

# Marketing and Product Development Interaction in Innovative Startups

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## ABSTRACT

The article is devoted to the study of modern marketing concepts related to innovative products. Modern marketing theory for innovative start-ups is underdeveloped. There is no sufficient basic tools in marketing, without which it is difficult for start-ups to know what to do to achieve success for any startup. Nowadays, practice is the main direction of startups development. At the same time, theory generally states and explains the principles based on realized cases. The proposed article analyzes approaches concerning interaction product development and marketing of innovative startup. It is shown that at various stages of start-up preparation and implementation, entrepreneurs need to know in advance what to demand from marketing at current stage and what to be ready for at the next one. At each transition of one stage to another, marketing should be fundamentally rebuilt.

**Keywords:** *innovation, startup, customer, marketing, product*

## 1. INTRODUCTION

The object of this analysis is marketing regarding processes of preparation and launch of innovative product startups.

Marketing problems, concerning bringing innovative products to market, are very important and critical. There is an actual task to understand the potentiality of making in practice modern marketing principles.

Success or failure of any startup depends on a large number of factors: having a real good idea; a startup team and organization of its work, technological and resourceful opportunity to implement innovations into the product; necessary financial resources; availability of sales channels; existence of customers sufficient number, ready and able to accept a new product; the ability of entrepreneurs to attract and retain partners. All these factors are necessary, but unfortunately, insufficient ones for success of startup. It is fundamental the way marketing is applied. Marketing problems, concerning bringing innovative products to market, are very important and critical. There is an actual task to understand the potentiality of making in practice modern marketing principles.

Startup is developing according to a certain logic way. Any startup must go through the following specific stages: PreSeed; Seed; Launch as an actual start of sales; and further development.

Before the actual start of sales there are difficult moments, which quite often do not allow to bring a good idea to a logical conclusion in the form of a market product. During the process of innovative product development, it becomes often a subject to in-depth refinement and gradual improvement to an acceptable type by future consumers.

Changes in the vision and actual content of the product occur in critical transitions: from idea to prototype; from it to MVP to start sales, from first sales to growth and further to market niche; this niche development and further scaling by expanding the product line. At the same time, the main efforts of entrepreneurs are applied firstly to technology development, then to product creation, and furthermore to the market and organization of the company work. Each transition is accompanied by the need to reconfigure marketing tools to subsequent stages of the project. All critical moments of innovation startup development are strongly correlated with the need to significantly modify marketing actions.

In this study we adhere to the provisions of the Oslo Manual 2018 Guidelines for collecting, reporting and using data on innovation, according to which innovation is contained in fundamentally new products, in products new to the market and the company, in production technology, in ways of using the product by consumers, in business organization and marketing methods.

### 1.1. Related Work

The disclosure of the declared topic forces to rely on three scientific and methodological sources: practice of start-ups implementation, theory of innovation and theory of marketing innovation.

### 1.1.1. *Basics of marketing for startup*

According to the ideas of J. McCarthy [25] and Borden N. H. [6] who offered the concept of marketing mix, F. Kotler "packed" these principles into the model of «4P» [20] which was subsequently developed by him. Lately, this model was adapted to be used in different markets.

In 1990 an article of B. Lauterborn [24] was published, which gave impetus to development of consumer priority. In this work the author introduced his own «4C model». This concept was lately developed by E. Frederick and Webster Jr. [14]. As a result, an "alternative" classical model has been offered, that focused on the consumer. This pattern can be presented as a priority of orientation on consumer demands, creating a product that focuses on consumer values and needs. The «4C» model "mirrors" reflects the principles of «4P» [34], but at the same time the priority is left to the consumer.

F. Kotler mentions the R. Lauterborn model in the context of the need to understand better consumers [19]. His model, the New-Product-Development Decision Process, is suitable for just new products in known categories. It does not include any proposals for innovative solutions. Later in the works [22, 3] the authors made efforts to focus on consumers. The result proved to be important, but little attention was paid to consumers of innovative products.

We may stress that a full-fledged marketing model has not been offered for innovative start-ups. The use of the «classic nP» complex in such cases requires different interpretation. In any case, it is obvious that its simple transfer to the sphere of innovation marketing and high technologies is impossible without reservations and significant restrictions.

Several authors made efforts for adaptation of the marketing concept in the field of high-tech and innovative products [8,15, 31]. W. Davidow made an important conclusion that technological marketing and its variety of high-tech marketing are fundamentally different from other types of marketing [12]. Unfortunately, the author did not propose a workable model for high-tech products.

G. Moore went ahead and built his high-tech marketing model. It is based on the principle of changing consumers while changing the stages of the technology and product lifecycle [27]. The author believes that high-tech marketing represents a set of certain actions intended for a strictly defined group of consumers. This is a very important conclusion for the present work.

### 1.1.2. *Theory and practice of innovative startups*

The above shows significant differences in the application of marketing principles for traditional and innovative products. Practicing entrepreneurs try to make up for the lack of startup marketing scientific concept. Authors of numerous works on innovative start-ups focus on the practical side of what innovation companies and entrepreneurs can and should do [9, 17, 26, 28].

