HACKATHON – AN INNOVATION AND PROMOTION TOOL IN MARKETING

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Abstract

In the current competitive environment, it is especially important for companies to make increased efforts to stand out and find new ways to connect with consumers. The marketing hackathon is one of the latest solutions to this challenge. The hackathon represents the appropriate space for stimulating creativity through brainstorming bringing together diverse teams of specialists in order to develop innovative marketing strategies. Hackathons also allow experimentation with various solutions and ideas inspired by the challenges launched within these events. Hackathons thus represent the ground for the development of new ideas, the space where people from different backgrounds are challenged both intellectually and creatively, by the environment they find themselves in as well as by the people they are surrounded by.

In the field of marketing, hackathons can bring contributions to important areas such as branding, social media, content creation, data analysis, and experiential marketing.

Being a relatively new phenomenon, hackathons have so far only been the subject of exploratory and descriptive studies. Papers that focus on hackathons specific to marketing activity are largely absent. The present paper aims to contribute to remedying this gap.

In this context, the following paper reveals important aspects regarding the role that hackathons play in the marketing activity as well as the objectives that can be pursued by organizing and conducting such events, together with aspects regarding the methodology to be followed in organizing and carrying out hackathons to serve as a guide in using this method to achieve the objectives regarding promotion and innovation in the marketing field.

Keywords: *hackathon, competitive advantage, innovation, promotion, branding.*

1. Introduction

In the current competitive environment, it is especially important for companies to make increased efforts to stand out and find new ways to connect with consumers. The marketing hackathon is one of the latest solutions to this challenge.

Hackathons can be described as intensive and focused work sessions carried out over short periods of time with the aim of generating ideas. The hackathon represents the appropriate space for stimulating creativity through brainstorming bringing together diverse teams of specialists in order to develop innovative marketing strategies. Hackathons also allow experimentation with various solutions and ideas stimulated by the challenges launched within these events.

Initially, these events were held with the aim of developing software. Hackathons were designed as programming competitions, with the results of the event ultimately being evaluated based on the quality of the software programmed. Currently, the methodology has been adopted in the field of education, civic and corporate sectors, with these events integrating a wide range of creative skills and problem-solving activities, transforming their format beyond the traditional 24 or 48-hour format[1].

The advantages of this type of event for organizers are rapid idea development and prototype testing, networking and community building, as well as recruiting. And more than that, for the marketing activity, hackathons can contribute to important areas such as branding, social media, content creation, data analysis and experiential marketing.

Being a relatively new phenomenon, hackathons have so far only been the subject of exploratory and descriptive studies. The analysis of the current specialized literature shows a concentration of studies rather on

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[1] See A. Milicevic, M. Despotovic-Zrakic, D. Stojanovic, M. Suvajzic, A. Labus, *Academic performance indicators for the hackathon learning approach – The case of the blockchain hackathon*, in Journal of Innovation & Knowledge, 2024, vol. 9, no. 3, available at: *https://www.sciencedirect.com/science/article/pii/S2444569X24000404?via%3Dihub*, last consulted on 18.07.2024.

educational and civic hackathons. Papers that focus on hackathons specific to marketing activity are largely absent. The present paper aims to contribute to remedying this gap.

Thus, the present paper seeks to answer the following questions through the exploratory research carried out using the documentary study: Do hackathons represent a support in the innovation and promotion process specific to the company's marketing activity? What marketing goals can be achieved through hackathons? What are the typical aspects that need to be considered when organizing and carrying out hackathon events that aim to achieve marketing objectives?

In this context, in the first section of the paper a detailed presentation of the origins of the hackathons and their characteristics will be made, followed by a presentation of the marketing objectives that can be achieved by means of organizing and conducting this type of event. Next, the main guidelines to be followed in the successful organization and implementation of an event of this kind will be presented, and at the end of the paper we will formulate a series of conclusions and limits of this documentary study.

2. The origins of Hackathons

According to the specialized literature, a hackathon is „a short-term innovation competition organized around a challenge that must be creatively solved in cooperation and with a radical arrangement of teams, the result of which is recognized in a ceremony held at the end of the event."[2] In other words, a hackathon is an event in which a series of teams compete with each other, within a limited time frame, to develop the best solution to the event promoter's problem[3].

