

Design thinking and process transformation: synergy of these approaches

E. V. Vasilieva ¹[0000-0002-0054-832X] and T. E. Tochilkina ²[0000-0001-5729-3826]

¹ Business Informatics Department, Financial University under the Government of the Russian Federation, Moscow, Russian Federation,
evvasileva@fa.ru

² Business Informatics Department, Financial University under the Government of the Russian Federation, Moscow, Russian Federation
tetoichilkina@fa.ru

Abstract. The new digitalization trend is a global transition to the study of customer experience. Modern conditions require the unification of the theory of business process management and the tasks facing the business. The author emphasizes that today it is necessary to manage personnel taking into account a competently built employee path in the company - "Employee Experience". The work environment and human-centered business processes create a good psychological climate, which determines how the employee will be able to solve tasks, get business results, manifest and be focused on developing their talents. Transformation and continuous improvement should change the culture of the organization, create partnerships between management and staff to ensure the success of the changes. An approach to process transformation is presented. The stages of the process transformation are presented and described in detail, where the end of the transformation is the beginning of a cycle of continuous improvement of business processes that have undergone changes. The authors emphasize that Design Thinking techniques can be used to develop and reengineer not only products (in the usual sense, as a product or service), but also in principle technology of activity as such (processes). The authors showed how CJM, HWM, Current-Future-Barriers, etc. can be included in the reengineering process. The presented examples of the use of Design Thinking techniques for the design of business processes can be detailed after clarifying the specifics of a particular project, supplemented by other Design Thinking techniques.

Keywords: Process Transformation, Design Thinking, Visualization, Human-Centered Approach, Employee Experience

1 Introduction

In the last decade, there has been an adjustment in process thinking, an emphasis is placed on customer-oriented processes that adapt to changing business conditions. In addition, more and more attention is paid to the study of the activities of knowledge workers (knowledge-intensive work) involved in the generation of value for consumers.

Of particular interest in this regard is the synergy of proven time-tested techniques and approaches for continuous improvement and process transformation, on the one hand, and design thinking approaches, on the other. The “Design Thinking” approach implements “Human-centered design” (HCD).

Design thinking techniques can be used to develop and reengineer not only products (in the usual sense, as a product or service), but also in principle the technology of activity as such (processes). In the context of this study, the product is an improved business process, the user of the business process is the consumer and client.

Currently, one of the new directions of the Design Thinking approach has been the optimization of the company's business processes for the needs of employees (Employee Experience or EX Design). This is a completely new way to look at the personnel management process from within, to identify gaps in existing business processes for the correct and convenient work of a person in an organization. This has a positive effect on reducing and completely eliminating the risks associated with the so-called human factor. To quote D. Norman: “The blame for most of the disasters is attributed to human error, which in almost 100% of cases was the result of poor design” [1].

The modern leader understands that the working environment and human-centered business processes create a good psychological climate, which determines how the employee will be able to solve tasks, get business results, manifest and be focused on developing his talents. That is, everything that is embedded in the concept of Employee Experience. Thus, introducing the design thinking approach into its activities, SAP builds relations with the employee in such a way that the employee becomes a partner, part of the company's system. Thus, the focus is not so much “on the role of the employee in the life of the company, but rather on the role of the company in the life of the employee” [2]. German Gref, the head of Sberbank of Russia, considers staff as internal customers, thereby emphasizing the importance of creating a favorable “Employee Experience” for successful results in their work.

2 Continuous process improvement and process transformation

Continuous improvement is an approach to improving the operational processes of an organization, which is based on a continuous analysis of operations in order to identify problems, as well as identify sources and methods of reducing costs, areas of rationalization and other components of optimization. As part of continuous improvement, they evaluate and monitor effectiveness, in other words, try to identify, describe, measure, analyze and regulate business processes. In this way, an up-to-date list of opportunities for improvement and the associated pool of projects for optimizing the activities of the organization are formed and maintained.

Six Sigma, Lean production, Lean manufacturing, Kaizen and other well-known methodologies offer a wide range of techniques, the use of which can help improve the quality of products, processes and management systems.

