



Contents lists available at ScienceDirect

Journal of Open Innovation: Technology, Market, and Complexity

journal homepage: www.sciencedirect.com/journal/joitmc

Co-creative R&D process with an influencer: A case study of a stationery manufacturer

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ARTICLE INFO

Keywords:

Influencer

B to C manufacturer

Open innovation

Servitization

Multifaceted experiential value

ABSTRACT

This study redefines influencers as potential co-creators in the open innovation processes of B to C (business-to-consumer) manufacturers, moving beyond their traditional role as marketing collaborators. While previous research has primarily viewed influencers as tools for brand promotion and consumer persuasion, this paper demonstrates their ability to contribute across the entire research and development (R&D) cycle—from idea generation and prototyping through market validation to commercialization. Based on a case study of a stationery manufacturer, this study reveals that influencers—who possess specialized knowledge, are well-versed in users' product usage experiences, and have strong communication skills—provide users with multifaceted experiential value that complements the functional value of products, encompassing both intellectual and emotional dimensions. Among influencers, knowledge influencers—those who excel particularly in specialized knowledge—are most effective at achieving this with a high degree of accuracy. However, their contribution to service transformation may be limited by corporate organizational circumstances and the boundaries of their professional activities. By redefining influencers as intermediaries in co-creative R&D, this study extends open innovation theory and provides new insights into the requirements for and integration of external knowledge in product and service innovation.

1. Introduction

The rapid development of social media has transformed the landscape of external actors involved with companies, placing influencers at the center of modern corporate marketing strategies. The external actors that have emerged up to this point can be broadly classified into three categories. The first category consists of celebrities and streamers who collaborate on corporate marketing activities. Celebrities serve as objects of aspirational identity for consumers—people they aspire to be like. Product endorsements by celebrities have achieved high advertising effectiveness and have stimulated consumers' purchasing motives (Schouten et al., 2021). Today's consumers are increasingly showing a tendency toward identity recognition, supporting actors with whom they can empathize, much like close friends. In other words, consumers are increasingly inclined to support influencers with whom they feel a sense of familiarity and shared similarities, rather than celebrities who

inhabit a different world (Schouten et al., 2021). Streamers are influencers who conduct live streams on platforms, featuring timely products and conveying their appeal to viewers alongside accurate information. Streamers create a psychological state that fosters a sense of interaction with viewers online, prompting viewers to make purchasing decisions during live streams and thereby generating business revenue (Meng and Lin, 2023). Streamers leverage their expertise to quickly build relationships with viewers, behave in ways that foster trust, and act as intermediaries between viewers and companies (Meng and Lin, 2023). In their interactions with viewers, streamers function more as opinion leaders than as active co-creators.

The second category consists of external actors who serve as co-creators in corporate open innovation. External actors in this role include general users, lead users, and influencers. A key objective of open innovation is the acquisition of external knowledge (Cohen and Levinthal, 1990). The key to external knowledge lies in selecting

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Received 13 October 2025; Received in revised form 18 April 2026; Accepted 5 May 2026

Available online 12 May 2026

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partners capable of fostering creativity that leads to superior long-term performance (Teece, 2007). Co-creation is an interactional creation, meaning it involves realizing value creation through interaction. Value is created while consumers use a product or experience a service (Ramaswamy and Ozcan, 2018). Many manufacturers have sought to elicit feedback from general users regarding problems they encounter with existing products or ideas for new products; however, user experiences with product usage rarely yield valuable insights that manufacturers had not already anticipated (Von Hippel, 1986). Lead users are defined as those who encounter emerging market needs several months to several years in advance and generate ideas for new products or product improvements (Von Hippel, 1986). Since lead users develop ideas based on their own needs (Von Hippel, 1986), these ideas tend to be constrained by individual experience (Von Hippel, 1986). In this sense, it is said that lead users do not necessarily represent customers adequately (Kawakami, 2005, p. 252). The suitability of both general users and lead users as open innovation partners for companies is insufficient.

The third category of influencers consists of professional personalities who engage in two-way communication with their audience on social media platforms. Content creators who can amass large numbers of followers can be described as entrepreneurs (BALABAN and MUSTĂȚEA, 2019). Influencers use their expertise to enhance the credibility of their content, adding significant value to the information they share to earn the trust of their followers (Lou and Yuan, 2019). One such added value lies in storytelling. Storytelling that conveys information and emotions regarding product testing and usage is perceived by audiences as authentic and trustworthy (Lou and Yuan, 2019). When influencers demonstrate their ability to convey a brand's meaning or interpretation, followers perceive similarities between themselves and the influencer, leading to increased purchase intent (Lim et al., 2017). This exchange of messages between influencers and consumers via social media constitutes co-creation that enhances the value of products and services (Kilumile and Zuo, 2024). What distinguishes influencers from other social media actors is their ability to engage in corporate open innovation by collaborating with audiences and consumers; this is the reason this paper focuses on influencers. Influencers with these characteristics can tap into user emotions and product usage contexts that other actors cannot encounter or fully grasp, and their ability to facilitate a mutual exchange of opinions and emotions represents a distinct difference between influencers and other actors. By leveraging influencers' unique content creation capabilities, it is possible to develop new products with innovative functional value through co-creation with companies, or to realize service businesses that generate intellectual and emotional value through co-creation with new product users; however, such research has been virtually non-existent to date.

This study aims to deepen the theoretical and practical understanding of influencers as co-creators in B to C innovation processes. By examining the case of "Art Crayons"—a product developed jointly by Pentel Co., Ltd., and Mr. A, a professional painter, and social media influencer—this study investigates how influencers can make unique contributions to open innovation in research and development (R&D), including servitization. In this case study, by situating influencers within the frameworks of value co-creation (Ramaswamy and Ozcan, 2018) and experiential marketing (Schmitt, 1999), we enable a deeper analysis of their roles in shaping product design, accelerating market validation, and promoting servitization. The influencers examined here are not those with vague characteristics who are difficult to distinguish from "Celebrity" figures capable of connecting with other users or "lead users" who actively engage with their followers. This study proposes to reconceptualize distinctive "knowledge influencers"—such as those possessing deep expertise—as intermediaries in co-creative R&D and expands open innovation theory by clarifying their dual function as sources of creative knowledge and cultural value.

2. Theoretical background

2.1. Consumer value

It is difficult for companies to successfully develop new products based solely on their own ideas (Chesbrough and Crowther, 2006). The values consumers seek are diverse. Sheth et al. (1991) classified the values that drive consumer purchasing behavior into five categories: functional value, social value, emotional value, cognitive value, and contingent value. This paper focuses on functional value and emotional value, which are highly relevant to the discussion of value co-creation. Functional values are defined as the utility derived from the physical characteristics of a product, such as its performance. Emotional value is defined as the perceptual utility derived from a product or service, such as a sense of comfort or security (Sheth et al., 1991). Woodruff (1997), who conducts research on value from the consumer's perspective, analyzed that consumers select products to purchase by imagining in advance the value derived from product use within a means-end relationship. Customers either derive overall satisfaction from the desired value and the results of use or determine their evaluation of the usage experience based on multiple factors encountered during use (Woodruff, 1997). In other words, consumers' evaluations of product use are determined by the overall assessment made after use.