Initially, the hackathon was an event held for a limited period of time in which a number of programmers and other specialists involved in software development worked intensively to create something new in order to develop a product. These actions were mostly organized as competitive events for which young developers formed small ad-hoc teams and engaged in intense short-term collaboration to develop software projects in exchange for pizza and, sometimes, the prospect of a future job[4].

The term „hackathon" is a combination of two words „hack" (software and code line research and exploration) and „marathon" (a focused and directed effort to find a solution)[5]. The term emerged in 1999 independently used by the open-source software developers of the OpenBSD computer operating system and marketers at Sun Microsystems. The OpenBSD software developers used the term hackathon to refer to an event held in Calgary on June 4, 1999 dedicated to cryptographic development, where a small number of developers came together to find a solution to avoid legal problems arising, at the time, from the United States cryptographic software export regulations. On the other hand, marketers at Sun Microsystems (later acquired by Oracle) used the term to refer to an event held at the June 15-19, 1999 JavaOne conference, in which participants were challenged to write a program in the Java language for the new Palm V portable computer[6].

Since the 2000s, hackathons have increasingly been viewed as a quick way (a few days or hours) to develop new software technologies and test digital solutions. As technological changes have gained momentum, the use

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[2] See S. Halvari, A. Suominen, J. Jussila, V. Jonsson, J. Backman, *Conceptualization of hackathon for innovation Management*, The ISPIM Innovation Conference – Celebrating Innovation: 500 Years Since daVinci, Florence, Italy on 16-19 June 2019, available at: *https://www.proquest.com/openview/c111fccb5762ae50f720f1c1cf65169f/1?pq-origsite=gscholar&cbl=1796422*, last consulted on 27.09.2024.

[3] See M. Uffreduzzi, *Hackathon as Emerging Innovation Practice: Exploring Opportunities and Challenges through 8 in-depth Case Studies, Master thesis*, Politecnico Milano, School of industrial and Information Engineering Master of Science in Management Engineering, 2017, available at: *https://www.politesi.polimi.it/bitstream/10589/137237/5/Hackathon%20as%20Emerging%20Innovation%20Practice.pdf*, last consulted on 17.11.2024.

[4] See A. Nolte, E.P.P. Pe-Than, A. Filippova, C. Bird, S. Scallen, J.D. Herbsleb, *You Hacked and Now What? – Exploring Outcomes of a Corporate Hackathon*, Proceedings of the ACM on Human-Computer Interaction, 2018, vol. 2, issue CSCW, art. no 129, pp. 1-23, available at: *https://www.researchgate.net/publication/328018975_You_Hacked_and_Now_What_-_Exploring_Outcomes_of_a_Corporate_Hackathon*, last consulted on 30.08.2024.

[5] See N. Richter, D. Dragoeva, *Digital Entrepreneurship and Agile Methods—A Hackathon Case Study*, in the book Digital Entrepreneurship. Impact on Business and Society, Springer, 2021, available at: *https://link.springer.com/book/10.1007/978-3-030-53914-6*, last consulted on 09.08.2024.

[6] See G. Briscoe, C. Mulligan, *Digital Innovation: The Hackathon Phenomenon*, Arts and Humanities Research Council, Creative Works London Hub, grant AH/J005142/1, and the European Regional Development Fund, London Creative and Digital Fusion, 2014, available at: *https://core.ac.uk/download/pdf/30697508.pdf*, last consulted on 21.08.2024.

of hackathons has also increased directly proportional. Thus, in 2016 over 200 hackathons were held in the US and a similar number were estimated to be held worldwide[7].

Facebook is one of the first companies to integrate this tool into its activity, holding such events approximately every two months where many of Facebook's engineers gather for a 24-hour competition in the company's offices.

Hackathons have become a common activity for many software companies but also for other types of organizations and institutions, representing an approach that encourages digital innovation and beyond. The hackathon is a tool that promotes innovation in several areas of interest: informal and collaborative learning, expanding or creating communities, supporting open civic innovation, addressing social and environmental issues, and many more[8]. Hackathons thus represent the ground for the development of new ideas, the space where people from different backgrounds are intellectually and creatively stimulated by the environment they find themselves in as well as by the number of people they are surrounded by. In general, it can be said that the format of this type of event offers the opportunity to intensely connect individuals within a structure, in a short time and with manageable effort.

