products or local cuisine	Using in the kitchen exclusively local products that were grown in the immediate proximity of the restaurant (in the city and region)
Healthy nutrition	Cooking of high-quality dishes without the use of artificial flavor enhancers and flavors, and using products that are rich in vitamins, minerals, antioxidants
New culinary techniques	The use of "sous vide" (vacuum) and fermentation techniques to enhance the taste and useful properties of food, to obtain new textures, colors
Gastronomic fast food	These are fast food restaurants with high standards of cooking. This segment includes the food market
Beautiful serving dishes	This is a new trend when people are ready to visit cafes and restaurants to take a beautiful photo of dishes for social networks
Impressive interior	Designing the interior of cafes, bars and restaurants with an original design suitable for beautiful photos for social networks
Delivery services	Popularizing delivery from establishments of all segments from fast food to premium restaurants

Trends in innovations, that consumers are accustoming to and which can also have a strong impact on the catering business, it is a big data and artificial intelligence, messengers, internet of things (IoT), VR and AR. [5]

Table 2. Trends in innovation in Russia in 2018-2019 and its influence at catering business.

Trends in innovation	Examples how to use in catering business
VR/AR	When you point the camera at a certain mark, show a 3D model of the dish, ingredient composition or animated cooking process
Messengers and chat bots	Booking, ordering, pre-order, bill payment, feedback via messenger
Big data and artificial intelligence	Creating a loyalty system based on personal preferences of the user
IoT	Connected in a single network cash register system, warehouse, refrigerators, food supplier, automatically generates applications, reports

3. Experience of the use of design-thinking methodology in the restaurant business

The first testing of the design-thinking methodology in the restaurant business was carried out based on the restaurant "Ribs" in Nizhny Novgorod.

At the "Empathy" stage, third-party observation of visitors to the restaurant was carried out, as well as third-party observation of the employees' work. After that, deep interviews were conducted with each employee of the restaurant "Ribs". Also the access to reviews of visitors of this restaurant were obtained using electronic checkbooks. An experiment "boots" was also conducted. For several days, I, as a research designer, felt on myself one day from life of linear employees. Having experience in this field, a valid medical book, and having previously learned the restaurant menu for full-fledged work in any linear position, I, as a designer researcher, had the opportunity to feel myself as a waiter, barman, receptionist, manager and cook.

At the "Define" stage, empathy maps and user journey map were composed based on the collected information, as well as highlighting the main problems encountered on the user path, both from the side of restaurant visitors and from the side of

restaurant "Ribs" 's employees, POV was clearly formulated for each scenario: visitor's scenario, employee's scenario.

At the "Ideate" stage, after methods of "Ideate" stage were completed, a brainstorming session was held with the staff of the restaurant "Ribs" according to the rules of design-thinking.

At the "Prototype" stage, prototypes of most of the ideas were reproduced using storytelling and proposed for consideration for testing and implementation to the management staff such as the general director, art director and brand chefs. Prototyping of the creation of new dishes and drinks was created using prototyping on paper in the form of sketches which convey interesting color combinations.

As the "Test" stage, those ideas that successfully went through all stages of the design-thinking process were tested in the framework of prototyping and testing user experience, situations of interaction between visitors or staff with solutions of the problem were simulated, scenes were played, and feedback after interactions was recorded.

Experience of the use of design-thinking methodology in the wine production

At the "Empathy" stage, 10 interviews were also conducted, 7 of which were deep interviews with consumers, and 3 expert interviews with directors of the personnel, marketing and sales departments. An online survey was also conducted, in which 150 people took part, 60.7% were from the Russian Federation and 39.3% from the Republic of Moldova in the age from 18 to 64 years. A social experiment was also conducted in which two people from different consumer groups took part: the young man is Alexander, who studies at the university, loves outdoor activities and often have no time for dinners with his family, and the married 39-year-old woman, Elena with two children and a cat who is fond of music and parenting. Each of them is a consumer of the products of this company with its own taste preferences and needs for wine. The aim of this experiment was to analyze consumer behavior in a stressful situation choosing the essential wine.