Boven and Gilovich (2003), who conducted a survey on satisfaction with experiential and material purchases among Americans, reported that experiential shopping that yields positive results brings people a greater sense of happiness than the ownership of material goods. He also reported that people think about experiential shopping more frequently than they do about purchasing goods. Boven and Gilovich (2003) cited the tendency for people to derive satisfaction from more abstract and higher-order experiences as the reason why purchasing experiences brings greater satisfaction than purchasing goods (Boven and Gilovich, 2003). Consumers find greater value not only in using high-quality products with features suited to their needs but also in the enhanced experience derived from using them. However, many manufacturers need to supplement their expertise, which lies primarily in refining product functionality—with information derived from the consumer's perspective. Furthermore, to successfully create emotional value for consumers, companies must acquire knowledge about the problems consumers encounter in actual product usage scenarios and apply this knowledge to provide valuable experiences. Against this backdrop, companies need to introduce and utilize external knowledge suitable for business innovation (Lopes-Bento and Simeth, 2024).

2.2. Co-creation of experiential value

Pine and Gilmore (1998) argued that consumers expect companies to provide experience, and that the provision of experience has become the battleground of competition. Pine and Gilmore (1998) distinguished between experiences as external entities provided by products and services, and emotional experiences that exist in the mind through personal encounters. The author believes it is necessary to further categorize experiences derived from external entities into those provided by product development and those provided by services. An example of experience delivery through products is "Emotional Design Engineering." This is an academic field that studies R&D approaches aimed at achieving a balance between functional excellence and heightened emotional engagement during use. Kasamatsu and Ingu (2011) investigated why the "haptic mouse"—a device that incorporates a mechanism to provide vibrational feedback to optical mice used with personal computers—brings excitement to users and improves usability. The haptic mouse works by having the mouse detect patterns on the display visible to the user and transmit linear tactile sensations to the hand operating the mouse; this mechanism gives the user a sense of alignment with the mouse, enabling comfortable computer operation. Such "emotional design engineering" is being utilized

in various product developments, and products that provide comfortable experiences are influencing consumers' purchasing decisions. [Nadiri and Gunay \(2013\)](#) point out that the commoditization of all products is progressing and argue that leveraging experiential value is essential for maintaining competitiveness. They note that not only are consumers surrounded by products that provide comfortable experiences, but the services described below are also already undergoing commoditization.

The experiential value of a service is the interaction that a company intentionally creates with consumers ([Varshneya and Das, 2017](#)). The economic value of Starbucks lies in the experiential value derived from the comfort of the space where coffee is served and its unique atmosphere ([Varshneya and Das, 2017](#); [Nadeem et al., 2021](#)). Consumers choose Starbucks even when a premium price is added to the coffee because of the irreplaceable experiential value. It is important to note that the cost of the experience, which is derived from the external presence provided by the product or service, is included in the product or service price, rather than being charged directly for the experience itself ([Pine and Gilmore, 1998](#)). To achieve direct charging for experiences, an emotional experience that impacts the mind through a personal, unique mental experience is necessary ([Pine and Gilmore, 1998](#)). The difference in where the charge is applied is considered to reflect the degree of consumer participation in the experience provided by the company ([Pine and Gilmore, 1998](#)). The experience of enjoying a relaxing space at a Starbucks store can be described as highly passive participation. The level of participation is such that consumers can be said to contribute to the visual sense of vibrancy simply by being present in the store. On the other hand, when consumers play a significant role in events or performances, this is considered active participation, and the degree of co-creation between the company and the consumer is also high ([Pine and Gilmore, 1998](#)). Under what conditions is it possible to provide consumers with high experiential value and realize their active and proactive co-creation participation?

2.3. The origin of empirical values

In response to the increasing commoditization of not only products but also services, companies are pursuing servitization ([Vandermerwe and Rada, 1988](#)). Servitization involves companies leveraging their interactions with individual customers to monetize customer engagement on an emotional and sensory level ([Gentile et al., 2007](#); [Verhoef et al., 2009](#)). Servitization is a corporate strategy that leverages co-creation experiences with individual consumers for business purposes. Regarding the strategic significance of co-creation with consumers for companies, [Vandermerwe and Rada \(1988\)](#) identified the following three points: First, through co-creation with consumers, companies gain insight into the problems consumers face and opportunities to generate demand, thereby building barriers against rival firms. Second, companies can cultivate high levels of dependency among consumers to whom they offer bundles. A bundle refers to the provision of services that combine products, services, and knowledge for consumers. Third, the two points mentioned above enable business expansion that is consistent with the company's strategy.

For companies, particularly B to C manufacturers, a lack of insight into the actual settings where customers use their products makes it difficult to develop servitization content and operate service businesses. [Pizam \(2010\)](#) pointed out that the key to a commercially successful service lies in the quality of the experience. This highlights the importance of memorable experiences. So, why do memorable experiences provide value to consumers? [Tulving \(1983, pp. 11, 22, 53, 56, 61\)](#) explains the nature of episodic memory as follows: Episodic memory refers to autobiographical memories of experiences, such as personal events. Episodic memory has the characteristic of being recalled later, accompanied by certain emotional elements or moods, along with memories of the events that preceded and followed it. Episodes involving people evoke feelings of warmth and intimacy, making them a key

component of experiential value. When companies plan servitization initiatives, leveraging episodic memory is essential. Influencers' expertise, combined with their firsthand knowledge of consumers' product usage contexts, enables them to create compelling content. Their ability to co-create episodic memories with consumers and captivate followers makes them ideal partners for servitization.

2.4. Knowledge influencers

Knowledge influencers—who create and provide content based on expertise in specific fields and engage with their followers to co-create—are gaining attention ([Chen, 2024](#)). Knowledge influencers are characterized not only by the creation of high-quality content that leverages their advanced knowledge and experience but also by the formation of strong emotional bonds that enhance their followers' sense of belonging. As a result, their followers place a high degree of trust in them ([Chen, 2024](#)). [Saurabh and Dinesh \(2025\)](#) noted that the content created by knowledge influencers to promote the co-creation of customer value not only provides viewers with useful intellectual information but also offers an enjoyable viewing experience ([Saurabh and Dinesh, 2025](#); [Barbe et al., 2020](#)). Building informal relationships with influencers brings benefits to customers ([Saurabh and Dinesh, 2025](#); [Gebauer et al., 2013](#)). For consumers seeking targeted, high-quality content, knowledge influencers are an indispensable source of information. The professional insights of knowledge influencers have the potential to influence their followers' decision-making and behavior. Knowledge influencers are highly specialized experts and represent one of the evolving forms of influencers who are emerging as the approachable co-creators sought after by audiences.