These events can either have an orientation towards participants in order to discover talents and to increase the cohesion of a team, or an orientation towards results, or both. Hackathons can be organized either as competitive or collaborative events[9], in a public or private format. Hackathons can also be organized as internal or external events. Internal hackathons are organized by companies with the aim of creating a favorable environment for generating ideas. At the same time, hackathons can be organized in a closed format, in which case participation is by invitation, access being restricted to a certain population of interest, or in an open format characterized by the fact that access to the event is not restricted, although there are restrictions regarding the number of participants[10].

Although hackathons can be carried out in different ways, they must be based on *collaboration* as a basic principle in their implementation, along with a series of other principles such as[11]:

- *Learning* and *sharing* are particularly important aspects that must be promoted within these events;

- *Failure should be considered an element of value*, so teams formed within the hackathon will be encouraged to present both their achievements and failures;

- The *creation of a flexible space* that can be adapted to the needs of the participants and the *technology equipment* of the work and rest space within the event will be considered;

- *Organizing into teams* is best left to the discretion of the participants, either before or during the event;

- It should be kept in mind that hackathons are organized as a competition in which the best production wins a *reward* or *prize* always awarded by a jury. The prize or reward can take many forms, monetary or non-monetary, cash, coupons, online or offline courses, technological gadgets, recruitment opportunities, incubation programs, project development and even the possibility of gaining visibility for the group/startup.

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[7] See M. Uffreduzzi, *Hackathon as Emerging Innovation Practice: Exploring Opportunities and Challenges through 8 in-depth Case Studies, op. cit., loc. cit.*

[8] See A. Nolte, E.P.P. Pe-Than, A. Filippova, C. Bird, S. Scallen, J.D. Herbsleb, *You Hacked and Now What? – Exploring Outcomes of a Corporate Hackathon*, Proceedings of the ACM on Human-Computer Interaction, 2018, vol. 2, issue CSCW, art. no 129, pp. 1-23, available at: *https://www.researchgate.net/publication/328018975_You_Hacked_and_Now_What_-_Exploring_Outcomes_of_a_Corporate_Hackathon*, last consulted on 30.08.2024.

[9] See S. Halvari, A. Suominen, J. Jussila, V. Jonsson, J. Backman, *Conceptualization of hackathon for innovation Management*, The ISPIM Innovation Conference – Celebrating Innovation: 500 Years Since DaVinci, Florence, Italy, 16-19.06.2019, available at: *https://www.proquest.com/openview/c111fccb5762ae50f720f1c1cf65169f/1?pq-origsite=gscholar&cbl=1796422*, last consulted on 27.09.2024.

[10] See S. Halvari, A.H. Souminen, J. Jussila, *A Typology of Hackathon-use*, The ISPIM Innovation Conference – Innovating Our Common Future, Berlin, Germany, 20-23.06.2021, available at: *https://trepo.tuni.fi//bitstream/handle/10024/137925/A_Typology_of_Hackathon_use.pdf?sequence=1*, last consulted on 15.10.2024.

[11] See G. Briscoe, C. Mulligan, *Digital Innovation: The Hackathon Phenomenon, op. cit., loc. cit.*; See: P.M. Soltani, K. Pessi, K. Ahlin, I. Wernered, *Hackathon – A Method for Digital Innovative Success: A Comparative Descriptive Study*, Proceedings of the 8th European Conference on IS Management and Evaluation, University of Ghent, Belgium, 11-12.09.2014, available at: *https://www.research gate.net/profile/Kalevi-Pessi/publication/265841848_Hackathon_a_method_for_Digital_Innovative_Success_a_Comparative_Descriptive _Study/links/56dd7a7308ae46f1e99f6a78/Hackathon-a-method-for-Digital-Innovative-Success-a-Comparative-Descriptive-Study.pdf*, last consulted on 20.12.2024; J. Falk, A. Nolte, D. Huppenkothen, M. Weinzierl, K. Gama, D. Spikol, E. Tollerud, N.P. Chue Hong, I. Knapper, L. Bailey Hayden, *The Future of Hackathon Research and Practice*, IEEE Access, 2024, vol. 12, available at: *https://ieeexplore.ieee.org/ abstract/document/10666667*, last consulted on 22.12.2024.

