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DEVREL STRATEGY FOR CUSTOMER RELATIONSHIP MANAGEMENT IN THE CONTEXT OF EVANGELISTIC MARKETING

The article presents a DevRel strategy model for establishing a sustainable relationship between a brand and consumers who play the role of marketing evangelists. Treating brand consumers as developers and creators of an informational product allows the brand to benefit from network effects. This is described both qualitatively and quantitatively based on the laws of Sarnoff, Metcalfe and Reed. Brand network effect and consumer creativity together form a multi-sided platform that serves as an ecosystem for further relationships between the brand, consumer developers and society. The role of the brand in this model is presented in the simultaneous forcing of five processes that allow to keep the formed ecosystem in a state of functioning. The article also describes two DevRel concepts: Dev1st and Dev+, which may be relevant for companies in the B2D, B2B, B2C markets. Recommendations on management for the implementation of the DevRel-concept are given.

Keywords: DevRel-management, Development Relations, Network Effect, Developer Experience, Marketing Evangelism, DevRel1st, DevRel+, Marketing Management, Customer Relationship Management.

Introduction.

Ask your developer
Twilio

The billboard of Twilio, an American manufacturer of communication tools that are integrated into existing business models using API data arrays, appeared in Silicon Valley in 2021. As a player in the B2B market, Twilio did not call for the purchase of it's products, instead the message was aimed at initiating a dialogue between businesses and their IT departments and developers in particular. The goal pursued by Twilio was to sell it's own

product, using the developers of client companies as promoters. Twilio aimed to achieve a network effect as a result, but several other effects were launched, which are described by Raman Sharma in the article "Twilio – Intentionally Clever or Accidentally Genius?" [1]:

– increasing the level of virality;
– urgency, which is the obligation of developers to be informed about the intended product;
– philosophical belief, namely, increasing the importance of the developer's voice in making managerial decisions at a strategic level.

However, this advertising campaign has gained another fundamentally important effect. This was the start of DevRel development.

Literature review. DevRel is a young management concept of the 21st century, the economic efficiency of which is a non-linear indicator. Modeling relationships with developers has ranked from the work of Revell, M. (2020), who identifies four main components of the DevRel system, to more complex models by C. Lewko (2021) and J. Parton (2021), where the concept of Developer Experience (DX) appears. Empirical data on the use of the DevRel concept allows to connect it with platform or technology evangelists. The works of F. Lucas-Conwell (2006), G. Adomavicius et al. (2007), M. Alstyne, G. Parker, S. Choudary (2016) and others formulate the meaning of conceptual ideas of platform or technology evangelization, which is to increase value under the influence of network effects. However, the marketing potential of such evangelism is not realized. Marketing evangelism, as described in the works of B. McConnell, „J. Huba (2002), C. Shapiro (2022) and many other authors, is conceptually separate from relationships with developers and the technological side of using the network effect.

Aim and scope. The aim of the article is to substantiate the processes of evangelization in markets are subject to network effects, which helps to identify the marketing potential of building long-term relationships with developers. To achieve this goal, the following tasks were set: scaling the definition of the functional role of the developer in marketing communications of the brand and audience; analyze network effect theories to periodize its influence on brand value; identify evangelistic aspects of marketing communications, which are a consequence of developing long-term relationships with the developer.

Methodology. To fulfill the articke tasks, the work uses a set of general

scientific and special methods and techniques of scientific research. The following methods are used in the article: semantic, morphological, comparative and critical analysis to determine the functional role of the developer in the marketing communications of the brand and the audience; construction of ontologies, contextual and causal analysis to identify evangelistic aspects of marketing communications, which are a consequence of the building of long-term relations with the developer; factor, institutional and system-structural analysis to determine the prerequisites of mathematical interpretations of theories of the network effect, periodization of its impact on brand value.