At the "Define" stage, based on the collected information, the personas of Alexander and Elena were composed. The result of this step is to correct the identified

problems, which will be resolved in future. The solutions were obtained using the constructed POV structure: (What to do?) (Need, in the form of a verb) (How? / Because…).

1) (To help Elena) (To pick up a wine for a certain event) (Having specific filters)

2) (To help Sergey) (To reveal the true taste) (Combining wine with products)

3) (To help foreigner Abby) (To find information about wine) (Using the label)

At the "Ideate" stage, more than 100 ideas were generated using brainstorming.

At the "Prototype" stage, prototypes of the future application were created using the Justinmind prototyper program. The functionality of the prototype was created considering the above three key problems:

1) To solve the first problem – "To pick up wine for a certain event", seven key categories were created. You can get a filtered list of suitable wines, by selecting a specific one (See Fig. 5.). For more convenience, an additional filter was also provided as a price and a grape variety, because 102 respondents (71.8%) are interested in a good price, and 96 respondents (67.6%) are interested in a grape variety.
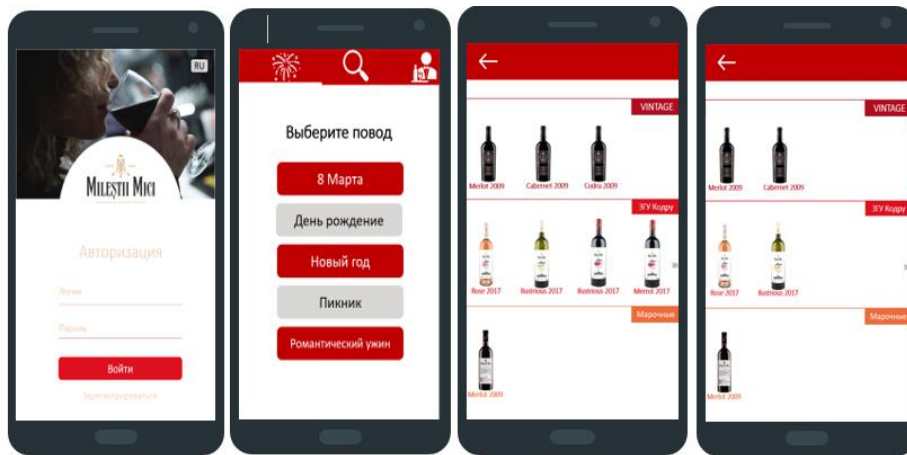

Fig. 5. The prototype of the first task: to pick up wine for a certain event.

2) To solve the second problem – "Reveal true taste", each selected wine was provided with additional information with recommendations of product that can be combined with the selected wine.

3) To solve the third problem - "Find information about the drink", the opportunity to scan a QR code was created, which the company decided to implement in

the design of its label. This decision will help foreigners get information from the label in their language.

As the "Test" stage, the created application was tested among consumers in stores, parks and cafes. Based on the results of the interview, we can conclude that most of respondents would like to have a single platform such as making online purchases of wine or ordering meals from restaurants or cafes through the application. In addition, some consumers expressed a desire to use information technology to analyze their consumer basket and predict a suitable wine according its basket of products in the form of a notification-tip.

Conclusion

As demonstrated by the practice, there is no significant framework of applicability for design-thinking methodology. The design-thinking sessions were conducted successfully. The culture of human consumption is changing from year to year, which means that enterprises providing services, food and leisure products should be among the first who keep up with innovations and transform their products and services to the changing needs of consumers. And the design-thinking methodology, as an approach of creating innovation, method, which is based on a human-oriented approach, will be an excellent mechanism for this, regardless of whether the subject area is related to IT or not. Design-thinking can be transformed to different fields of application.

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