[Chen \(2024\)](#) is one of the few authors to have used the term "knowledge influencer" in the title of a paper. [Chen \(2024\)](#) identified three key characteristics of a knowledge influencer: creating valuable content based on professional expertise; engaging in approachable interactions with the audience to provide a valuable user experience; and fostering a sense of belonging among viewers through such close connections. For example, YouTube videos produced by doctors serve as a prime example of content that leverages professional expertise. These videos contribute significantly as a source of knowledge for those studying medicine, aiding in the acquisition and application of specialized knowledge ([Al-Marroof et al., 2021](#)). The expertise of knowledge influencers is recognized for providing useful, comprehensive, and up-to-date content, and is utilized by highly innovative users seeking information on new technologies ([Al-Marroof et al., 2021](#)). A former high school teacher turned knowledge influencer is expanding a unique worldview by effectively balancing professional expertise, approachable interaction, and close connections ([Song and Mo, 2024](#)). As a knowledge-based live streamer, this influencer has amassed millions of followers and achieved commercial success. When streaming the sale of rice, for example, he begins by recounting how, around 10,000 years ago—when humanity first began cultivating wheat—the ancestors of that country were already cultivating rice ahead of others. This knowledge influencer combines knowledge—presumably gathered extensively from encyclopedias—tailored to the product to generate compelling, original content. Their storytelling style possesses a unique atmosphere that evokes empathy and deep emotion among followers, providing an experience that satisfies people's thirst for knowledge. A key feature of this knowledge influencer's storytelling is their ability to quickly build intimacy with viewers ([Song and Mo, 2024](#)). The defining characteristics of knowledge influencers lie in their strong ability to create mechanisms for captivating customers, particularly through content ([Al-Marroof et al., 2021](#)), and their focus on the reliability of their content and the extent of their influence on followers rather than the sheer number of followers ([Aziezy et al., 2024](#)). It is anticipated that attention toward knowledge influencers will continue to grow in the future.

Table 1
Positions of respondents and interview time taken. (created by the author).

Respondent	Number of interviews	Position	Listening time (minutes)
T	2	President	98, 50
H	1	Director / New Business Development	59
K	2	Director / Corporate Planning	101, 91
J	1	Executive Officer/Product Strategy	64
L	1	Manager / Product Development	75
S	3	Corporate Officer / In charge of Art Crayon	81, 90, 54
N	1	Assistant General Manager /Product Strategy	60
A	1	Professional painter/influencer	76

In this study, the term “influencer” refers to a “knowledge influencer.”

2.5. Perspectives of this Study

For companies to build barriers against market competition, they must succeed in open innovation by leveraging external knowledge (Chesbrough and Appleyard, 2007; Cohen and Levinthal, 1990; Bogers, et al., 2018). The key to selecting external partners lies in how they can foster creativity (Teece, 2007). Influencers must have a deep understanding that value is created through the process of consumers using products or experiencing services (Ramaswamy and Ozcan, 2018). By addressing consumers’ everyday challenges in using products and services within co-creation spaces, influencers enhance alignment between themselves and consumers, thereby captivating them (Belanche, et al., 2021). Influencers are expected to create co-creation spaces where they, the participating consumers, and even consumers meeting for the first time can empathize with one another (Font et al., 2021). Influencers are also expected to provide tacit knowledge based on expertise and deep experience, as well as information on the latest trends (Xiao et al., 2018), thereby offering consumers the joy of gaining knowledge. Since consumer satisfaction in co-creation spaces is influenced by the mutual behavior of customers and company employees (Navarro, et al., 2016), managing these spaces to ensure positive interactions is also a crucial role for influencers. The value expected of influencers as external knowledge is achieved by guiding consumers to actively participate in experiences that offer greater emotional value.

This study focuses on cases in which independent influencers—who operate outside of any organizational framework—leverage their knowledge and experience to collaborate with B to C companies, thereby generating results in open innovation related to R&D and servitization that would be difficult for companies to achieve on their own. Influencers’ detailed insights into users’ product usage led to highly accurate new product ideas. The user perspective provided by influencers helps revise certain aspects of manufacturers’ existing new product development policies and contributes to the development of products with distinctive features. Content that appeals to users’ emotions provides them with valuable experiences and aids in the success of corporate servitization. It is believed that by observing and learning from influencers who generate results through novel methods, companies can gain insights to reevaluate their corporate strategies and management practices. This study examines, from the perspective of value co-creation (Ramaswamy and Ozcan, 2018), how influencers’ insights promote corporate open innovation and what experiential value (Schmitt, 1999) they provide to consumers.

3. Qualitative data collection methods

3.1. Case study manufacturer, product, and influencer

This study analyzes the case of Pentel Co., Ltd. Pentel’s headquarters is in Tokyo. Founded in 1946, the company manufactures and sells stationery and office supplies, electronic devices, industrial robots, and

chemical products. The company has over 2600 employees (consolidated), generates over £ 237 million in revenue (consolidated), and derives 71% of its revenue from overseas markets (Pentel, 2025). In the fall of 2023, the company developed a new line of “Art Crayons” for adults, separate from the “Pentel Crayons” for children that it has manufactured since its founding.

Influencer Mr. A is a 77-year-old professional painter (as of February 2025). After graduating from the art department of a university, he has worked as a professional painting instructor for over 40 years, providing feedback and instruction on paintings at a major publishing company. Mr. A is a YouTuber who has posted over 1000 videos. As of March 2025, his total number of followers across all social media platforms exceeds 4 million (Mr. A’s website, 2025).

3.2. Data collection

Data collection was conducted through semi-structured interviews and the gathering of publicly available data. The interview participants were selected after receiving an explanation from a Pentel director regarding the job responsibilities of those involved in the new business. As a result, the eight individuals listed in Table 1 were selected. The interviews began in September 2023 with Mr. T, the Representative Director who formulated the corporate strategy. This timing coincided with a period when the majority of the research and development process for the “Art Crayon Project” had been completed and discussions regarding the implementation of the “Art Crayon Classes” were underway. The interview with Influencer Mr. A was conducted in May 2024, after A had served as an instructor for the Art Crayon classes for six months. Since all interviewees were native Japanese speakers and the interviewer was also fluent in Japanese, the interviews were conducted in Japanese, and no back-translation of the text data was necessary.

A total of 12 interviews were conducted, averaging 112 min per person, resulting in a total of 185,000 transcribed characters (23,100 characters per person). To verify the interrelationships, three participants were interviewed multiple times. Thanks to the cooperation of the Pentel employees—who understood the nature of semi-structured interviews as a method for thoroughly grasping the participants’ perspectives—we were able to capture in-depth discussions across multiple interviews.

During the interview with Pentel, we tried to leverage the characteristics of a semi-structured interview. The interviewer first asked each respondent to explain their specific role in the new business initiative, and then posed questions selected from a prepared list. We prioritized encouraging respondents to speak in detail, avoiding an atmosphere that would make them feel pressured by time constraints. The questions were as follows. We asked Mr. T, the Representative Director, strategic questions regarding the background behind the company’s emphasis on brand expansion as a business strategy and the effectiveness of user innovation activities. We asked Mr. S, the Executive Officer in charge of the new business project, about co-creation methods with influencers, the results of these efforts, and internal reactions to co-creation. We asked Mr. N, the Senior Manager of

the new business project and a graduate of an art university, about the benefits of involving influencers in the servitization of art-related services and the insights that are difficult for manufacturers to obtain on their own.