Findings and discussion. DevRel, or developer relations, is a process for nurturing mutually beneficial relationships between organizations and software developers [2].
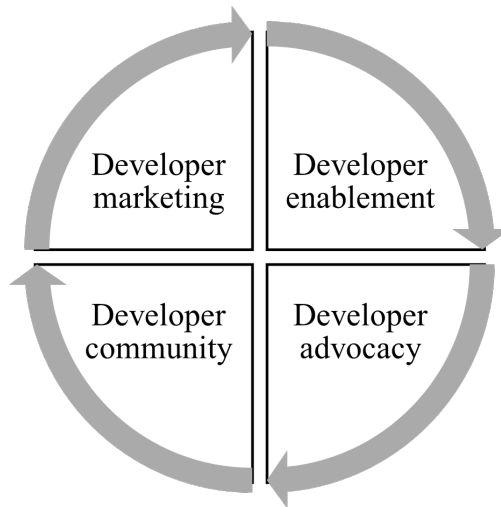

Fig. 1. DevRel Components by Revell

Sources: the author's own elaboration based on [2]

M. Revell describes the concept of developer relations as a four-puzzle cycle (see Fig. 1) [2], which elements are as follows.

Developer marketing. Marketing actions aimed not at the consumer, but at the developer.

Developer enablement. It is providing information to the developer, the

basis of which is the existing experience in a particular area.

Developer advocacy. There is protecting the interests of the developer.

Developer community. It is about creating events, processes, standards, etc., that will support the existence and development of the community. The concept has been further developed by C. Lewko and J. Parton that introduced a more advanced concept of DevRel (see Fig. 2) [3].
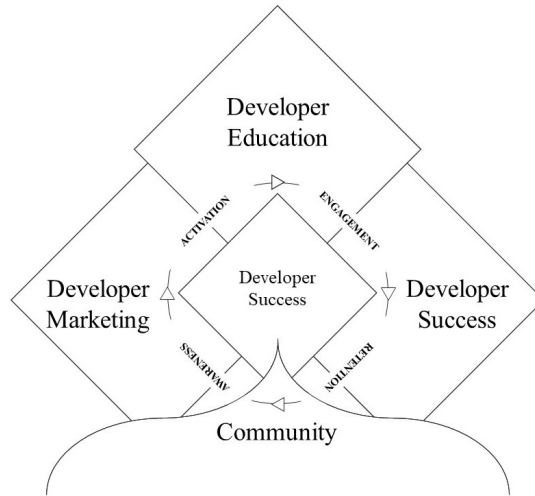

Fig. 2. DevRel Model by Lewko&Parton
Sources: the author's own elaboration based on [3]

The central role in the model is occupied by the developer and their personal Developer Experience (DX), and the top of the model is their education. This distinguishes this model from the Revell model, because due to the focus on DX, the entry threshold for the developer and the complexity of their activation are reduced. Another difference is developer's success management, scaling their personal brand, and retention. In addition to the main bases, there are related aspects that are at the junction of two components [3]:

– Awareness for DevMarketing and DevEducation;
– Activation for DevEducation and DevSuccess;
– Engagement for DevSuccess and Community;
– Retention for Community and DevMarketing.

The notion of community is becoming broader than a community of exclusively developers. The cyclicity is preserved.

DevRel also acquires more meaningful wording, that are connected concept, functionality, processes, etc., which are possible in the relationships between company (brand) and developer. It is defined as a professional practice focused on the engagement of developer as the primary user of a product [3]. At this point, DevRel becomes less technical and more marketing. If the statement that the developers can become users is true, then the opposite is also true: users have the potential to be developers for the company.

It is generally accepted that developers are primarily concerned with creating software, a product in the gaming industry and working with data arrays on the World Wide Web (websites, databases, functional widgets, etc.). The English Cambridge Dictionary defines developer as a person or company that creates new products, especially software, or services [4]. Keeping the idea that developers are engaged in creation, it becomes possible to extend the concept of DevRel from the original idea, which is interaction with software product developers, to the creators of any informational product. In addition to special cases, namely the starting of sandboxes for consumers to optimize the existing software, website, game, etc., DevRel could also be applied to the creators of a more specific informational product, which may be related not only to IT companies or companies in the gaming industry. The processes of informatization and digitalization have practically eliminated the possibility of the existence of a business without an online component or informational support. Building relationships with developers (creators) as consumers and with consumers, accordingly, as creators is a marketing interpretation of the applicability of the DevRel concept.

