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Reducing startup launch risks through digital demand validation prior to investment attraction

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Abstract. Purpose. *The purpose of the study is to provide a theoretical substantiation of digital demand validation as an instrument for reducing startup launch risks prior to the investment attraction stage, as well as to determine the role of digital marketing, data analytics, and growth hacking in testing market hypotheses.*

Methods. *The study employs analysis and synthesis to generalize approaches to startup digital marketing, a systems approach to examine digital demand validation as a component of startup launch management, comparative analysis to compare traditional and digital demand-testing instruments, the method of generalization to identify the causes of startup failure, as well as elements of behavioral analysis for assessing consumer responses in the digital environment.*

Results. *It has been established that digital demand validation enables the reduction of startup launch uncertainty through the analysis of consumers' digital footprints, testing of the value proposition, and assessment of market response prior to product scaling. It has been substantiated that social media, targeted advertising,*



influencer marketing, content strategies, and analytical platforms ensure phased demand testing and the formation of consumer profiles. The study proves that the integration of growth hacking, lean startup, and data-driven approaches improves the accuracy of managerial decision-making and enables startups to avoid misinterpretation of market signals, premature scaling, and inefficient resource allocation.

Conclusions. *It has been proven that digital demand validation is an important instrument for reducing startup launch risks, as it provides empirical verification of market hypotheses prior to investment attraction. Its application contributes to the rational allocation of resources, improves product alignment with target audience needs, and creates the preconditions for sustainable business scaling. Further research should focus on the development of integrated digital demand validation models based on artificial intelligence and data analytics technologies.*

Keywords: *startup, digital marketing, digital demand validation, growth hacking, targeted advertising, consumer demand, data analytics, startup management.*

Зниження ризиків запуску стартапу через цифрову валідацію попиту до залучення інвестицій

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Мета. *Метою дослідження є теоретичне обґрунтування цифрової валідації попиту як інструменту зниження ризиків запуску стартапу до*



етапу залучення інвестицій, а також визначення ролі цифрового маркетингу, аналітики даних і *growth hacking* у перевірці ринкових гіпотез.

Методи. У дослідженні використано аналіз і синтез для узагальнення підходів до цифрового маркетингу стартапів, системний підхід для розгляду цифрової валідації попиту як складової управління запуском стартапу, порівняльний аналіз для зіставлення традиційних і цифрових інструментів перевірки попиту, метод узагальнення для визначення причин невдач стартапів, а також елементи поведінкового аналізу для оцінювання реакцій споживачів у цифровому середовищі.

Результати. Встановлено, що цифрова валідація попиту дає змогу зменшити невизначеність запуску стартапу завдяки аналізу цифрового сліду споживачів, тестуванню ціннісної пропозиції та оцінюванню реакції ринку до масштабування продукту. Обґрунтовано, що соціальні мережі, таргетована реклама, інфлюенс-маркетинг, контент-стратегії та аналітичні платформи забезпечують поетапну перевірку попиту й формування споживчого профілю. Доведено, що інтеграція *growth hacking*, *lean startup* і *data-driven* підходів підвищує точність управлінських рішень, дає змогу уникати помилкового трактування ринкових сигналів, передчасного масштабування та неефективного використання ресурсів.

Висновки. Доведено, що цифрова валідація попиту є важливим інструментом зниження ризиків запуску стартапів, оскільки забезпечує емпіричну перевірку ринкових гіпотез до залучення інвестицій. Її використання сприяє раціональному розподілу ресурсів, підвищенню відповідності продукту потребам цільової аудиторії та формуванню передумов для сталого масштабування бізнесу. Подальші дослідження доцільно спрямувати на розроблення інтегрованих моделей цифрової валідації попиту з використанням штучного інтелекту та аналітики даних.



Ключові слова: *стартап, цифровий маркетинг, цифрова валідація попиту, growth hacking, таргетована реклама, споживчий попит, аналітика даних, управління стартапом.*

Problem statement. In the contemporary context of economic digitalization and intensifying competition in global and national markets, the process of creating and developing startups is accompanied by a high degree of uncertainty and risk. A significant proportion of startups cease operations at early stages of development due to a mismatch between the product and actual market needs, errors in identifying the target audience, and ineffective marketing strategies. Traditional approaches to demand research prove insufficiently flexible and responsive in a dynamic digital environment, which underscores the need to identify new instruments for testing market hypotheses.

