

# **SCRUM-TECHNOLOGY IN THE MANAGEMENT OF MARKETING ACTIVITIES OF CONSTRUCTION ENTERPRISE**

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In modern conditions of conducting construction business, when the speed of decision-making and customers' satisfaction are the defining value, the operational teamwork of the enterprise, the use of the latest construction technologies, the use of Internet communications and the like gains more and more importance in the management.

The author of this work consider the management of marketing activities of construction enterprises as a process of the management of business entity of the construction sphere with the aim of achieving commercial results by the satisfaction of consumers' needs of the construction market through development and implementation of relevant production concerning existing demand [1].

Therefore, we believe that the timeliness of realization construction projects and compliance with customers' expectations depends on the qualified management of marketing activities of the enterprise. The leading place in this process is occupied by well-coordinated teamwork of employees. To solve this problem, special attention should be paid to different approaches to production and support of functionally complex products, which are building structures and constructions. One of the approaches, that deserves special attention of construction enterprises, is Scrum-technology.

Scrum is not a process, a technique, or a definitive method. It is rather a technology that allows a variety of processes and techniques to be applied. Scrum demonstrates relative effectiveness of the individual way of product management and work techniques, encouraging enterprise's management to continuously improve product, team and work environment [9].

Scrum is considered to be particularly effective for iterative and incremental knowledge transfer. Therefore, in today's market environment, Scrum is used both for the development of software and hardware, built-in software, networks of interactive functions, autonomous control machines, and for the support of complex construction projects, including the management of marketing activities of construction enterprises.

The essence of Scrum-technology lies in a small team. A small team is extremely flexible and adaptive. The benefits of Scrum exist not just for one small team, but for several or many teams, or even networks of teams that develop, produce, operate, and support work and results of thousands of people. They collaborate and interact with the help of smart architecture, development and release environments.

Scrum-technology is based on the theory of control of empirical process or empiricism. Empiricism asserts that knowledge comes with experience, and decision-making must take place on the basis of what is already known. Scrum uses an iterative, incremental approach to optimize predictability and risk management.

Scrum-technology focuses on constantly defining of prioritized tasks based on business goals, which increases usefulness and profitability of the project in its early stages. Since it is almost impossible to determine profitability of the project at the initiation, Scrum-technology offers to concentrate on the quality of development and by the end of each iteration to have an intermediate product (a separate stage of object creation), which is already valuable and can be used, even if with minimal possibilities.

Scrum-technology is oriented on a quick adapting to changes in requirements, which lets team quickly adapt the product to the needs of the customer. This adaptation is achieved by obtaining feedback on the results of the iteration: having a product after each iteration, that can already be shown and discussed, it is easier to collect information and make the right adjustments, change the priorities of requirements. That is, at each individual stage of construction, the object is viewed

by the customer and the team of the construction enterprise, details and possible additions, changes in the project are discussed, and appropriate updates are made.

Scrum-technology combines such components as: Scrum Teams with corresponding roles, events, artifacts and rules. Each component has its own purpose and is the key to success and use of Scrum-technology.

Roles in Scrum system for construction enterprise are:

1. Product owner is a representative or trustee of the customer. The responsibility of this employee is to provide product requirements in a timely manner, determine release dates and content, effectively manage priorities and adjust requirements to maximize the return on product investment.

2. Scrum master is one of the members of the development team, who participates in the project as a developer. The responsibility of the Scrum master is ensuring of maximum efficiency and productivity of the team, clear interaction between all project participants, a timely solution of all problems that slow down or stop the work of any team member, protecting the team from all external influences during the iteration and ensuring of compliance with the process by all project participants.

3. Scrum-team is a group consisting of 5-9 independent, initiative programmers. The responsibility is to participate in the selection of the iteration goal and determine the result of work [7].

The construction enterprise's Scrum events include four formal meetings (events) to test and adapt each stage of product manufacturing: • Sprint Planning • Daily Scrum • Sprint Review • Sprint Retrospective.

The value of Scrum Artifacts lies in the transparency of the workflow and the ability of verifying and adaptation. Scrum-defined artifacts are specifically designed to ensure maximum clarity of key information and that everyone has a common understanding of the artifact. The main artifacts are:

- Burndown chart displays the completed sprint. It shows remaining unsolved tasks and labor expenditures required to complete them per 21 working days.

- Project backlog is a list of functionality requirements, ordered by their degree of importance to be implemented. The items in this list are called user stories or backlog items. Project backlog is open for editing for all participants of the scrum process. Project backlog is maintained by SCRUM Product Owner.

- Sprint backlog contains functionality selected by a product owner from the project backlog. All functions are divided into tasks, each of which is evaluated by the scrum team.

- Kanban Board must consist of at least three columns: “To make” (eng. to-do), “In progress”, “Done”.

- Sprint Goal is a brief description of business purpose for which this sprint is performed. The sprint goal helps team to make business-informed decisions. This artifact is necessary for a project team to be able to make their own decisions in the event of alternative solutions to the business problem.

- Product Increment is the finished product at the end of the sprint. It is shown to those who are interested at the demonstration to gather feedback and decide what to do with the product next.

Scrum rules link roles, events, and artifacts, regulating interaction between them. [7]

Three basic principles underlie the implementation of control over the empirical process of Scrum-technology of construction enterprise: transparency, inspection and adaptation.

The authors believe that Scrum can be used to organize a team of a construction enterprise and achieve result more productively and with higher quality by analyzing the work done and correcting the direction of development between iterations. The technology allows the team to select the tasks need to be performed, taking into account business priorities and technical capabilities, as well as to decide how to implement them effectively. This allows to create the conditions under which the team works with pleasure and is maximally productive. For example, the ability to independently choose the sequence and volume of work, as well as ways of solving problems without external pressure allows all

employees of the construction enterprise permits to feel like active players involved in the process, rather than simple performers, from whom only a clear implementation of orders is required.

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