Co-Creation in Practice: Objectives and Outcomes

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This is a Working Paper

Why this paper might be of interest to Alliance Partners:

Living labs (LLs) have emerged as a popular way to support the development of new competencies and sustain competitive advantage by involving users in the innovation process. However, while co-creation in LLs receives growing attention in the literature, the notion is still in its infancy. Given its novelty, it remains unclear to which degree LLs fulfil organisations' expectations. The extant literature discusses the benefits of co-creation and how to involve users, however, less attention is paid to the expectations that organisations have when engaging with LLs and the extent to which their project objectives are met. To address these issues, the case of JOSEPHS® - a LL located in the city centre of Nuremberg, Germany, is explored. The findings reveal that LLs not only meet companies' initial expectations but also deliver a number of unplanned outcomes. Contributions from this paper are extremely relevant both from an academic and practical point of view. For practitioners, this work provides a comprehensive perspective for those considering utilizing a LL. This study also offers insights that can support LLs in better managing their clients' expectations and formulate their own value propositions more clearly. Finally, it provides a better understanding of the organisational co-creation experience in LLs and adds important new knowledge to the literature.

The papers included in this series have been selected from a number of sources, in order to highlight the variety of service related research currently being undertaken within the Cambridge Service Alliance and more broadly within the University of Cambridge as a whole.

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ABSTRACT

The use of living labs (LLs) has emerged as a popular way to support co-creation by creating authentic use situations. LLs help developing new competences and sustaining competitive advantage by involving users in the innovation process. However, given the novelty of LLs, it often remains unclear to which degree LLs fulfil organisations' expectations.

Extant literature discusses the benefits of co-creation and how to involve users, however less attention is paid to the expectations that organisations have when engaging with LLs and the extent to which their objectives are met.

To address these issues, the case of JOSEPHS® - a LL located in the city centre of Nuremberg, Germany, is explored. 14 semi-structured interviews with companies that have completed co-creation projects at JOSEPHS® were conducted.

Findings show that LLs not only meet companies' initial expectations but also deliver unplanned outcomes. Contributions from this paper are extremely relevant both from an academic and practical point of view. For practitioners, this work provides a comprehensive perspective for those considering utilizing a LL. This study also offers insights that can support LLs in better managing their clients' expectations and formulate their own value propositions more clearly. Finally, it provides a better understanding of the organisational co-creation experience in LLs and adds important new knowledge to the literature.

INTRODUCTION

Innovation is at the base of competitive advantage (Porter, 1990). Innovative firms outclass their competitors with regards to market share, profits and growth (Tidd et al., 2005). Therefore, if firms fail to continuously innovate their chances of survival are extremely threatened: "It´s war: Innovate or die" (Cooper 2005, p. 4). Not only innovating is imperative for companies' survival and success, but, especially in the current competitive landscape, the speed of the introduction of an innovation and its alignment with customers' expectations are critical. To ensure that customer needs are met and that market failures are avoided, companies increasingly involve users in early stages of the new product and service development (NPSD) process by encouraging them to put forward ideas for innovative products and services.

The use of living labs (LLs) has emerged as a popular way to support co-creation by creating use situations as authentic as possible (Leminen et al. 2012; Bergvall-Kåreborn et al., 2009a). In comparison to other co-creation methods, LLs develop strong engagement and empowerment of users (Bergvall-Kareborn et al., 2009a; Mulder et al., 2008; Mulvenna and Martin, 2013; Niitamo et al., 2006).

While co-creation in LLs receives growing attention in the literature, the notion is still in its infancy (Akaka, Vargo, and Wieland, 2017; Santonen, Creazzo, Griffon, Bódi, and Aversano, 2017). Eriksson, et al. (2005, p. 8) stress that the LL concept "requires substantial research to optimize its operations and methods". Given the novelty and nature of LLs, it often remains unclear to which degree LLs fulfil companies' expectations. Also, Brønnum and Nielsen (2013, p. 7) emphasize that it is "important for a LL manager to initiate a matching of expectation in regard to purpose of the

LL". Several studies focus on the expectations of users in the co-creation process (i.e. Füller 2010; Nambisan and Baron 2009), while limited knowledge exists about expectations of companies that engage in co-creation activities in a LL setting.

For LLs to succeed in their ambition to be a well-performing facilitator, the potential threat of a mismatch between objectives and outcomes of co-creation projects has to be recognized. At the same time, companies have to understand the full potential of LLs in order to realise their benefits. This study examines expected and realised outcomes of co-creation projects in a LL, identifying discrepancies among them. The aim of this paper is to shed light on how companies' objectives compare against the realised co-creation outcomes in LLs.

LITERATURE REVIEW

This section offers multiple definition of LLs and highlights their co-creative nature. Co-creation is then discussed within the NPSD literature; this section finally emphasises the need to understand project outcomes to assess the success of a LL on one hand and to support companies' co-creation activities on the other.