This primarily applies to businesses whose brand is influenced by the network effect.

A network effect is the phenomenon by which the value or utility a user derives from a good or service depends on the number of users of compatible products [5]. Speaking of this effect, it is usually meaned the positive consequences of an increase in brand consumers. For already existing consumers, this is an increase in the value of involvement in the brand. For potential consumers, this is an additional motivational incentive that influences the decision to join the brand.

Mathematically, the network effect can be described using several laws.

The first and the most indisputable law that is applicable in network economic models is Sarnoff's law (see Fig. 3). According to it the cost of a network is directly proportional to the number of network users [6]. Initially, the law was formulated in relation to the broadcasting network, but it's interpretation is correct for any system, the model of which implies the connection of users (consumers) to the server (brand). The value of such a network $V(n)$ will be equal to the number of participants in this network n (it's components or network nodes).

$$V(n) = n;$$

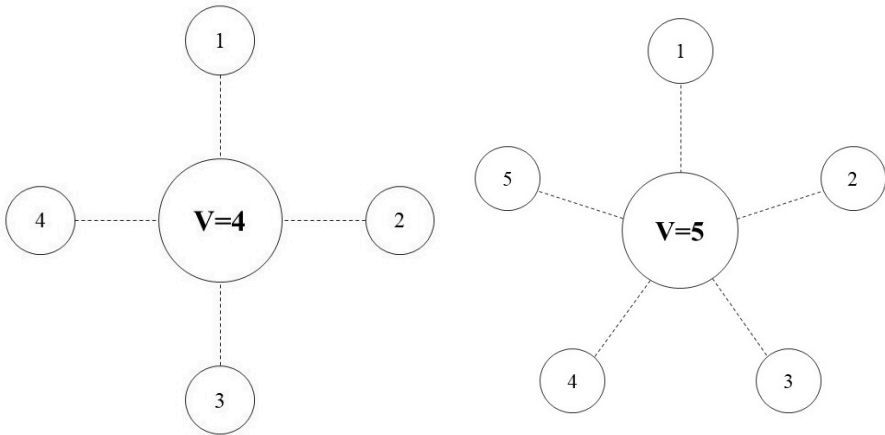where $V(n)$ – system value, n – number of system participants.

Fig. 3. Sarnoff's Law Illustration on the example of 4 and 5 nodes
Sources: the author's own elaboration based on [6]

Metcalfe's law: The value of a system is directly proportional to the square of the number of components in that system [5]. The total utility of the system (the number of possible activations) is equal to the triangular $n(n-1)/2$. This model implies interaction between nodes, and not one-way perception of information (see Fig. 4). Since the links between the nodes are two-way, the 2 in the denominator is reduced, which is asymptotically proportional to the square of the number of nodes (components) of the system

as

$$V(n) = n(n-1)$$

which can be asymptotically reduced to

$$V(n) = n^2$$

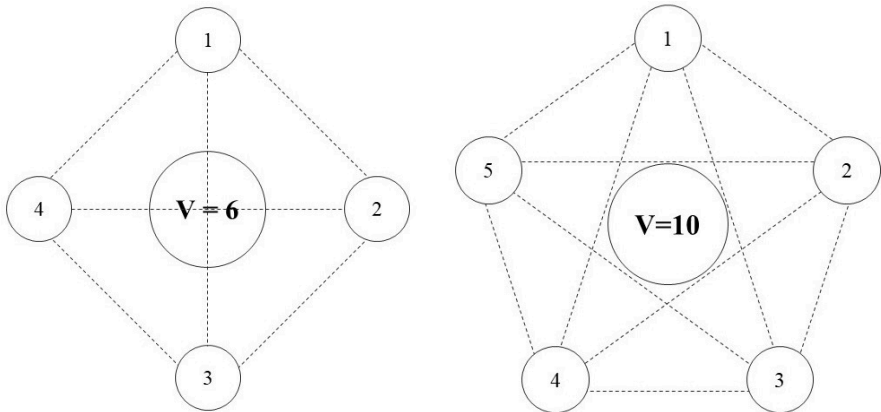where $V(n)$ – system value, n – number of system participants.