In this context, digital demand validation acquires particular significance as a tool that enables empirical verification of product viability prior to the scaling and investment attraction stages. The use of digital marketing, big data analytics, social media, and targeted communications creates opportunities for rapid testing of consumer interest, assessment of audience behavioral responses, and product adaptation in accordance with identified needs.

At the same time, the absence of a systematic approach to digital demand validation, insufficient integration of marketing tools into startup management processes, and limited methodological support for evaluating the effectiveness of such instruments constitute a scientific and practical problem requiring comprehensive investigation in the context of reducing startup launch risks and enhancing their competitiveness.

Analysis of recent research and publications. Issues of startup digital marketing, the formation of innovative potential, the application of growth hacking approaches, and digital demand validation instruments as mechanisms for reducing



entrepreneurial risk are addressed in the works of O. Hlushchenko and O. Veriutin et al. [1; 2], R. Bohnsack and M. Liesner [3], V. Pysarkova [4], B. Rizvanovic, A. Zutshi, A. Grilo, and T. Nodehi [5], M. Cristofaro, P. L. Giardino, and L. Barboni [6], A. Rezazadeh, M. Kohns, R. Bohnsack, N. Antonio, and P. Rita [7], L. Verbivska [8], F. Scheuenstuhl, P. M. Bican, and A. Brem [9], S. Koberniuk, O. Nahorna, and I. Khmarska [10], as well as T. Eisenmann [11].

Highlighting previously unresolved parts of the overall problem.

Scientific research covers a wide range of issues related to startup digital marketing, growth hacking, lean startup approaches, and the use of analytical tools for testing market hypotheses. Considerable attention is paid to the role of social media, targeted advertising, influencer marketing, and digital platforms in promoting innovative products. However, the issue of using digital demand validation specifically as a pre-investment risk reduction instrument remains insufficiently systematized. In particular, further clarification is needed regarding how digital marketing tools, consumer behavioral data, and data-driven decision-making can be integrated into a coherent approach for verifying product-market fit before attracting investment and scaling a startup.

The purpose of the article is the theoretical substantiation of digital demand validation as an instrument for reducing startup launch risks prior to the investment attraction stage, as well as the identification of the role of digital marketing tools, data analytics, and growth hacking approaches in testing market hypotheses and improving managerial decision-making in startup development.

Methods. The study employs a set of general scientific and special methods, including analysis and synthesis to generalize scientific approaches to startup digital marketing and demand validation, a systems approach to consider digital demand validation as a component of startup launch management, comparative analysis to distinguish traditional and digital instruments for testing consumer demand, and generalization to identify the main causes of startup failure. The research also



incorporates elements of behavioral analysis aimed at interpreting consumer reactions in the digital environment and assessing the practical value of data-driven approaches for reducing uncertainty in startup development.

Presentation of the main material. In the context of the digital transformation of the economy, the startup launch process is accompanied by a high degree of uncertainty, which necessitates the use of preliminary demand validation instruments before the scaling and investment attraction stages. A distinctive feature of startups is their limited resources and time horizons within which the viability of a business idea must be confirmed, making the use of digital analytics platforms, marketing tools, and data-driven approaches particularly relevant. As O. Hlushchenko and O. Veriutin note, digital technologies today create new opportunities for hypothesis testing, consumer behavior assessment, and market demand forecasting, which enables a substantial reduction in entrepreneurial risks [1].

It should be noted that startups function as flexible organizational structures oriented toward the creation of innovative products with a high degree of adaptability to changes in the external environment. In this context, the concept of growth hacking serves as a key instrument for rapid business model validation and the formation of effective marketing decisions. According to R. Bohnsack and M. M. Liesner, growth hacking is based on the integration of marketing, analytics, and product development with the aim of achieving scalable growth through experimentation and rapid hypothesis testing [3, p. 799]. This allows startups not only to reduce promotional costs but also to optimize the product in accordance with the actual needs of the target audience.