A comprehensive approach in the implementation of startups is presented in the works of well-known startupers [1, 2, 4, 5]. Steve Blank concentrated on the practical

focus of start-ups in marketing [4]. He developed and tested the model of startup development on own experience.

S. Blank with B. Dorff created the most complete startup guide [5] focusing on the technology of marketing support regarding any project from idea search to product line development [10,11]. However, despite the undeniable usefulness of their recommendations, the latter remain practical advice without scientific and methodological justification.

## 1.2. *Our Contribution*

Going sequentially through stages of development, the startup product on each of them has its own specific features. We need to take it into account in marketing activities.

The startup stages together form common regularities of their relationship. Every stage has very clear efficiency indicators, at which there is a natural transition from the previous stage to the subsequent one. As to idea, development, introduction and development of innovative products, their analysis showed the objective need to apply specific marketing actions and adequate situation at each stage of any startup.

Startups have to "constantly hold their hand on the pulse", in other words, they must respond flexibly to the actual behavior of consumers and, if necessary, to respond quickly to their demands by refining the product.

## 1.3. *Paper Structure*

This article provides a step-by-step analysis of the stages for innovative startups. The stages of preseed, seed and launch are considered sequentially. In accordance with our conclusions about the fundamental difference in the markets of each stage [35], we propose a marketing package for the startup product at each stage. It is proposed to rebuild marketing tools when moving from one stage to the next. It is shown how the requirements for marketing tasks change in the process of product development.

## 2. BACKGROUND

This work proposes a concept that can be used in marketing startups of innovative products, including high-tech ones [34].

An important prerequisite of the proposed work is the result of our study, which shows that the startup in the process of its development is consistently moving from one market to another [35]. We have found that each stage of the startup corresponds to a particular market situation, which causes the need to take into account the nature of market forces and different types of consumers. And,

therefore, for each of them it is necessary to choose proper marketing tools.

The market change should «reconfigure» the entrepreneur for new marketing goals and tools. The startup team has to change the principles of marketing during implementation of work. At the startup stages, entrepreneurs interact with unique consumers. This fact requires special competences and understanding of the fundamental marketing possibilities, a clear idea of what can be obtained, and what cannot be used. For the startup team it is difficult and very painful to be adapted to new forms of marketing organization. Often the entrepreneur is forced to put most of the work on his own shoulders. In order to reduce risks and uncertainty it is necessary for startup to plan in advance the subsequent marketing activities.

The proposed solution points out, in the fact, that marketing approaches should be applied selectively and reasonably for different stages of an innovative startup. Since the startup goes through several sequence specific stages of development, a specific marketing mix must be selected for each phase.

Let's look at the first three stages of the startup, because they are very important for marketing activities [2, 4].

### 1. Evaluation of market prospects and formation of product concept at the PreSeed stage.

At this stage, any entrepreneur has a task to understand whether the found product idea is of interest to the market, what is the potential volume of sales, readiness of infrastructure for it. He must comprehend whether there is a prospect of technology development, what are future consumers of the product, and whether their quantity is enough for payback. Marketing focuses on forecast activity based on current market understanding. Experience shows that many startups do not understand often the state of the market at the moment, they do not find it necessary to study the current offer of analogue products. Startups do not compare existing products with its substitute ones.

The search for answers to the posed questions is based on marketing research and predictive analytics. Therefore, marketing of this stage can be defined as forecast-analytical one. The main task of the stage is to "look into the future."

### 2. Development of product concept, production and testing of prototypes at Seed stage.

At this stage of the startup developers, in the person of designers, engineers and technologists, should make sure that the idea of a new product is feasible. Ideas and concepts are tested on prototypes. At the same time, marketers are involved together with developers, who concentrate on identifying key signs of future potential buyers; they try to penetrate the thinking and attitudes of consumers, test the product with them, and they determine the consumer values, which the new product must meet (Moore G., 1995). The startup team fills the product with functional and consumer qualities, it improves key characteristics. Then the team brings this product to implementation in MVP format [13].

The essence of the Seed stage work makes customer the principal character. He is required to get answers how he

assesses the product, whether he will need it. The customer has to decide if he is willing and how much he will be able to pay for this product. At this stage some experts even prefer to determine price of the future product [29].

F. Kotler and his co-authors call consumer the main element [22]. It largely applies to the consumer of an innovative startup product [37].

It has been proven, that marketing becomes almost effective when there are enough empirical facts about the characteristics of customers, users of the innovative product and their behaviour patterns. But at the Seed stage, there are no consumers, there is only a general idea of the startups how they should be. What we can do? The circle is closed and there is no way out, isn't it?

E. Rees, S. Blank, B. Dorf, S. Alvarez and other authors say «no». They took advantage of an alternative model of «consumer development» [1, 5, 30].

The main task of consumer development is to find and verify problems, as well as latent or implicit needs, which consumers want to meet. These customers are ready to accept risks of innovation and are able to pay for it. Finding a need is not an easy task, it is like finding a needle in a haystack. The process of consumer development involves the search and analysis of innovative product potential buyers. This process is implemented in the form of successive iterations as to definition, assessment and description of consumers.