3. Marketing hackathon objectives

A marketing hackathon is an interactive event where marketers, executive managers, and/or entrepreneurs come together to solve business growth challenges. This tool can be integrated into an active strategy aimed at innovation or an adaptive strategy aimed at adapting to market changes. Also, hackathons represent, to the same extent, a suitable framework for promoting the company, as promotional materials such as brochures, t-shirts and other objects can be distributed to remind those involved of the organization's name. Corporate branding can be achieved through hackathons, companies promoting such events to position themselves on the market as innovators.

Holding a hackathon results in cost savings for the company, given that in a short time a series of ideas are collected that can be put to good use, the cost being represented, in this case, by the organization of the event and the prizes offered. No other tool allows gathering such a large number of individuals with diverse skills and experience focused on identifying creative solutions to achieve a clearly defined objective.

The objectives of a results-oriented marketing hackathon can range from simple objectives such as experimenting with new social channels, improving internal processes, new ways of efficiently handling daily projects, to exploring new technologies, branding, stimulating business innovation, identifying solutions for social causes, making predictions, creating innovative start-ups, etc. Setting clear objectives for the challenge launched within the hackathon, in which the effort of the teams participating in the hackathon is supported with technical and informational resources, as well as encouraging creativity towards experimenting with new ideas, can lead to achieving the long-term objectives set for the marketing activity.

Hackathons can make important contributions to branding, social media, content creation, data analysis, and experiential marketing.

For *branding* activity, the hackathon can create the appropriate environment to collaborate on developing a creative branding strategy and campaign, to drive brand awareness and loyalty. The hackathon starts from the results of an environmental analysis, which identified the existing opportunities on the market and the strengths of the company's offer for which brand differentiation is sought. Based on the information collected, strategies can be developed that can target the use of emotional marketing by building a narrative that emphasizes the mission, values, and competitive advantage offered by the company, as well as (re)configuring the visual identity.

On the other hand, given the diversity of platforms and navigation algorithms, a company's *social media* activity must be distinguished from the background noise with which it can be confused. Thus, within a hackathon, innovative social marketing campaigns can be formulated that align with the company's mission and values and that can aim at finding solutions for stimulating user-generated content or partnering with various influencers for live-streaming events, adapting the activity to the specifics of each platform and each consumer segment based on the data collected on social media preferences and consumption behavior.

On the other hand, in a *content creation* hackathon, participants can formulate and implement plans that target a specific consumer segment or a specific theme. Planning in this case involves establishing a calendar for content posting, creating different content formats (blog posts, videos, podcasts, etc.) as well as testing their various distribution channels (SEO, social media, email).

The hackathon held for *data analysis* requires those involved to be focused on the analysis and interpretation of data taken from various sources (social media metrics, website traffic, feedback provided by consumers, etc.) in order to determine perspectives and strategies that can be implemented. Within the hackathon, the tools used for data collection can be developed, the coordinates of the data collection process can be established, as well as the way to visualize and synthesize complex databases.

Within the hackathon aimed at *experiential marketing*, creative and memorable events or experiences can be developed for the targeted segment, materialized in interactive installations or hosting exclusive events or workshops.

Hackathons can have tangible or intangible results. The tangible results of hackathons can be either technical (for example, new prototypes, new product features, and bug fixes) or non-technical (for example, a creative plan for launching a new product, a creative branding concept, content marketing strategies, etc.). The intangible results of hackathons can be represented by a better understanding of problems, the use of new

technologies or the acquisition of skills, networking, collaboration opportunities, the development of new ideas, company promotion or increasing awareness of the hackathon theme[12].

According to Nolte et al „the typical results of hackathons are more like prototypes, demos and videos that bring a new idea to life."[13] It is recommended that hackathons should not be aimed at building concrete solutions, but rather concepts, because concrete solutions require better structuring in the organization of events and this would diminish the representation and involvement of participants. Specialists argue that „the most important result of a hackathon is the community that develops as people experiment together"[14]. Thus, through a marketing hackathon, internal marketing objectives can also be targeted, offering employees the opportunity to expand their skills and connections, as well as creating a positive and motivating environment. Internal hackathons can also provide a creative space for the marketing team to develop aspects that are not a priority for management, as a mini-break from the daily routine in which self-coordination and lack of discipline prevail in developing new product concepts and working with new technologies[15].