This study did not include questions regarding challenges or potential pitfalls. The reason for this was that the interview period largely overlapped with the co-creation phase between Pentel and Influencer Mr. A, and it was therefore deemed premature to address these issues. By waiting for these topics to emerge from the respondents during the interviews, the researcher obtained explanations regarding the circumstances of the difficulties encountered, such as how they dealt with a period when Pentel and the influencer did not fully understand the need for mutual knowledge transfer (as explained in Section 4.2) and internal competition (as explained in Section 4.3). The respondents shared a common value of viewing every situation positively and dealing with it (as explained in Section 4.3), which served as the driving force for overcoming difficulties. In the interview with Mr. A, he spoke about the process of gaining a deep understanding of human nature, such as his understanding of the psychology behind people seeking solace in creative activities, based on his long experience as a painting instructor. This background led to a discussion about the mission of instructors at the art crayon classes.

3.3. Other research materials

Pentel granted permission to use a portion of the data from a questionnaire survey conducted among participants of its Art Crayon classes. Pentel conducted this online survey targeting participants from the first session of the Art Crayon classes held in December 2023 through April 2024. The survey was sent to 160 participants, with 113 responses collected, yielding a response rate of 70.6%. The main questions concerned participation motivation and satisfaction after participation. The authors received anonymized data and used only the open-ended comment section.

One of the authors participated in an Art Crayon class as a member of the public and conducted participant observation. The participant observation took place during a class held at Pentel's Tokyo headquarters in July 2024. The session lasted three hours in the afternoon. Portions of the observed content are reflected in Section 4.4 Phase 3.

Other major public information includes the company website, crowdfunding aggregate data, and press release materials for the general sale of Art Crayons.

3.4. Analysis

The interview data were analyzed using the Modified Grounded Theory Approach (M-GTA). M-GTA is a version of the Grounded Theory Approach (GTA) developed by Glaser and Strauss (1967), which Kinoshita (2007) adapted to make it easier to use in terms of analytical procedures and other aspects. Its main features are, first, the designation of an analytical focal point to ensure that the researcher's perspective does not interfere with the analysis and interpretation of phenomena. In this study, the designated analytical focal point was Mr. T, the representative director. Second, to facilitate the analysis, text data is broken down and grouped by common themes; these are termed "concepts" and used in place of a coding process. In this study, we identified nine concepts: issues related to organizational culture; issues related to corporate strategy; strengthening co-creation capabilities; user innovation; the balance between psychological safety and reform; issues regarding compatibility among the three parties; the qualities and learning of value co-creation personnel; the significance of introducing crowdfunding; and organizational issues concerning the foundation for future success. These concepts were further consolidated into three categories: "Strategic Issues," "Issues Regarding Strengthening Co-Creation Capabilities," and "Human Resource Development Issues." At this stage, we re-examined the text data to verify consistency

with the concepts and concluded that no new information needed to be added, indicating that data saturation had been reached. The M-GTA analysis results generated in this manner were summarized in a results diagram and a concise storyline. The M-GTA method was adopted because it was deemed a suitable analytical process for integrating data from interview participants in this study, who held different positions and roles.

The following storyline is a summary of an interview conducted using M-GTA.

3.4.1. Storyline

The clarity of Pentel's new product strategy based on brand expansion was the deciding factor in choosing Mr. A, an influencer with clear new product ideas, as an R&D partner. Pentel welcomed the influencer as a partner for its entire Art Crayon business, and the influencer contributed to significantly shortening the product development process, successfully crowdfunding the product, and earning high praise from participants in Art Crayon classes. Pentel believed that co-creative R&D with an influencer who fit its strategy could lead to a new type of product innovation that was different from co-creation that simply introduced external knowledge.

4. Case study

4.1. Overview of the development of art crayon by Pentel

Mr. T, then President of Pentel, set strategic goals for the company's long-term growth. That is the enhancement of their art material product line through brand expansion (Aaker, 2014). Mr. T realized that stationery, which is associated with office supplies in Japan, is widely used as art materials in Europe. European stationery shops have a wider selection of art materials such as colored pencils than writing implements such as ballpoint pens, which are common in Japan. Mr. T conducted a survey of the company's local employees in Europe and found that they have a firmly established tradition of enjoying the arts. Mr. T believed that European stationery culture would eventually spread to Japan, and in order to become a pioneer in this field, he decided to explore market expansion through brand expansion by creating new products that would coexist with existing products based on existing products.

Mr. T, who was appointed president, believed that the introduction of external knowledge was essential for creating highly innovative products through a brand expansion strategy, and instructed Mr. S (Corporate Officer and General Manager of the Sustainability Promotion Department) to select co-creators from among lead users. After confirming that Mr. S had decided on a co-creator and that co-creation was progressing, Mr. T established the User Innovation Promotion Division in June 2023. The brand expansion strategy was a strategy to reform both the new product R&D and organizational culture of Pentel, and the introduction of external knowledge was aimed at accelerating product idea acquisition and organizational reform.

Mr. S, who is in charge of new product strategies based on user innovation, saw a YouTube video of influencer Mr. A drawing beautiful pictures using Pentel drawing crayons. He intuitively felt that Mr. A could become a co-creator for Pentel, so he visited Mr. A's atelier. Mr. A asked Mr. S, whom he had just met, 'Why don't you make crayons for adults?' and proposed the development of a product that would transcend the traditional characteristics of crayons. Mr. S says, 'I felt that it was very meaningful to create art products from our founding product, crayons, and I was determined to work towards that goal.' He said that this determination led to co-creative R&D with influencers. Mr. S's strong determination led to the naming of the new product, Art Crayon.'

Mr. A's idea was to create outstanding product characteristics that were not found in existing products. For this reason, Art Crayon required a review of the material composition to match the target characteristics, rather than using the material standards for conventional

Table 2
History of Art Crayon R&D by Pentel and influencer Mr. A (created by the author).

Phase	Date	Processes
Phase1: Idea creation and prototype development	December 2021	Mr. S watched Mr. A's YouTube videos.
	February 2022	Mr. S visited Mr. A's atelier for the first time. Mr. A proposed some mature ideas using crayons. Mr. S and Mr. A began visiting each other.
	May 2022	Dialogue between Mr. A and 20 Pentel staff members at the Pentel Ibaraki Factory Frequent mutual visiting between Pentel staff and Mr. A.
Phase2: Product completion and utilisation of social media	August 2022	A prototype in one color was completed. Color matching research was progressing with the aim of realizing characteristics such as Layering colors.
	January 2023	Crowdfunding project launched
	June 2023	Art Crayon 8-colour set has now been decided. User Innovation Promotion Division established.
	November 2023	Crowd funding campaign launched.
	December 2023	Art Crayon Classes Begin.
	February 2024	Crowdfunding completed.
Phase 3: Product launch	October 2024	Art Crayon goes on sale to the general public.
	February 2025	Art Crayon 16-colour set now on sale.

crayons. Under the supervision of influencer Mr. A, Pentel staff sought to improve the oil and wax content of the ink to enhance the color layering and mixing properties. In addition, new materials that had not been used before were added, resulting in a moist and soft product. Based on the color layering characteristics of existing crayons, this new product utilizes the softness and excellent color spreadability of pastels to achieve a revolutionary new art material with color mixing characteristics and a glossy finish similar to oil paints, without any residue. Mr. S, who leads the Art Crayon Project, explains that Art Crayon is a product that offers the same ease of use as existing crayons and a high degree of functionality that allows for rich expression without the need to use multiple art materials.