Process transformation (reorganization, reengineering) [3-5] involves a fundamental rethinking of processes. First of all, transformation is aimed at end-to-end processes. It involves bringing processes, metrics, business functions, technologies, elements of the

organizational structure in line with the strategic goals of the organization and its tactical tasks for the essential (sometimes they mention one of the definitions from the term “business process reengineering” [3], introduced by M. Hammer and J. Champy, the “cardinal”) measurable increase in the value of a product / service for a consumer. At the same time, it is assumed that innovations, new concepts, technologies will be introduced into everyday work, new opportunities will be revealed for process improvements, etc. It is believed that in the process of transformation, no idea will be left without consideration, no proposal will be rejected (the exception is incompatible with the law, financial capabilities and company policies). Improvement with this approach is not a goal, but a consequence of a radical revision of views on the process.

Transformation and continuous improvement must change the culture of the organization, create partnerships between management and staff to ensure the success of the changes. Transformation-level projects should use information systems of the BPMS class and be based on the Business Process Management (BPM) approach. The end of transformation is the beginning of a cycle of continuous improvement of business processes that underwent transformation (see **Ошибка! Источник ссылки не найден.**).

There are feedbacks in the figure. The feedbacks 1 and 2 mean that the testing of the new process was unsatisfactory, therefore, redesigning the process or even adjusting the goals of the transformation is required. Feedback 3 is possible in the situation when the completion of one transformation project initiates the start of the next transformation project. However, after a satisfactory completion of the transformation process project, continuous process improvement can take effect.

One of the capacious stages of the process transformation is process design. A simplified process design scheme usually includes a description of the business context, design of the internal structure of the business process, and planning of a business process implementation project.

The Business Context Description step may include the following actions.

- Brief description of the company;
- Definition of the company's mission;
- Analysis / formation of the strategic goals of the company (with the allocation of one or more goals, the implementation of which will be carried out by the designed business process)
- Naming a business process;
- Identification of the consumer of the business process and its requirements;
- Determining the value of the output of a business process for the consumer, determining the target characteristics of the output of a business process (ideally: specification of outputs);
- Collecting initial values of indicators of efficiency and effectiveness (if we are talking about transforming an existing business process);
- Defining the characteristics of the inputs of the business process necessary to obtain the required output / outputs (ideally: specification of inputs);
- Defining the events that trigger the execution of the process;
- Analysis of existing regulations, external and internal policies and rules that impose restrictions on the design and execution of a business process.

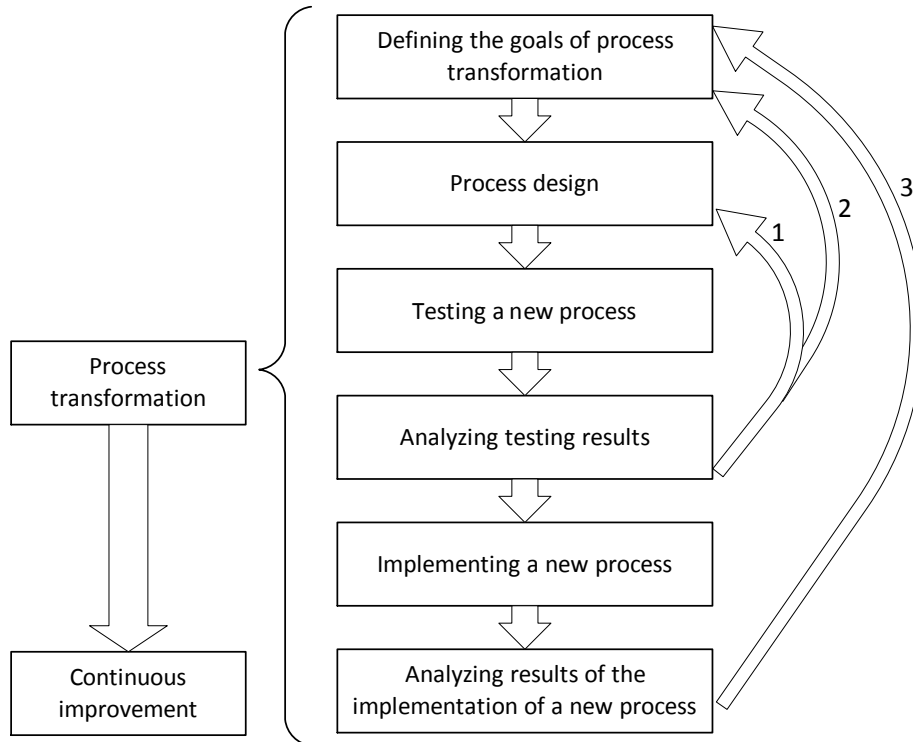


Fig. 1. Stages of the process transformation

The stage “Designing the internal structure of the business process” may include the following actions.