Fig. 4. Metcalfe's Law Illustration on the example of 4 and 5 nodes
Sources: the author's own elaboration based on [5]

The law was confirmed by the example of the value of such brands as Facebook and Bitcoin [7]. This makes it possible to talk about network effect in the context of virality and the influence that a brand can have on its consumers.

Reed's law is a consequence of Metcalfe's law [5]. The mathematical formula has the following meaning: $V(n) = 2n-n-1$. This is due to the fact that in addition to the broadcast content, which is the interaction from one to the majority (Sarnoff's law) and the peer-to-peer transaction described by Metcalfe's law, there is also group dynamics. Reed attributes the greatest value to it, and Reed's law describes exactly the group-forming network (GFN) value (see Fig. 5).

$$V(n) = 2^n - n - 1$$

can be asymptotically reduced to

$$V(n) = 2^n$$

where $V(n)$ – system value, n – number of system participants.
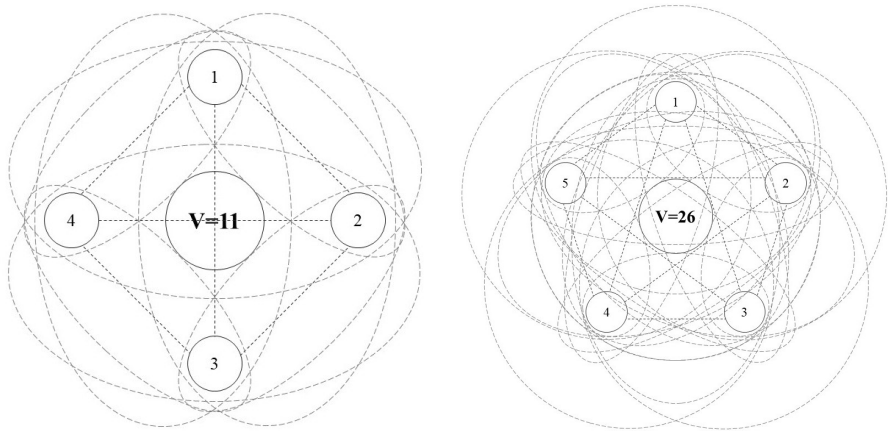

Fig. 5. Reed's Law Illustration on the example of 4 and 5 nodes
Sources: the author's own elaboration based on [5]

The genesis of the brand is accompanied by the following sequence of laws in force.

At the stage of brand inception, the product and marketing representative actions are of key importance. Brand value is formed solely by the consumers. Marketing communications perform an exclusively informative function. Sarnoff's law works.

At the stage of brand existence, Metcalfe's law comes into play. The focus is not so much on autonomous consumption, but on interactions within the network of brand consumers. At this stage, the information field of the brand and the marketing buzz are formed, some of the consumers take the position of opinion leaders, and cultural and pop-cultural phenomena strenuously act as influencers [8]. There are forced creative process (content, interaction patterns, information models, social trends, etc.) by consumers and active stimulation of this process by the brand. The opinion of consumers acquires additional weight and influences the continued existence of the brand, it's activities, it's design and it's DNA. Definitly at this stage the consumer takes the position of the developer of the brand or

it's components (product, related services, communication platform, form and content of marketing communications, etc.). It is important to note that such an impact from the part of the consumer will not be circumstantial, but direct, aimed both at the product or service being sold, and at the informational component of the brand. This once again confirms the relevance of the comparison between the consumer and the developer. Brand value is described by a quadratic function, instead of a linear one.