A critical component of digital demand validation is the use of information and analytics platforms, which enable the collection, processing, and interpretation of data on user behavior, preferences, and product responses. The application of such platforms supports the formation of startup innovative potential, enabling evidence-



based managerial decision-making [4]. In turn, digital marketing expands communication capabilities with consumers by providing targeted audience reach and personalized offerings, which positively affects the speed of demand validation and improves business model effectiveness [5].

Marketing support for startups entails systematic study of the behavioral characteristics of the target audience, particularly early adopters, who play a key role in the product testing process. Their usage experience, feedback, and evaluation of product functional characteristics form the basis for further refinement of the business offering. The lean startup approach enables integration of the product development process with continuous market hypothesis testing, contributing to minimization of the risk of a product-market mismatch [9]. In this context, the ability of startups to rapidly adapt to changes in demand and promptly adjust marketing strategies acquires particular importance.

The conceptualization of startup digital marketing involves the formation of a multi-level instrumental system in which data analytics, automation, and artificial intelligence technologies serve as mutually reinforcing elements. The integration of generative AI into growth hacking practices expands the functional capabilities of marketing activity through content personalization, behavioral pattern forecasting, and dynamic campaign optimization [7]. This drives improvements in targeting accuracy and the effectiveness of startup communication with target segments.

Startups travel a time-limited path from idea to product-market fit, which necessitates the formation of a flexible marketing strategy oriented toward digital demand validation, consideration of consumer behavioral characteristics, and provision of future business scaling opportunities. This context justifies the identification of key directions in startup digital marketing within the framework of launch risk reduction (Fig. 1).