4. Hackathon coordinates

Hackathons are designed to be held as workshops in which a group of creative people with common interests and who want to collaborate and learn from each other will seek a solution to achieve a certain goal. In order to identify innovative solutions to certain problems, hackathons can be organized over a typical period of 8-48 hours. However, hackathons that were held over a period of 3 days and even a week are mentioned in the specialized literature[16]. In some cases, hackathons can be extended with follow-up sessions to provide insight into the progress in developing the identified solution.

In order to hold a hackathon, organizers will need to consider a multitude of factors, the most important of which are: the purpose and objectives of the event, the criteria for selecting participants, the venue, the team formation method, and the strategy for post-event activities.

The general procedure for conducting a hackathon involves three stages (see Figure 1)[17]:

- Preparation of the hackathon in which a detailed plan for its implementation is developed.
- The actual development of the event.
- Follow-up – stage that involves the transfer of valid ideas for implementation

Figure 1. The three phases of a hackathon and the attributes of the event itself
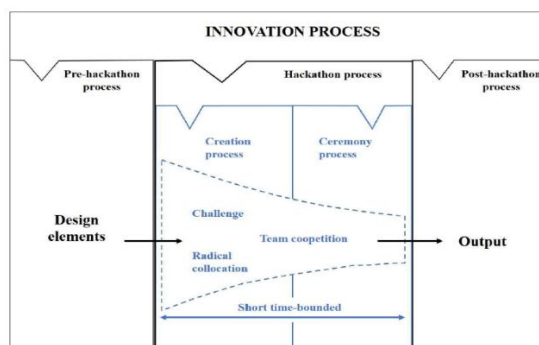
Source: S. Halvari, A. Suominen, J. Jussila, V. Jonsson, J. Backman[18]

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[12] See S. Halvari, A.H. Souminen, J. Jussila, *A Typology of Hackathon-use*, op. cit., loc. cit.

[13] See A. Nolte, E.P.P. Pe-Than, A. Filippova, C. Bird, S. Scallen, J.D. Herbsleb, *You Hacked and Now What? – Exploring Outcomes of a Corporate Hackathon*, loc. cit.

[14] See G. Briscoe, C. Mulligan, *Digital Innovation: The Hackathon Phenomenon*, op. cit., loc. cit.

[15] See S. Halvari, A. Suominen, J. Jussila, V. Jonsson, J. Backman, *Conceptualization of hackathon for innovation Management*, op. cit., loc. cit.

[16] See N. Richter, D. Dragoeva, *Digital Entrepreneurship and Agile Methods—a Hackathon Case Study*, op. cit., loc. cit.; See G. Briscoe, C. Mulligan, *Digital Innovation: The Hackathon Phenomenon*, op. cit., loc. cit.

[17] See A. Milicevic, M. Despotovic-Zrakic, D. Stojanovic, M. Suvajzic, A. Labus, *Academic performance indicators for the hackathon learning approach – The case of the blockchain hackathon*, op. cit., loc. cit.

[18] Conceptualization of hackathon for innovation Management, The ISPIM Innovation Conference – Celebrating Innovation: 500 Years Since daVinci, Florence, Italy on 16-19 June 2019, available at: *https://www.proquest.com/openview/c111fccb5762ae50f720f1c1cf65169f/ 1?pq-origsite=gscholar&cbl=1796422*, last consulted on 27.09.2024.

In the preparation stages of a marketing hackathon, it is useful to set a SMART objective and, when appropriate, a target segment (generating 100 leads, increasing retention by 85-90% for a certain consumer segment, increasing by 20% the time spent in a session on the company's website, etc.).

The strategic planning of the hackathon needs to include post-event projects and processes, as well as maintaining relationships with those involved through a user-friendly platform. Technology plays a vital role, both in online and offline events. In the case of hackathons with physical participation, technology is used to promote events, to support participant registration, as a means of communication and collaboration, etc. For this purpose, there are dedicated platforms, such as Devpost[19], Eventornado[20]. To register for an event of this type, dedicated platforms such as Hackbox[21] created by Microsoft can be created where those who want to participate in the event must register individually, either as part of a team or as participants looking for additional members with certain skills to form a team.