Reed's law is activated at the stage of stable interaction within brand consumers. Through the formation of groups within brand consumers and their interaction, the value of the brand corresponds to the graph of the exponential function. The principle of participation and involvement of the consumer (consumers group) is preserved and scaled. It is important to note that the network effect for a brand does not match brand scaling. With the scaling effect, the value of the brand increases according to Sarnoff's law (due to the actions of the brand), with the network effect, the value of the brand increases according to the laws of Metcalfe and Reed (due to the actions of consumers, the brand only stimulates them).

It follows that comparison of brand value curves depending on the number of consumers (see Fig. 6) is an evolutionary dynamic.
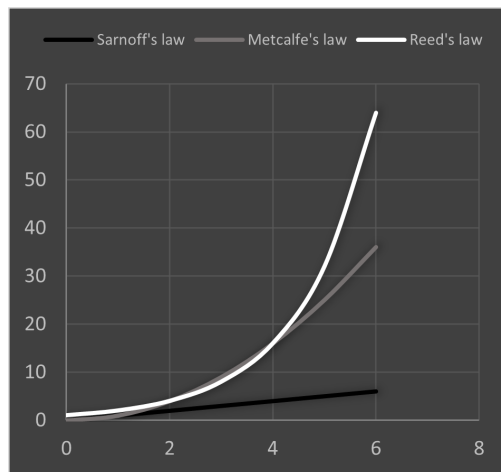

Fig. 6. Comparison of Brand Value Curves
Sources: the author's own elaboration

However, it is worth noting that the fact that the described laws of the network effect are valid only at a certain stage of the brand development dynamics requires determining the conditions for the validity of these laws. Metcalfe's law, and hence Reed's law (as a consequence of Metcalfe's law) only work after the critical mass of consumers has been reached. The moment when the critical mass appears is determined by the willingness of the consumer to pay more for a product or service than it deserves.

This could be done artificially, for example, using growth hacking strategies. Growth hack is a special experiment that is able to increase, activate, retain and monetize users and consumers [9]. However, the method of organic formation of a critical mass, although it takes more time, is still effective. It consists in the initial laying of value in the product, regardless of the number of consumers. The network effect increases the value of brand ownership, not creates it.

It should be noted that there are limitations to these laws. The basic idea on which the fairness of laws is based is that each new node in the network (consumer of the brand) brings an equal benefit. However, when buying one unit of goods or consuming one service, it is possible to use several consumers at once. Thus, each new node retains informational significance, but at the same time it is inferior in economic significance. On the other hand, the informational and social activity of brand consumers are not homogeneous, and therefore low-active consumers retain economic importance for the formation of the network effect, but they are inferior in informational stimulation to other consumers. Also, Metcalfe's law does not take into account the difference in the duration of use of brand products, the psychological and cognitive characteristics of different consumers, and so on.

Andrew Odlyzko, criticizing Metcalfe's law, offers his own model for assessing the value of a system, which is described by a logarithmic function [10]:

$$V(n) = n \log(n)$$

where $V(n)$ – system value, n – number of system participants.

However, it is Metcalfe's law that received empirical confirmation.

Interaction within the community of brand consumers can be described not only by quantitative characteristics, but also by qualitative ones. Any

interaction is an exchange of information. The presence of brand consumers who freely share positive consumer experience allows to talk about evangelistic marketing. The book "Creating Customer Evangelists" highlights the following defining markers of marketing evangelists' behaviour [11]:

- marketing evangelist not only buys the brand's products, but also believes in brand's philosophy;
- marketing evangelist tends to recommend the brand to other people;
- marketing evangelist uses the brand's product as a gift;
- marketing evangelist provides unsolicited feedback;
- marketing evangelist tends to forgive brand mistakes, but makes sure to report about them;
- marketing evangelist does not have any financial or material incentive to be a evangelist;
- marketing evangelist feels a sense of belonging and being a part of something that is valuable.

Similar to marketing evangelists, there are technology evangelists and platform evangelists.

A technology evangelist is a person who builds a critical mass of support for a given technology, and then establishes it as a technical standard in a market that is subject to network effects [12].