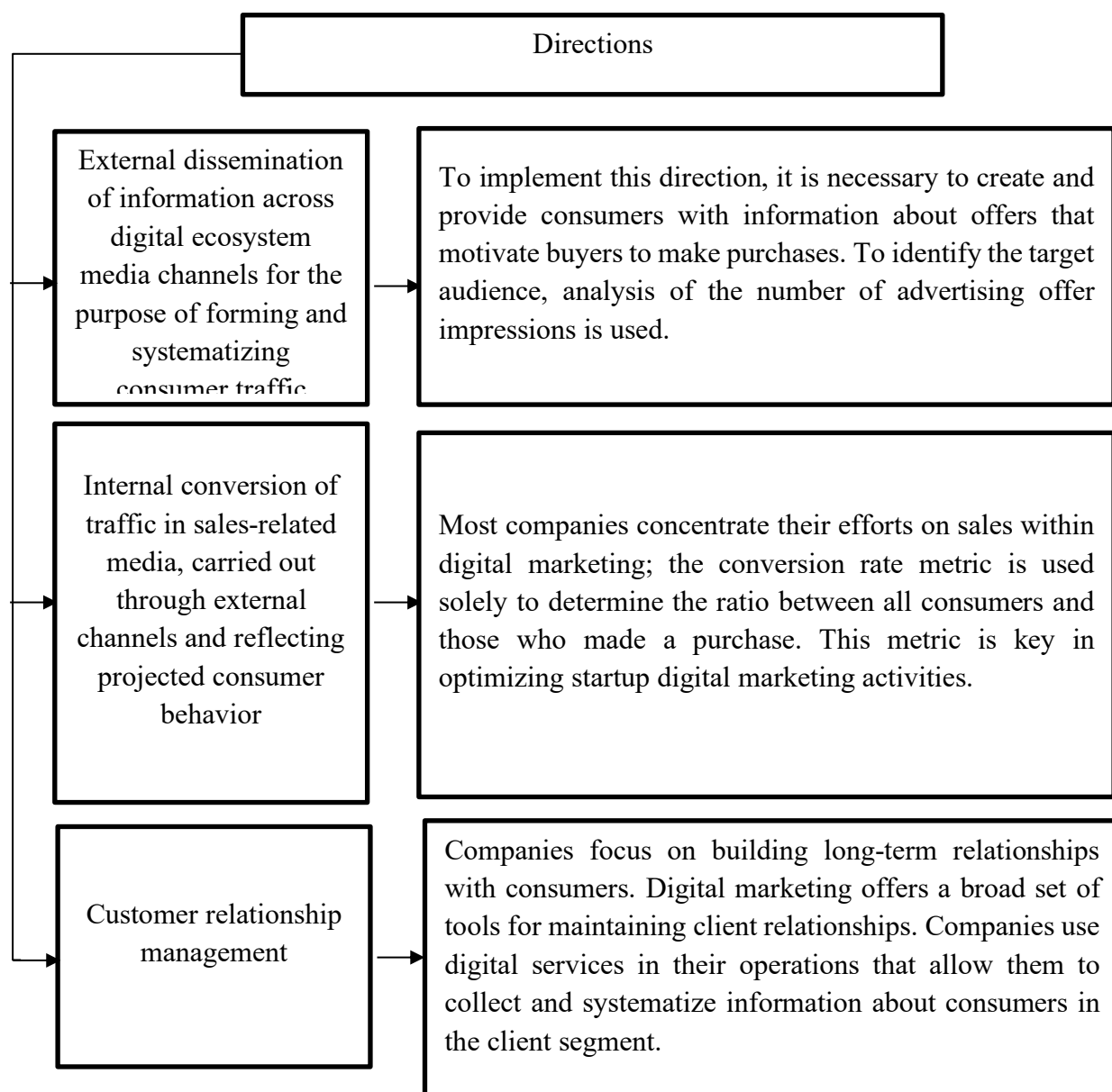


Fig. 1. Priority directions in startup digital marketing

Source: compiled by the author

Startup digital marketing in contemporary conditions fulfills not only the function of product promotion but also serves as a key instrument of digital demand validation, enabling risk reduction prior to investment attraction. The foundation of this process is the use of consumer digital footprints, formed as a result of online activity and reflecting actual needs, interests, and behavioral characteristics. Analysis of such data provides opportunities not only for audience segmentation but also for testing market hypotheses by examining consumer responses to a product or its individual characteristics, substantially reducing the likelihood of mispositioning



[6, p. 174]. In this context, a startup's image, particularly in the B2B segment, assumes significance as an instrument of primary trust that influences consumers' willingness to engage with a new product and participate in its validation [8, p. 275].

One of the foundational instruments of digital demand validation is social media, which enables not only communication with consumers but also rapid testing of marketing hypotheses through analysis of audience responses to content. The creation and distribution of thematic content provides the means to assess the level of interest, engagement, and readiness to interact with a product, forming an empirical basis for managerial decision-making. Social media thus functions not merely as a promotional channel but as a data collection instrument for confirming or disproving product demand [10, p. 89].

The use of opinion leaders holds significant potential in the digital demand validation process, as they contribute to building trust in the product and stimulating initial interest from the target audience. Engaging influencers allows for testing product perception through their audiences, which effectively serves as a mechanism for indirect demand validation. A positive audience response to opinion leader recommendations signals the potential market attractiveness of the product, while a low level of engagement may indicate the need for further refinement of the offering.

Analysis of consumer digital footprints on the internet enables the formation of a detailed target audience profile, identification of behavioral patterns, and forecasting of future demand. This approach improves the accuracy of marketing decisions and allows resources to be concentrated on the most promising segments, minimizing the risk of inefficient budget allocation. In this context, digital demand validation functions as a continuous process of data collection, analysis, and interpretation that is integrated into all stages of startup development [5, p. 126].

Targeted advertising plays a particularly important role in reducing startup launch risks as an instrument for experimental demand testing. By enabling precise audience parameter configuration and rapid results, targeted advertising allows for



testing of various value proposition variants, messaging, and consumer interaction formats. The resulting data on click-through rates, conversion, and engagement enable assessment of actual product interest prior to its full market launch, significantly reducing investment risks [2, p. 12].

The central objective of digital marketing instruments in the context of demand validation is the identification of emotional and behavioral consumer responses to a product, which enables not only adjustment of the marketing strategy but also adaptation of the product itself to market expectations, forming the foundation for subsequent startup scaling in a competitive environment.