Co-creation in Living Labs

In the 1990s, the LL concept started to appear in academic literature. However, only in 2006, when the European Commission initiated projects to develop and endorse a common European innovation system founded on LLs, the concept received growing attention (Dutilleul et al., 2010). A number of international organizations were created to inspire LL research. One of the most influential initiatives is the European Network of LLs (ENoLL) which contributes to "advancing co-creative, human-centric, and user-driven research"(ENoLL, 2017, p. 2). The European Network of Living Labs is a growing community, with nearly 400 historically recognised LLs and more than 170 active members. LLs were introduced as an institution to address the 'European Paradox' which refers to the perceived failure of European countries to translate scientific developments into commercially successful innovations (European Commission, 2006). This growing attention and the corresponding financial support for LLs has led to a wide range of initiatives conducted under the 'living lab' umbrella, and a dissemination of academic literature that employ the term 'living lab' in a variety of contexts. In spite of the growing interest in LLs, the field remains an under researched area of scholarly research (Leminen and Westerlund, 2017) due to the absence of common understanding of the concept and its underlying mechanisms (Bergvall-Kåreborn and Ståhlbröst, 2009a). LLs have been researched from various perspectives: a wide range of thematic approaches, constellations, methodologies, and tools for LLs exist (Almirall et al., 2012). They have been conceptualized as an environment (Ballon et al., 2005), a methodology or innovation approach (Bergvall-Kåreborn et al., 2009a), an organization or an innovation intermediary (Schuurman et al., 2012), a network (Leminen and Westerlund, 2012), and a system (ENoLL, 2007). Therefore, the lack of common understanding creates challenges when attempting to advance research addressing LLs. This paper follows the definition of Westerlund and Leminen (2011) who define LLs as "physical regions or virtual realities where stakeholders form public-private-people partnerships (4Ps) of firms, public agencies, universities, institutes and users, all collaborating for creation, prototyping, validating and testing of new technologies, services, products and systems in real-life contexts". This definition highlights the involvement of multiple stakeholders, the real-life context, and the numerous phases of the development process. In a LL environment, numerous stakeholders can collaborate and share their resources, knowledge, and expertise, which is especially important to start-ups and small businesses that have difficulties in acquiring venture capital (Eriksson et al., 2005). LLs can focus on specific demographics or geographical regions, be driven by either research or industry, and led by utilizers, enablers, providers, or users (Leminen et al., 2012). Irrespective of these differences, the role of users and their participation in the innovation process remain

fundamental. Feuerstein et al. (2008) argue that the core service of a LL is to facilitate the co-creation process. LLs are co-creative by nature and definition offering a setting that aims to facilitate co-creation (Hagy, Morrison, and Elfstrand, 2017). Scholars describe LLs as interactive platforms for collaborative innovation characterised through realism and active user involvement (i.e. Schuurman and Marez, 2012).

Co-creation in New Product and Service Development

Co-creation for innovation purposes in NPSD represents only one out of numerous applications for the LL concept (Alves, Fernandes, and Raposo, 2016). Involving users during NPSD can lead to many positive results for the company. Indeed, by working together, firms and users exchange knowledge, information and skills. A stream of literature within the field of customer co-creation in NPSD investigates when and how customers can innovate products and services that are as successful as those of R&D specialists. For example, research (e.g. Kristensson et al., 2002; Kristensson et al., 2004; Magnusson, 2009; Poetz and Schreier, 2012; Nishikawa et al., 2013) compared the quality and commercial success of customer- versus professionally-ideated products and services to learn that customers can surpass a company's professionals. Involving lead users into the NPSD phases enables the firm to develop more relevant, successful and usable products (Ind and Coates, 2013; Brockhoff, 2003; Prahalad and Ramaswamy, 2004), to reduce the risk of failure (Ind and Coates, 2013; Hoyer et al.; 2010), to minimize the product development costs (Hoyer et al., 2010) and to improve its effectiveness and efficiency (Fang et al., 2008). Moreover, by addressing customer expectations, the firm is in the position to introduce a product or service in the market that is more acceptable and more appreciable for the customers (Joshi and Sharma, 2004). By delivering superior value to the consumers, and by communicating with the consumer, the co-creation process can strengthen the relationship between the customers and the firm (Hoyer, et al., 2010). Communication can provide more transparency and thus creates a more robust relationship (Filieri, 2013; Fang et al., 2008) with a feeling of trust (Filieri, 2013; Ind et al., 2013). This in turn encourages brand loyalty (Cossio-Silva, 2016; Sawhney et al., 2005; Sheth et al., 2000). Studies show that customers can produce radical innovations because they are able to freely deploy analogical thinking, and on the other hand, they are not restricted by knowledge of the current technology and organisational strategies (Magnusson, 2009; Kristensson et al., 2004; Dahl and Moreau, 2002). Still, some scholars (Lilien et al., 2002) stress that companies need to learn how to deploy customer competences and knowledge.