It is worth noting that both the technical standard and the standard of a branded product are fixed only by a social contract, often without a legislative or other guarantor. Since information processes are chaotic and not censored, the users of informational systems are the users themselves, the brand, the developers and the society as a whole. This defines the informational system as a multi-stakeholder platform, and therefore evangelistic marketing and technology evangelism (in this case, platform evangelism) are appropriate here.

Platform evangelism in this case is identical to developer relations. It is the application of technology evangelism to a multi-sided platform. It seeks to accelerate the growth of a platform's commercial ecosystem of complementary goods, created by independent (third-party) developers, as a means to the end of maximizing the platform's market share [13].

Thus, such a non-commercial phenomenon, devoid of profit, as evangelism, acquires completely commercial benefits.

G. Adomavicius identifies five concurrent processes that are consistent

with platform ecosystem existence through platform evangelism: ecosystem sales, ecosystem developer resources, ecosystem feedback, ecosystem intelligence and ecosystem regulation (see Fig. 7) [14].
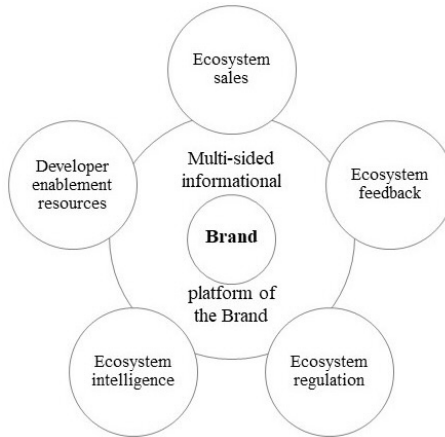

Fig. 7. Brand Competencies in the Marketing Evangelism Model
Sources: the author's own elaboration

It becomes possible to redirect the model of platform evangelism onto the marketing evangelism of the brand by the consumer acting as a developer (creator of an information product).

Ecosystem sales. The informational system around the brand is filled with additional products (complementary, customized, etc.). The main condition is the general concept of beliefs and belonging to the philosophy of the brand, which gives rise to a targeted effect (the similarity of beliefs, needs and requirements, interests, sense of humor, etc.). This condition is true, because without it it would be impossible to start evangelism as a process.

Resources for developers within the ecosystem. The starting point is the resources provided by the brand. First of all, it is an informational resource, as well as related functionality for the use and dissemination of information. There is dynamic permanent development of the support system at the expense of technology evangelists (brand consumers).

Feedback from the ecosystem. Brand response to evangelists feedback and meeting their needs as developers and creators, not product consumers.

It is important for a brand to assume the probability of not only boosting the already existing headliner of the informational component of the platform or system, but also the development of outsider-components that may be of interest to creators.

Ecosystem intelligence. Marketing research and analytics of both internal and external elements of the ecosystem.

Ecosystem regulation. It should be understood that in addition to regulatory actions on the part of the brand, which correspond to legislative, economic, technological, informational and other restrictions, regulation also takes place on the part of other participants in the multi-sided informational platform. Since the informational system around the brand is societal, the priority of self-regulation (compliance with the social and ethical principles of the participants inside the system) is no less significant than regulatory actions on the part of the brand.

The commercialization of such a model is more profitable, in contrast to the autonomous economic model due to the network effect, the quantitative indicators of which are given above.

J. Parton differentiates DevRel concepts depending on the company's business model [15]. Since the familiar ecosystem for developer relations is IT, there is a certain segment of companies that operate exclusively in the B2D (Business to Developer) market. Brand products are initially produced for use by developers, the network effect is paramount, since the value of a brand and it's products is determined not only by technological characteristics, but also by the possibility of mutual integration of tools and platforms from one project to another. This concept is called Developer-first (Dev1st).

An alternative option is suitable for companies operating in the B2C or B2B market. Such companies may not be related to the IT industry (as far as possible in 2023), but nevertheless provide informational support, as well as perform other DevRel components described above. This concept is called Developer-plus (Dev+). Dev+ implies the additional production of goods for developers or consumers of the brand who are engaged in creation. In that assortment there may be DevTools for DevOps (Development & Operations). Often these are technologies and software for the development, testing and operation of an informational product that can be integrated into existing informational platforms and communication channels. Depending on the level of development of the hard skills of consumer's creating,

DevTools can vary from author's filters and hashtags in social networks to unique Internet protocols, frameworks and operating systems.