- Definition of actions that make up the business process;
- Definition of tangible results and artifacts created during the process and the states through which they pass;
- Definition of organizations, functions and roles involved in the implementation of the process;
- Definition of information systems involved in the process;
- Definition of the places of the performed actions and storage places related to the process of material results and artifacts;
- Identification and indication of specific events that affect the execution of the process;
- Definition of business rules restricting the execution of the process;
- Creating a list of business process metrics with target values, as well as indicating the frequency of collection of actual values and measurement points.

When performing the “Planning a business process implementation project” stage, it is necessary to analyze the need to include the following actions in the implementation plan.

- Creation of new roles and powers or modification of existing ones;
- Creation of new or restructuring of existing functional units;
- Development or refinement of information systems, including automation of business processes;
- Development and implementation of ancillary tools, such as standards, instructions, and manuals;
- Opening of new channels and points of interaction with customers;
- Creation and implementation of monitoring tools for indicators of efficiency and effectiveness of the process, dashboards for monitoring, as well as escalation mechanisms.

3 The Design Thinking approach

The Design Thinking approach, actively promoted as a practical tool and scientific discipline by the Hasso Plattner Institute (SAP) and d.school (Stanford), is aimed at creating a product or service that is in demand by the consumer [6-10]. The DM process includes phases such as empathy, focus, idea generation and selection, prototyping and testing. The key positions of design thinking are associated not so much with the generation of ideas as they are aimed at structuring intellectual personal and collective work. Design thinking forms the design consciousness of the working group. Design thinking in Russia has already been introduced as part of the management process at Alfa Bank, Sberbank, Promsvyazbank, etc. and telecommunications companies. For 4 years now, we have been teaching the methodology of design thinking of IT specialists and university professors in continuing education programs at the Financial University, as well as conducting classes on undergraduate and graduate programs.

SAP, P&G, IBM and Cisco integrate software development and design thinking throughout the organization, creating their own frameworks, training employees at all levels, hiring professional designers and design researchers, and acquiring design companies to work on large-scale projects. Cisco was the first company to launch a non-technical HR hackathon in 2016. For many companies, design thinking is becoming the basis for the formation of a new corporate culture and corporate thinking necessary for digital transformation.

The tools included in the process of design thinking develop empathy, logic, imagination, intuition and system thinking, the ability to organize and direct collective co-creation, and engage practical thinking. Many of the previously developed collective creative approaches and methodologies, known from the works of prominent world scientists [11-15], are included in the package of techniques and tools for design thinking.

4 Design thinking for process transformation

Design thinking techniques can be used to develop and reengineer not only products (in the usual sense, as a product or service), but also in principle, technology of activity

as such (processes). After all, all participants in the project team primarily work with the creation and restructuring of processes, designing the optimal organizational structure, etc. In the context of this study, the product is an improved business process, the user of the business process is the consumer and client.

Companies, in the face of ever-increasing offers in the field of consulting, need to pay special attention to flexibility and innovation, and, most importantly, to understanding the needs of customers. This understanding is developed by the project team through a phase-structured process: Empathize, Define (Point-of-View), Ideate, Choice, Prototype, Test.

4.1 Modeling «AS IS» и «TO BE»

At the process simulation stage, the following Design thinking techniques can be recommended.