The co-creative R&D between Pentel and influencer Mr. A began with Mr. A's product idea and has been carried out throughout the entire Art Crayon development project, including product development and the formation of a user community to promote product dissemination. The process is shown in Table 2. In this study, we divide the process into three phases. The first phase was from December 2021 to August 2022, during which Mr. S and Mr. A met and created a highly refined prototype. The second phase, which lasted until November 2023, was a period during which crowdfunding was planned and implemented to raise awareness of Art Crayon in the market. The third phase lasted until February 2025, during which monthly Art Crayon classes were held, the product went on sale to the general public at stationery stores, and a 16-colour Art Crayon set was launched. The following section provides a case study analysis of the three phases of the project.

4.2. Phase 1: Significant reduction in the prototype development process

The first challenge for Pentel in starting co-creative R&D with influencer Mr. A was that neither side knew in advance what knowledge needed to be transferred (Cummings and Teng, 2003). Business-related agreements, such as setting co-creation goals and methods for providing mutual expertise on new products, must be made before it is clear what can be created by integrating the knowledge of both parties. For this reason, Mr. S of Pentel made every effort to exchange opinions with Mr. A regarding art supplies and building mutual trust. The method used for this was mutual visits. Mutual visits were conducted frequently, moving between Mr. A's atelier and the Pentel factory and head office, and the exchange of opinions between the members involved in the co-creation and seeing each other's workplaces strengthened their affinity for one another. While many partnerships involving knowledge transfer fail (Harrigan 1988), the good relationship between Pentel staff and Mr. A overcame initial business agreements and clarified the concept of adult crayons, resulting in a significant reduction in the prototype development process.

Mutual visits to each other's workplaces resulted in the sharing of expertise. The expertise provided by Pentel to Mr. A is in the field of art

material manufacturing processes and manufacturing technology. On the other hand, the expertise provided by Mr. A to Pentel includes painting techniques (use of art materials), drawing methods (steps in painting), and skills (methods of expression). The other is the 'essential understanding of human nature' that Mr. A cultivated through painting. For example, some people who want to paint but cannot take the first step may have been traumatized by something a teacher or adult said to him or her in childhood. For such people, simply having Mr. A praise their drawings as a fellow artist can help them rediscover their enjoyment of painting. This is Mr. A's philosophy, cultivated through his painting instruction, regarding the essential nature of motivating people.

This exchange of expertise involves tacit knowledge that is not easily understood. In particular, the insights provided by Mr. A to Pentel stemmed from his practical knowledge as a user who had become highly skilled in the use of art supplies over many years. During R&D sessions with Pentel, Mr. A strongly emphasized that art supplies a manufacturer considers excellent are not necessarily appealing to users. He explained that while manufacturers tend to want to create products with characteristics that are, on average, superior to those of rival products, users often perceive such products as ones where their limitations stand out. The tacit understanding is that art supplies which possess a standout characteristic—and allow users to create paintings they have never drawn before by leveraging that characteristic—are more appealing to users. Even if this tacit understanding is difficult for manufacturers to grasp, it is precisely these user-centric characteristics that constitute the true appeal. The role of an influencer lies in providing insights that leverage the perspective of the users who love the product the most.

Mr. S said, one of our staff members, who has experience in developing drawing materials, told me that if you give me a week, I can do something. So, the first color was prototyped in a week. That was in August 2022.' Mr. A saw the first prototype and gave it high praise, saying, 'This will work.' Mr. A, a professional painting instructor, is highly skilled at motivating people. The prototype development, which began with praise, got off to a smooth start, and even after the prototype development was handed over to the development department, development work proceeded quickly, and the total number of prototypes was reduced to about one-fifth of that of normal development. In June 2023, ten months after the first prototype was created, a decision was made to produce a set of eight colors thanks to the high quality of the prototype. Pentel had set the launch of its crowdfunding campaign in November 2023 as an important milestone, but the product development, which was carried out in a short period of time, was completed in time for this milestone.

One of the reasons why Art Crayon's R&D was realized in such a short period of time was the clarity of Mr. A's idea for adult crayons. Crayons are drawing materials that are suitable for layering colors.

However, when light colors are layered over dark colors, the colors become dull, so professionals avoid layering colors from the beginning. Adult users do not necessarily understand this procedure from the outset. In order for such users to enjoy the process, it is necessary to use drawing materials that allow bright colors to be applied over dark colors even after the entire image has been drawn, so that the colors will show up well. Mr. A, an influencer, recognized this from his experience teaching painting and communicated it to Mr. S and the staff from the beginning of the R&D process. Pentel found it valuable to learn from Mr. A's professional experience as a painter about why adult crayons are necessary and how they differ from crayons for schoolchildren.

Co-creative R&D with a knowledgeable influencer who understands the essence of human motivation goes beyond the traditional co-creation of product sales. Rather, it provides a manufacturer with an opportunity to absorb tacit knowledge from a different perspective than before. Furthermore, the influencer's expertise in human motivation, cultivated through face-to-face and online drawing lessons, strongly motivated the manufacturer's staff during the process of integrating new product ideas, resulting in a significant reduction in the development process.

4.3. Phase 2: The impact of social media use

What is particularly noteworthy about Mr. A as an influencer is the large number of followers he has attracted. This has given him influence in the market and served as a powerful driving force in various aspects of new product R&D. One example of this was his response to the concerns raised by the existing crayon division in the early stages of the Art Crayon project.

The first concern expressed by staff involved with existing crayons was the possibility of cannibalization in the market for adult crayons and existing crayons for schoolchildren. The company took pride in its crayons for schoolchildren, which had been improved over 80 years by many employees, and wanted to avoid any negative impact on the market. In addition, the company was concerned that if the crayons for adults failed to sell, the brand value of the crayons for schoolchildren would also be damaged.

Mr. S did not take these concerns negatively. Rather, he believed that they stemmed from weaknesses in Pentel's market research activities in the new product development process, and sought ways to obtain data showing the potential for the new Art Crayon and existing crayons to coexist in the market. Mr. S noticed that crowdfunding could function as a test marketing tool, and with the approval of Mr. T, the president, he began planning a crowdfunding campaign. After obtaining Mr. T's approval, Mr. S received a proposal from Mr. A to use crowdfunding as a way to raise awareness of adult crayons. After consulting with Mr. A, Mr. S decided on their respective roles in implementing the crowdfunding campaign based on the two objectives.