Since the second option is more universal, it is suitable for companies of different markets and different capitalization.

Clearly, DevRel is not just about producing creative tools for the brand's consumers. As part of the DevRel concept, it also could be used event strategies (depending on the involvement of the audience, these could be live broadcasts on Instagram or TikTok or full-fledged conventions, conferences, meetups, hackathons), and growth hacking strategies, and any other strategies that have an influence on consumer behavior.

In the book "The Business Value of Developer Relations" by Mary Thengvall, the author proposes a management model for implementing the DevRel concept [16]:

– Developer Relations Manager – definition of development strategy for the developer community.
– Developer Advocate – representing of the developers' interests.
– Technical Community Builder – building a community around a specific phenomenon.
– Developer Experience Manager – cross-functional project management.
– Technical Ambassador – technology evangelism.
– Technical Engagement Manager – maintaining technological dialogue in social media.
– Developer Relations Project Manager – project management.
– Full-Time Engineer – creating.

The work of the devrel team is to form three inviolable postulates for effective interaction between the company and developers: documentation (instructions, manuals, tutorials), support (dialogue with a company representative) and free access (both to internal resources of the company and to external ones).

Conclusion. The result of the development of the relationship between the brand and the consumer, who acts as a developer or creator, has benefits for both parties. For the company, this is brand evangelism, increasing the value of the brand and its products. For a developer, this is a personal brand (of a consumer or a community). However, both the company and the developer benefit from each other's benefits. The company gets a branded influencer (ambassador), and the consumer gets the opportunity to monetize his own brand within the evangelized platform. Thus, by formulating the

brand's IT strategy as "Ask your consumer", the concept of Win-Win squared appears.

Scaling relationships with developers to target brand consumers who have the potential to create an informational product allows optimizing the activity of marketing evangelists in the brand's information space. By managing the components of a multi-sided informational platform, the brand provides developers with additional motivation, which lies both in functionality and in the possibility of commercializing their own information product. However, the value of such interaction, as well as the value of the company's and developer's brands, do not increase linearly, but according to the laws that the network effect is subject to. The order of entry into force of laws presented in the text of the article institutionalizes as follows: Sarnoff's law, Metcalfe's law, Reed's law. Thus, evangelistic processes are scaled up, the marketing potential of which acquires real benefits from implementation.

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DEVREL СТРАТЕГІЯ ДЛЯ УПРАВЛІННЯ ВЗАЄМОВІДНОСИНАМИ З КЛІЄНТАМИ В КОНТЕКСТІ МАРКЕТИНГУ ЄВАНГЕЛІЗАЦІЇ

У статті представлено модель DevRel стратегії для встановлення стійких відносин між брендом і споживачами, які відіграють роль маркетингових євангелістів. Ставлення до споживачів бренду як до девелоперів і творців інформаційного продукту дозволяє бренду отримати вигоду від мережевих ефектів. Це описується як якісно, так і кількісно на основі законів Сарнова, Меткалфа та Ріда. Ефект мережі бренду та креативність споживачів разом утворюють багатосторонню платформу, яка служить екосистемою для подальших відносин між брендом, споживачами, які відіграють роль девелоперів, і суспільством. Роль бренду в цій моделі представлена в одночасному форсуванні п'яти процесів, які дозволяють підтримувати сформовану екосистему в стані функціонування. У статті також описані дві концепції DevRel: Dev1st і Dev+, які можуть бути актуальними для компаній на ринках B2D, B2B, B2C. Надано рекомендації щодо управління впровадженням DevRel-концепції.

Ключові слова: DevRel-менеджмент, відносини з девелоперами, мережевий ефект, досвід девелопера, маркетинг євангелізації, DevRel1st, DevRel+, управління маркетингом, управління відносинами з клієнтами.