The intensification of innovative enterprise activity is accompanied by a growing role for venture financing as a key source of startup support. Venture funds, corporate venture capital, business angels, and other private investors form an investment environment within which innovative projects are selected and scaled. At the same time, despite the availability of financial resources, startup implementation remains associated with a high level of risk, driven by economic, organizational, informational, and marketing factors. In this context, digital demand validation acquires particular significance as a risk minimization instrument at the early stages of startup development. In practice, however, startup promotion is not always successful, which necessitates a systematic analysis of the causes of startup failure (Table 1).

Table 1

Causes of unsuccessful startup implementation (based on T. Eisenmann)

Problem Name	Description
1. "False-Positive Results"	Misreading market demand signals: initial positive experience may be used as a basis for scaling, yet it fails to reflect the needs of core customers. The necessity of refining the product and educating clients generates additional costs, which may result in the commercial failure of the project.
2. "The Speed Trap"	Rapid growth of an innovative enterprise facilitates market capture; however, investors often encourage further expansion. Rising costs, shifts in pricing policy, and intensifying competition reduce financial stability, which may lead to a contraction of investment support.



3. "The Need for Support"	Startup development is negatively affected by limited financial resources and insufficient managerial competencies, particularly the absence of project management experience and investment program implementation skills.
4. "The Cascade of Difficulties"	Building partnerships with clients, investors, and other market participants requires additional organizational and technical measures and the introduction of new technologies. The absence of a clear action plan and adequate institutional support increases the risk of startup failure.

Source: compiled by the author independently

As can be seen, the digitalization of the economy drives a transformation in approaches to forming and implementing startup marketing strategies, wherein the integration of digital marketing instruments into the demand validation process plays a central role. The growth hacking concept, based on the combination of creativity, technology, and analytics, enables startups to conduct rapid hypothesis testing and make well-grounded decisions regarding further product development under conditions of limited resources. This approach ensures not only the optimization of marketing expenditures but also improved accuracy in identifying market opportunities, which directly contributes to reducing startup launch risks.

The development of digital technologies determines the transformation of startup marketing toward customer-oriented models grounded in systematic management of consumer interactions. In this environment, digital marketing fulfills not only a communicative but also an analytical function, enabling the collection, processing, and interpretation of data for comprehensive market research. This allows for the assessment of market conditions and the formation of well-grounded strategic development benchmarks, which in turn creates the prerequisites for integrating digital demand validation instruments into managerial decision-making processes. The use of data-driven approaches enables not only the identification of consumer behavioral and emotional characteristics but also the phased testing of the value proposition, communication channels, and product monetization models. This approach improves the accuracy of startup market potential assessment, enables timely identification of mismatches between the product and target audience needs,



and reduces the risks of inefficient resource utilization at the scaling stage, which is especially critical under conditions of limited access to investment and high competitive dynamics.

Conclusions. The present study has established that, in the context of the digital transformation of the economy, the startup launch process is characterized by a high degree of uncertainty, necessitating the application of preliminary demand validation instruments at the early stages of startup development. It has been determined that digital demand validation relies on the use of consumer digital footprints, data analytics, and digital marketing tools, which enable audience segmentation, value proposition testing, and assessment of market response to a product.

The study demonstrates that the integration of growth hacking, lean startup, and data-driven management approaches creates the conditions for improving the quality of managerial decisions and minimizing the risk of a product-market mismatch. It is established that the application of digital marketing instruments, specifically social media, targeted advertising, information and analytics platforms, and influencer marketing, enables phased demand testing and forms an empirical foundation for startup scaling.

It is substantiated that the primary causes of startup failure are associated with the absence or insufficient effectiveness of demand validation, specifically misinterpretation of market signals, premature scaling, resource constraints, and insufficient managerial competencies. It is determined that the implementation of digital marketing strategies oriented toward systematic consumer behavior analysis enables a reduction in the impact of these risks and improves the operational effectiveness of startups in a competitive environment.

Directions for further research should focus on the development of integrated digital demand validation models incorporating artificial intelligence technologies, the refinement of methodological approaches to evaluating the effectiveness of



marketing instruments within startup ecosystems, and the examination of the influence of digital strategies on the effectiveness of invest

Thanks. None.

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