The manufacturer, Pentel, became the key player in seeking support for the crowdfunding project, while Mr. A focus on acquiring supporters. The crowdfunding campaign, titled 'Art Crayon Project,' started on 11 September 2023 with a target amount of UK pounds 15,400. Thanks to Mr. A's appeal on YouTube, the target amount was achieved in less than 48 h. The crowdfunding campaign received UK pounds 96,300 from 2586 people by the end of 29 February 2024, achieving 626% of its target (GREEN FUNDING, 2025). Approximately 4000 sets of Art Crayons were distributed to supporters. Comments collected from supporters through crowdfunding showed that there is potential for the existing crayon market and the adult crayon market to coexist. As a result of this test marketing, concerns within the company gradually gave way to understanding.

The market influence of influencer Mr. A, which was demonstrated through this process, was mainly through his YouTube channel, and was significant, from the announcement of the joint development of Art Crayon, to the recruitment of crowdfunding support, and finally to the

start of general sales of Art Crayon in stores. A YouTube video of Mr. A drawing a girl with Pentel crayons has been viewed 6.83 million times (as of 6 March 2025), drawing attention to the co-creation between Mr. A and Pentel. A YouTube video announcing the collaborative development of Art Crayon by Mr. A and Pentel has been viewed 60,000 times, and a YouTube video announcing the start of crowdfunding has been viewed 65,000 times. In both videos, Mr. A's followers showed great interest in the collaborative development with Pentel, and many comments expressing their expectations for the Art Crayon were posted (view counts are as of 6 March 2025). Mr. A continued to upload YouTube videos using Art Crayon, and his video copying Vermeer's 'The Milkmaid' with Art Crayon has been viewed 1.03 million times (as of 6 March 2025), preventing his followers from losing interest.

On 11 October 2024, the first day of general sales of Art Crayon at retail stores, sales at major drawing material stores and online stores greatly exceeded expectations, and the product sold out on the same day. In response, Pentel reviewed its Art Crayon production plan and decided to increase production.

Mr. A's influence through his extensive use of social media helped the project exceed its crowdfunding goal, enabled test marketing of Art Crayon, and became a powerful driving force behind the unexpected success of Art Crayon's retail sales.

4.4. Phase 3: Providing multifaceted experiential value to users

After launching Art Crayon, Pentel held Art Crayon classes with the aim of providing users with experiential value. At the Art Crayon class, influencer Mr. A served as instructor, promoting co-creation with participants and providing multifaceted experiential value using this new drawing material. In particular, the opportunity to meet and interact with Mr. A, who is admired by many painting enthusiasts, was highly valued by participants. The participants of the Art Crayon class can show their drawings to Mr. A and receive advice directly from him. This is a place where fans of Mr. A can have a powerful emotional experience. As shown in Table 3, many respondents to the classroom participant questionnaire cited 'the opportunity to meet Mr. A in person' as their motivation for participating, and after participating, they responded that 'it was really good to attend Mr. A's lecture.'

In addition, watching Mr. A draw in front of them and experiencing his sense and technique firsthand was a valuable experience that stimulated the intellectual curiosity of painting enthusiasts.

Mr. A's YouTube videos edit and shorten parts of the drawing process. Therefore, seeing the entire process from start to finish is a rare opportunity that is only available at Art Crayon classes. When the author participant observed an Art Crayon class, Mr. A chose a yellow Art Crayon to draw a green mountain, and the participants were surprised by his unexpected choice. When Mr. A mixed colors and used different shades to draw a beautiful, vivid green mountain, the participants were once again filled with admiration. The participants, who were able to experience Mr. A's outstanding skills up close, gained creative and cognitive experiences and expressed their excitement in the questionnaire, writing, 'I think I was able to create something special by participating in the Art Crayon class,' and 'I was able to immerse myself in drawing with new crayons and quickly pick up the techniques.'

Furthermore, Mr. A's advice on the participants' drawings and the casual interactions between Mr. A and the participants were also valuable experiences. The questionnaire included comments such as, 'I received harsh criticism from my art teacher when I was in art school, and since then I had completely closed myself off, but Mr. A's advice made me realize that it was okay to draw whatever I wanted,' and 'Mr. A told me to try drawing more boldly, and I wondered how I could do that, but when I tried it, I understood what he meant and realized that I had been stuck in a fixed mindset. Trust in influencer among Art Crayon Class participants was built not only through influencer expertise, but also through their commitment to fostering high-quality relationships, including personalized advice and casual interaction.

Table 3
Valuable experiences of Art Crayon Class participants and their comments.

Experience items	Comments from participants
emotional experience	<ul style="list-style-type: none"> • Thanks to the direct guidance of my beloved teacher A, I decided to enjoy painting for the rest of my life. • I was looking forward to Mr. A's advice, and the time felt long. • I was able to talk with Mr. A, and it was a fun practical session filled with laughter. • Seeing Mr. A drawing happily made me feel happy too. • Mr. A was very kind to me, and I would like to participate again next time with my elderly mother.
creative and cognitive experience	<ul style="list-style-type: none"> • I am happy to have discovered a way to draw freely and with depth. • I learned how easy and fun it is to draw. I want to keep drawing. • In order to improve without going in the wrong direction, I thought it would be best to learn from a professional in that field. • By closely observing perspective and other techniques, I recognized the necessity of basic drawing methods and techniques. • The dynamic movements of Mr. A's hands as he added touches to my painting were a fresh surprise that I couldn't see on YouTube. I want to continue studying and having fun.
behavioral experience	<ul style="list-style-type: none"> • I was deeply moved by Mr. A's paintings and thought how free they were. I want to free my own sensibilities, which are bound by fixed ideas. • I feel that the experience of realizing that drawings can be more free will accumulate somewhere inside me and spill out when the time is right. • I am in my 60s, but I thought that age is no barrier to starting something new. I decided to live my life doing things that are fun and exciting. • I posted Mr. A's motto for living a vibrant life, 'Do what you love' and 'Do it as soon as you think of it,' in my room. I also want to live a rich and fulfilling life. • I had suppressed my desire to draw for a long time. I always made excuses, saying that I didn't have time or that my work wasn't good enough to show anyone. The workshop gave me a chance to reflect on myself.
social experience	<ul style="list-style-type: none"> • It was fun to exchange impressions with other participants who drew pictures together. • It was a great opportunity to participate in a place where Mr. A's desire to make drawing more accessible was conveyed to all the participants. • Everyone who participated seemed to enjoy themselves. There were people of various ages, but everyone felt comfortable sharing the same content while focusing on themselves. • The classroom space created by Mr. A is absolutely wonderful. Thanks to that, I was able to draw with complete concentration. • I am grateful to the instructor for teaching each participant carefully. • I could feel the love in Mr. A's perspective when he talked about his experiences with Pentel. Thanks to that, I was able to use Art Crayons with gratitude and express my appreciation to Pentel.