As for the hackathon itself, it starts with a presentation or discussion that leads to a common understanding of the problem that is the subject of the event by all those involved, as well as a presentation of the prizes, if any are offered. During this meeting, it is useful for each member to be given the opportunity to present their creative ideas regarding the possible way to approach the issue under consideration within the hackathon. At the end of the meeting, the participants' ideas and suggestions will be collected and examined, out of these only a few will be chosen to be developed within the hackathon.

Specialists agree that team formation within hackathons varies depending on who determines its structure. The decision may rest with the organizer, be left entirely to the participants, or involve a hybrid approach where participants independently form teams while the organizer assigns those who have not found a team to existing groups[22]. The teams that are formed include individuals with different training and skills, capable of working quickly with new people, in small teams and under pressure[23]. To recruit additional members into the autonomously formed teams, participants will pitch their ideas.

When organizing a hackathon, the presence of mentors who know the strategy and the objectives pursued within the event should not be overlooked, so that they answer the questions that may arise from the teams, keeping them focused on the priorities in all stages of their work, thus guiding the final results towards organizer's objectives[24].

At the end of the hackathon, a series of presentations and demonstrations are usually held in which each team presents its results, followed by their evaluation by a jury, consisting of representatives of the event organizers and sponsors or colleagues in the field (especially in non-prize events), taking into account the extent to which the presented results responded to the proposed challenges and the potential they hold for implementation, the winning solutions are then announced and they are rewarded with the cash prizes and/or recruitment into incubator or accelerator programs.

According to studies, hackathons considered successful, resulting in useful outcomes, are those in which communities are involved, their promoter is popular, the actual organizer of the event is a third-party company specialized in creating such events, the rewards are rather in monetary form and those in which the formation of mixed teams was imposed, with individuals that have training from different fields[25].

5. Conclusions

The results obtained from a hackathon can take the form of prototypes, new features for a product, bug fixes, knowledge acquisition on emerging technologies, creative campaigns etc., being a catalyst for new ideas. But the greatest potential and benefit of hackathons lies in the fact that within it a suitable context is created for networking and collaboration between individuals, which ultimately leads to the creation of lasting

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[19] Devpost official website, available at: *https://devpost.com/*, last consulted on 27.12.2024.
[20] Eventornado official website, available at: *https://eventornado.com/*, last consulted on 27.12.2024.
[21] Hackbox Microsoft official website, available at: *https://hackbox.microsoft.com/*, last consulted on 16.09.2024.
[22] See M. Uffreduzzi, *Hackathon as Emerging Innovation Practice: Exploring Opportunities and Challenges through 8 in-depth Case Studies, Master thesis, op. cit., loc. cit.*
[23] See N. Richter, D. Dragoeva, *Digital Entrepreneurship and Agile Methods—a Hackathon Case Study, op. cit., loc. cit.*
[24] *Ibidem*.
[25] See M. Uffreduzzi, *Hackathon as Emerging Innovation Practice: Exploring Opportunities and Challenges through 8 in-depth Case Studies, Master thesis, op. cit., loc. cit.*

connections that go beyond the limits of the event. Hackathons create a favorable environment not only for experimenting with various prototypes, but also for relationships and collaboration with various individuals.

The main obstacle in running a hackathon is forming the participating teams. In this regard, it is necessary to focus on team-building, thus creating an informal environment in which participants can create in an efficient and creative way. Due to the dynamic nature of hackathons, teams can more easily transcend the barriers of traditional marketing.

There is little research carried out strictly in the field of marketing with an eye on the use of hackathons[26], which is why this article has an exploratory character, based on a variety of bibliographic references, taking into account that the hackathon is the object of numerous fields. This aspect limits the generalization of this work at this time, but it does not diminish the interest for a field of research that has a great potential to provide solutions for the marketing activity. Also, the results of this exploratory research provide marketing practitioners with a practical way to use hackathons for marketing innovation and as a tool in the company's promotional activity.

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[26] See J. Falk, A. Nolte, D. Huppenkothen, M. Weinzierl, K. Gama, D. Spikol, E. Tollerud, N.P. Chue Hong, I. Knapper, L. Bailey Hayden, *The Future of Hackathon Research and Practice, op. cit., loc. cit*.

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