1. Guerrilla Ethnography, including «Fly on the wall», «Shadow», «Moccasins», co-design, foto and video-ethnography, participant observation in the context
2. In-depth interviews using the well-known 5 Why & How, including the one included by Eric Ries in the Lean Startup Methodology [16], as well as using the “5W” questions technique, which begin with the keywords: «Who, What, Why, When, Where».
3. Analysis of personal belongings.
4. The Triad method used to compare the process with two similar ones. Thus, the differences between one desired process and the other two are better revealed, a more complete description is given, and emotions are determined that give the key to a possible correction of the process’s failures.
5. Visualization of the user profile through Empathy Map and Customer Journey Map, CJM. При исследовании пользовательского опыта или опыта персонала изучают всю цепочку действий, стараются понять, какие эмоции при этом испытывает участников процесса, определяют болевые точки и пути их исправления. When researching user experience or personnel experience, they study the whole chain of actions, try to understand what emotions are experienced by the participants in the process, determine pain points and ways to correct them.
6. Service Blueprint – this is an extension of the customer experience chain through a structural description of the service. The service card not only describes the actions of the client, but the visible and invisible actions of the service provider in relation to the client, reflects the nature of the support of the business system, including IT infrastructure, identifies the bottlenecks of the business process, and evaluates the processes under study: what is important? where can one be mistaken? where are the risks? [17].
7. Employee Experience Journey Mapping (EXJM), as one of the tools for identifying gaps in existing business processes, will allow the manager to understand whether the employee is realizing his talents and abilities, whether he is developing, or setting new goals for himself.

8. «Matrix of positive and negative experiences» - in this canvas it is convenient to record and analyze the results of the interview. As a result, the user profile is determined and the pain points of the business process are identified.

4.2 Modeling «TO BE»

At this step, the POV question is formulated using and technique «How Might We» (HMW). The vision of the situation is determined, a detailed description of the problem is given, and the main direction for finding a way out of it is highlighted.

4.3 Transition to the target state

The Current-Future-Barriers method, which defines ways to remove obstacles and barriers between the current problem (the present) and the ideal product (the desired future state), will allow discussing the possibility of implementing the chosen idea.

4.4 Definition of key performance indicators, KPI

The stage of describing the business context in the framework of the design of the business process allows you to examine and fix the context of the business process. At this stage, such artifacts can be created as the Organization's Goal Tree with the allocation of a strategic goal / goals, to which the projected business process is aimed, as well as the expanded table "Balanced Scorecard", which includes the following columns: name of the strategic the personal goal that the projected business process aims to achieve; name of the metric; current metric value; the target value of the metric, a list of activities that contribute to the achievement of the goal (achievement of the target values of the metrics).

To evaluate and select the best design option (hypotheses), the "Effort-Effects" Matrix can be built. Then the teams proceed to create a prototype of the key idea, which received the maximum estimates by the criterion of efficiency and the minimum estimates by the criterion of costs. Each of the steps of the case suggests that designers, having tested the hypothesis, can at any moment make a turn ("pivot" [16]) to other ideas.

To test the viability of innovative proposals, an analysis can be performed using The Venn diagram of "Sustainable solutions". It reflects the basic principles of innovation development: it must be in demand by people, feasible from the point of view of technology and cost-effectiveness.

4.5 Testing the hypothesis for process improvement

The phases of design thinking "prototyping" and "testing" allow you to work out the idea developed in the research process on a layout, in an esque or script. At these design phases, an experimental test is carried out with the help of users of the business process involved for this purpose. Testing is best done on the principle of "The World Café"

(rounds of 5-10-15 minutes). This will allow project participants to collectively highlight the strengths and suggest weaknesses of the hypotheses discussed.

5 Conclusion

Over the past decade, experts have noted the importance of adjusting processes in terms of focusing on a person (client, user, company employee). This need is caused by the need for quick adaptation to the rapid change of technology and business conditions. Therefore, the company must take in its arsenal new approaches to management, process design and development of innovative products. Of particular interest in this regard is the synergy of proven time-tested techniques and approaches for continuous improvement and process transformation, on the one hand, and design thinking approaches, on the other. Design thinking techniques can be used to develop and reengineer not only products (in the usual sense, as a product or service), but also in principle the technology of activity as such (processes). After all, all participants in the project team primarily work with the creation and restructuring of processes, designing the optimal organizational structure, etc.

Further development of this study may include: 1) expanding the scope of the Design thinking approach to all stages of the process transformation; 2) the formation of recommendations for the formation of a pool of Design thinking techniques, depending on the context of the process transformation project.

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