(Excerpts from the free comments section of the Art Crayon Class participant questionnaire) (Compiled by the author)

The reason why Mr. A can have a positive influence on the participants' lifestyles largely because he always speaks in a complimentary manner. Mr. A never criticizes other people's work. Mr. A's praise brings value in the form of a sense of approval from the person he is talking to and the creation and restoration of confidence. Mr. A spends more than half of the workshop's time giving individual advice to participants. Mr. A held up the participants' half-finished drawings above his head and praised them, saying, 'You've done that really well.' He then gave him specific advice, saying, 'If you do this here, the drawing will stand out even more.' In an interview with the author, Mr. A said, 'It is important to understand that every piece of work is important to the participant, who has spent a lot of time and effort on it,' which shows the respect he has for the participants when teaching them. The participants, who were worried about what would be said, gained a sense of self-efficacy and tried to use their creativity in a lively manner. Other participants who saw this were also inspired and became livelier. In this way, the Art Crayon classroom becomes filled with comfort and vitality. The interaction between Mr. A and the participants provide behavioral experiences in which Mr. A's approval behavior has a positive influence on the participants' behavior.

Furthermore, in an interview with the author, influencer Mr. A said that the classroom has a special meaning for the participants: "The classroom is a society. When the participants form a human connection, it becomes a community. Then, the participants' attitudes toward me changed, and they decided that they would accept me as a member of the community. The participants, who until just a moment ago could be granted approval from Mr. A, now felt sympathy for the other participants and became members of the participant-centered community, and in turn, began to behave in a way that implicitly approved Mr. A's entry into the community. This change in the participants' attitudes signifies the emergence of a community within the Art Crayon Class and the participants' sense of belonging to that community. It also confirms that the participants gained social experience that encouraged them to behave in accordance with the community culture.

Interpreting these findings using the experiential marketing (Schmitt, 2008) module, we can see that Pentel chose to provide multifaceted experiential value to users as its service strategy. Manufacturers have little accumulated intangible content to offer their users. In contrast, influencers' business is to disseminate content, which is an intangible asset. It has been confirmed that manufacturers can accelerate success by positioning influencers as external partners who co-operate in the entire new product R&D process, rather than limiting their R&D with influencers to acquiring new product ideas and assisting with sales.

5. Findings

The case study analysis identified three interrelated perspectives through which influencers generate value in co-creative R&D with manufacturers, as shown in Figure 1: (i) the complementarity of resources, (ii) the extension of marketing capabilities, and (iii) the facilitation of servitization through knowledge creation. Together, these perspectives illuminate how influencers can function as mediators who bridge tangible and intangible domains of innovation, providing firms with both functional and experiential resources.

First, the findings highlight the mutual complementarity of resources between manufacturers and influencers. Manufacturers primarily provide functional value through tangible products, whereas influencers contribute intellectual and emotional value by disseminating experiential content that resonates with user communities (Nadiri and Gunay, 2013). In this case, the influencer's advanced knowledge of colour layering and mixing, combined with his ability to communicate artistic techniques, not only enriched the development team's understanding of product potential but also stimulated internal creativity. This cross-fertilisation of resources enabled the rapid prototyping of Art Crayon, with one developer producing a prototype in a single week. The finding underscores the significance of influencers as catalysts who transform tacit, experience-based knowledge into actionable insights for product development.

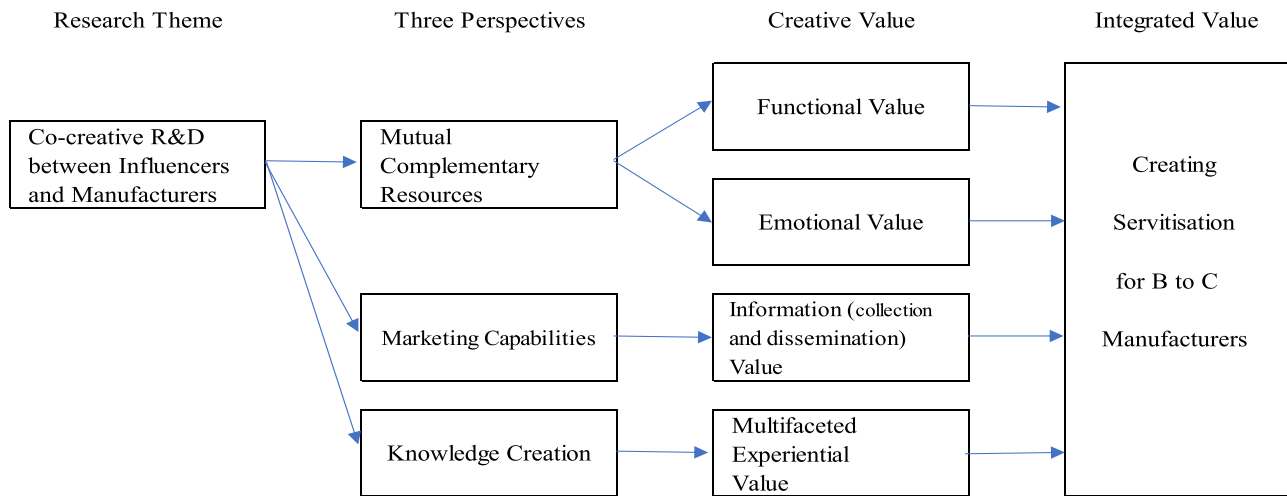


Fig. 1. The value that influencers bring to co-creative R&D with manufacturers (created by the author).

Second, the study illustrates the utilisation of influencers’ marketing capabilities as a strategic asset within R&D. Traditionally, test marketing and pre-launch research are crucial yet underutilised stages in new product development (Cooper and Kleinschmidt, 1986). In this case, influencer-led crowdfunding served as both a marketing mechanism and a form of experimental validation, generating support from consumers and far surpassing the funding target. This not only provided empirical evidence to alleviate internal concerns about product cannibalisation but also revealed the presence of early adopters, thereby reducing uncertainty in the launch process. In this respect, influencers’ social media influence extended beyond post-production promotion to shape strategic decision-making in the development cycle itself.

Third, the findings demonstrate how co-creation with influencers promotes knowledge creation for servitization. Servitization requires firms to shift from product-centric models toward the co-creation of meaningful user experiences (Grönroos, 2008). In this case, influencer-led classes and workshops created opportunities for consumers to engage in creative, emotional, and social experiences, thereby transforming a tangible product into a service-oriented offering. The qualitative data reveal how users valued not only the artistic utility of the crayons but also the opportunity for direct interaction with the influencer, which fostered a sense of community and identity. Importantly, the emotional resonance conveyed through social media comments and crowdfunding feedback provided the manufacturer with insights that conventional market research could not capture. This suggests that influencers act as conduits for the externalisation of user tacit knowledge, guiding firms in the design of service strategies.

On the other hand, the findings also reveal constraints. The degree to which influencers can contribute to servitization depends on their expertise, communicative capacity, and alignment with the manufacturer’s strategic objectives. This highlights the contingent nature of influencer involvement, suggesting that while their role can be transformative, it is also bounded by organisational and contextual factors.