When consumers are discovered and when an innovative product is able to meet their value, there is a real chance to introduce it to market. S. Anthony and his colleagues compiled a guide for innovators [2], focusing on the analysis of innovative products potential consumers and non-consumers.

After discovering the prospects of the innovative product, marketers begin to prepare support of the sales start, selection and justification of its price. They prepare various communication actions with buyers. Marketing specialists carry out support of sales channels.

### 3. Preparation and innovative product sales start at the Launch stage.

Preparing the sales start of testing product, the marketer draws up a profile of potential innovation buyers, he launches a complex of promotion and communication campaign with them. Marketing specialist organizes work to support sales. To implement such activities, a necessary set of marketing tools is being prepared. Marketing mix is being developed, that adapts conclusions regarding exploration of potential consumers as well as specific MVP promotion activities with a selected price.

It is strongly necessary to develop the marketing mix only when the startup team has clear ideas about the product, and therefore about the consumer. It is premature to develop marketing tools when the product does not exist [30].

In the future, the marketing mix will change, improving, adjusting to its actual consumer, contributing to the formation of a full viable market product [21]. This product will be adapted to the real needs of consumers. Market statistics will be collected, data on real buyers and consumers will be accumulated.

In case of startup market success and its further development, there is a need to use full-fledged marketing mix, which includes such factors as attributes of planning, careful selection of performers, integration of all processes in the company, and their realization. Therefore, isolated marketing solutions of early startup stages are combined in the form of targeting, planning, execution and control of results reachability. But it can be done only when success of the startup becomes obvious, and sales show a trend of confident growth.

The above analysis allows to offer a combined concept of innovative startup and special marketing, the consistent and natural change of which is due to the process of the startup development. A specific marketing model is used for each stage. The first model is of forecast and analytical type, it is oriented to identification of the market prospects on which the startup is planned. The second model is aimed at understanding the consumer; it uses a complex of «4C» to identify potential consumers of the future product. It develops the consumer and contribute to the development of a valued offer. The third model is aimed at development of practical solutions on marketing mix, and it is implemented in preparation and launch of the product in MVP format. In the future this marketing mix is changing, as the startup will be "trained" in the process of real sales. Actual sales should help the start-up to find consumers, which will be different from customers-innovators [5, 36].

The following Table 1 represents marketing activity scheme regarding creating an innovative product.

**Table 1 Connection of innovative product development stages**

Development and internal testing		Sales and external testing	
Prototypes	Alpha-testing	Beta-testing	Product upgrade
Proof of concept, demonstration of capabilities	Limited audience testing, often by proper employees	Testing on customer innovators	Upgrade of product and introduction of changes into its consumer properties

Innovative product development uses principles, successfully introduced in other fields. In the marketing of goods and services startups we can find much in common with marketing approaches concerning IT-products. In particular, the technique of SCRUM is similar to Seed stage marketing. It is based on similar principles of making changes to the designed product and their rapid testing in time-limited terms. This stage of startup preparation is characterized by use of multiple sprint

iterations (sprints), which are described for the information product in the article of Knapp J., Zeratsky J. and Kowitz [18].

Kanban is widely considered as a methodology for both «Lean» [30] and «Agile» development management [7]. The symbiosis of these methodologies is the Scrum [23] hybrid of Scrum and Kanban, which focuses on iterations that require flexibility and rapid implementation of new product proposed ideas. What matters are that this approach is implemented by an empowered team, which can include developers, marketer, designer, and possibly someone else. At this stage, teamwork is essential for the effective development of an innovative product.

The terms «lean» and «flexibility» are often used as synonyms, but in fact, they have different meanings. The term «Lean» is used in the context of improving efficiency of the development process. «Flexibility» is focused on speed of development and testing. «Lean» concerns adaptability of product development as well, which is based on an iterative approach, using multiple changes and taking into account feedback from customers. Both approaches complement each other.

According to S. Brinker [7] marketing duplicates flexible and high-speed principle, which the author calls «Agile-marketing». Thus, similar to IT developments, the term «Agile marketing» can be implemented to characterize the Seed stage of a startup.

At the PreSeed stage the benchmark of predictive marketing indicates need for a future product. The next phase of 4C-Agile marketing is responsible for developing the consumer value of the product. At the stage of marketing, consumer qualities of the product are formed in the minimum volume in accordance with the requirements of MVP format. The success of the product launch requires marketing to develop strategy for successful growth startup.

### 3. CONCLUSION

We focus our attention on the fact that the startup team reconsiders its marketing work at every stage of innovative startup realization. We need to recall the classic phrase that "developers make an item, but marketers make a product." It is to understand explicit and latent needs that marketing tools are set up.

One of the promising direction of development is empirical marketing [16]. Behavioristic, sensory, and neuro marketing are aimed at in-depth consumer study [32]. The irrational behavior of the latter does not allow them, with a sufficient degree of reliability, to receive their opinions and assessments of innovative products. Psychology and physiology make a significant contribution to understand the economics of life and consumer behavior. These three scientific areas are gradually being integrated. Empirical concepts, especially neuro marketing, are best applied to the study of innovative products customers [33].

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