6. Discussion

This study aims to deepen the understanding of influencers in the context of open innovation at B to C companies by positioning them not merely as peripheral marketing agents, but as co-creators of knowledge within the research and development process. While existing research predominantly situates influencers within consumer persuasion frameworks emphasising their effect on purchase intention, brand attitude, and trust (Kilumile and Zuo, 2024; Sokolova and Kefi, 2020) the findings here demonstrate that influencers also contribute substantively to

open Innovation in the Early Stages of B to C Companies. Their value lies less in functional knowledge transfer and more in their ability to translate tacit expertise, mobilise user communities, and create experiential meanings that enrich product development.

A key theoretical contribution is the conceptualisation of influencers as ‘knowledge translators. Unlike traditional external partners such as suppliers or research institutions, influencers occupy a liminal position between firms and consumers. They possess the ability to convert personal expertise and user experiences into narratives and practices that are intelligible to both audiences. This function enables them to mediate between organisational constraints and user expectations, effectively shaping the cultural and emotional framing of innovation. In doing so, they extend prior conceptualisations of influencers as ‘carriers of corporate messages’ (Zhang et al., 2021), demonstrating that their mediating role operates even before product development, influencing the trajectory of innovation itself.

The findings also align with and extend the literature on value co-creation. Prior studies highlight how co-creation strengthens consumer loyalty and enhances brand trust (Kumar and Kandoi, 2018; Weismueller et al., 2020). This case shows that influencers not only enable user participation but actively orchestrate it, encouraging consumers to engage in crowdfunding, workshops, and community-building. In this sense, influencers function as intermediaries who mobilise users as co-creators, thereby amplifying the reach and impact of co-creative R&D. Importantly, this highlights a shift from dyadic firm-consumer interactions toward triadic co-creation processes, in which influencers mediate relationships between firms and users.

From a managerial perspective, the study underscores the strategic importance of selecting influencers whose expertise, values, and communication style align with organisational objectives. The success of co-creative R&D depends not only on the influencer’s follower base but also on their ability to integrate seamlessly into organisational processes and contribute tacit, experience-based insights. For firms seeking to pursue servitization strategies, influencers offer a pathway to embed cultural and emotional dimensions into product innovation, thereby creating multifaceted experiential value for consumers.

Nevertheless, the findings also reveal inherent limitations. The scope of influencers’ contributions is shaped by the boundaries of their expertise and by organisational willingness to embrace external knowledge. While influencers can accelerate innovation, they also pose risks, such as overreliance on individual personalities or misalignment between influencer-driven narratives and corporate strategy. Future research should therefore examine comparative cases across industries and influencer typologies (e.g., mega- versus micro-influencers) to better understand the conditions under which co-creative R&D generates sustainable value.

In sum, the discussion positions influencers as mediators of co-creative R&D, whose contributions extend beyond marketing to encompass knowledge translation, user mobilisation, and the creation of cultural meaning. By integrating influencers into the R&D process, firms can access novel forms of intellectual and emotional capital, ultimately redefining the boundaries of open innovation.

7. Conclusion

This study has examined the evolving role of influencers in B to C innovation, moving beyond their conventional framing as marketing collaborators to reposition them as potential co-creators in R&D. Drawing on the case of Pentel's collaboration with Mr. A in the development of the 'Art Crayon', the study demonstrates that influencers can contribute meaningfully across the innovation process from idea generation and prototyping to market validation and servitization. By integrating perspectives from value co-creation (Ramawamy and Ozcan, 2018) and experiential marketing (Schmitt, 1999), the analysis has shown that influencers function not only as channels of communication but also as mediators who bridge organizational knowledge with user experience.

The study makes three main contributions. First, it highlights the complementarity of resources between firms and influencers, demonstrating how influencers' intellectual and emotional value augments manufacturers' functional capabilities and accelerates product development. Second, it illustrates the strategic utilization of influencers' marketing capacity within R&D, showing how crowdfunding and social media engagement provide not only promotional benefits but also early market validation and consumer feedback. Third, it reveals how influencers facilitate knowledge creation for servitization, enabling firms to design experiential value propositions rooted in user practices, emotions, and community dynamics. Together, these contributions extend open innovation theory by positioning influencers as knowledge translators and mediators of co-creative R&D.

At the same time, the study acknowledges limitations. The scope of an influencer's contribution depends on the influencer's expertise, communication skills, and alignment with organizational strategy. Furthermore, when an influencer's impact on consumers as a corporate service business partner exceeds expectations, consumer praise is likely to focus on the influencer rather than the company. Service businesses established through an influencer's influence may face difficulties in replacing or adding specific influencers. To prevent co-creation between corporate strategies and influencers from becoming a risk, companies should anticipate and plan for potential challenges.

Furthermore, single-case design limits generalizability, underscoring the need for comparative studies across different industries, cultural contexts, and influencer typologies. Moreover, it is not always the case that co-creation outcomes between companies and influencers lead to managerial and cultural co-evolution between companies and consumers, the ultimate beneficiaries, contrary to predictions (Potts et al., 2008). It is well known that consumers sometimes experience value co-destruction, where they do not enjoy value or the generation of expected value fails to materialize (Ple' and Ca'ceres, 2010).

Future research should build on these insights by examining how different categories of influencers affect innovation outcomes, and by investigating the long-term sustainability of influencer-led co-creation. Comparative studies across industries could clarify how institutional and market conditions shape the effectiveness of influencer integration. In addition, more quantitative approaches could complement qualitative insights by measuring the impact of influencer involvement on innovation performance.

This study reframes influencers as mediators of co-creative R&D who can translate tacit user knowledge into organizational innovation practices, mobilize communities in support of new products, and infuse servitization strategies with cultural and emotional value. By

recognizing and strategically harnessing this potential, B to C firms can expand the scope of open innovation and develop richer, more user-centered forms of product and service innovation.

Ethical statement regarding publication

We, the three authors, Hisanobu Nakamura, H.M. Belal, and Kunio Shirahada conducted this study with the approval of the Institutional Review Board as described below.

The series of research and investigations were conducted with the approval of the Life Science Committee of the Japan Advanced Institute of Science and Technology (approval number: Hito 05-027).

Funding acknowledgement

This research was conducted using assets belonging to JAIST, where the first author and last author are affiliated. The APC will be paid using research funds held by the last author at JAIST, and acknowledgments will be added after acceptance.

Role of the funding source

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

CRediT authorship contribution statement

Hisanobu Nakamura: Writing – original draft, Methodology, Investigation, Conceptualization. **Kunio Shirahada:** Supervision, Project administration, Conceptualization. **Belal H M:** Writing – review & editing, Methodology.

Declaration of Competing Interest

The authors declare the following financial interests/personal relationships which may be considered as potential competing interests: The first author had the subject company as a client in human resources consulting services until Nov. 2018, but has had no business relationship since then. Furthermore, the data for this study was obtained during a period when no business relationship existed, so we consider no conflict of interest to have arisen.

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