Traditional innovation projects aim at particular pre-defined objectives. Managers are able to evaluate the success of such projects by making a comparison between realized innovation outcomes and initial project plan. However, Westerlund and Leminen (2011) argue that LLs are different as they target undefined objectives, even if they follow loose guidelines to trigger and encourage collaboration. The aims of co-creation projects in LLs can change numerous times, as they are subject to the interaction and collaboration among participants of the LL. The results of the co-creation project may include a number of different outcomes, which were not targeted in the beginning of the process. Schuurman et al. (2016) acknowledge that actual outcomes and added value when engaging in LL projects is left unexplored. While the purpose of co-creation is creating products and services or solutions that have better market fit (Schumacher, 2011), it is important to manage firm expectations for them to be able to fully exploit the potential of LLs. Moreover, in order to assess the success of a LL, Veeckman et al. (2013, p. 9) suggest that "the innovation outcome must be considered". As innovation outcomes in LLs is an under researched area, this paper aims to compare the initial expectation of companies engaging in co-creation with the actual outcomes of their projects.

RESEARCH DESIGN

To explore expectations and co-creation outcomes from the perspective of organisations, a single case study approach is employed. The case study approach was selected to control for biases and explore the rather new phenomenon, co-creation in LLs, in greater depth (Yin, 2013). Dyer and Wilkins (1991) also suggest that single case studies allow the researcher to investigate the topic in much greater detail the context within which the phenomena under study occurs. This study investigates the case 'JOSEPHS®' by examining 14 individual company projects.

The Case

The case is JOSEPHS® - the service manufactory. JOSEPHS® is a LL located in the city centre of Nuremberg, in south of Germany. JOSEPHS® was initiated by the Fraunhofer Center for Applied Research for Supply Chain Services (SCS) in cooperation with the Chair of Information Systems I at Friedrich-Alexander-University (FAU) Erlangen-Nuremberg. The LL enables organisations to present ideas, early prototypes or products and services to receive feedback from users. JOSEPHS® is selected due to its set-up as an interactive and physical innovation space that is open to the public. Its openness allows different types of co-creators from all age groups and all walks of life to visit JOSEPHS® and contribute with their ideas to the development of a prototype. In line with Leminen et al. (2015, p. 8), this study uses the term co-creator which is defined as an individual that "seeks and solves problems, ideates and innovates, and develops the solutions together with the companies' R&D teams and other LL actors on an equal basis". Thus, in the context of this study, users and customers that participate in the co-creation process at JOSEPHS® are considered to be co-creators.

Data Collection and Analysis

To achieve the objectives of this study, 14 semi-structured interviews with companies that have completed co-creation projects at JOSEPHS® were conducted in April 2017. In total, 12 hours and 7min of interview recordings were transcribed and coded in NVivo. An overview of the type of company, industry, company size and details about the data collection approach as well as the participant's role in the company can be viewed in Table 1. The Standard Industrial Classification (SIC) is used for classifying the listed companies into industries. To determine the size of investigated companies, this study employs the definition by the OECD (2018). In Table 1, 'L' stands for large companies; 'S' refers to small, and 'M' refers to micro companies. In-person interviews are labelled 'P', whereas telephone interviews are labelled 'T'.

Grounded theory is used due to its suitability to investigate unfamiliar research contexts (Glaser and Strauss, 1967). Accordingly, the analysis started by coding a number of interview transcripts highlighting important and interesting aspects mentioned by the respondents. After getting acquainted with the data, categorizing and thematising took place to study similarities and aspects concerned with the objectives and outcomes of co-creation projects at JOSEPHS®.

Table 1 Overview of participating companies.

Company	Type of Organisation	Industry	Company Size	Duration of Interview	Type of Interview	Participant's job role
A	Private	Services	L	80 min	P	Enterprise Communications Manager

B	Public & Private	Services	L	34 min	T	Innovation & Intrapreneurship Manager
C	Private	Services	L	79 min	P	Director Research & Innovation
D	Public & Private	Services	M	24 min	P	Dean of Design Department
E	Public & Private	Services	L	34 min	T	IT specialist & Application developer
F	Private	Manufacturing	L	62 min	P	Head of Corporate Technology
G	Private	Manufacturing	M	59 min	P	Creative Director
H	Public & Private	Services	L	30 min	P	Project leader & academic coordinator
I	Public	Public Administration	L	79 min	P	Management Consultant
J	Private	Manufacturing	M	39 min	P	Founder & CEO
K	Public & Private	Services	L	27 min	T	Researcher
L	Private	Manufacturing	M	66 min	T	Founder
M	Private	Finance, Insurance & Real Estate	L	89 min	T	Product Manager Mobile
N	Private	Manufacturing	S	25 min	T	Co-founder & Managing Director

FINDINGS

This section is divided into three parts as displayed in Figure 1. First, the initial project objectives of 14 different companies that utilised JOSEPHS® for co-creation purposes are introduced, and in

the second section, the extent to which they are met is presented. Third, the unplanned project outcomes are presented outlining results that the company initially did not expected to achieve.

Figure 1 Comparing project objectives with outcomes.

Project Objectives

The objectives are discussed across eight main categories: JOSEPHS®' co-creators, Exposure, Networking, Market acceptance, Market intelligence, Product testing, Price acceptability, and Method testing. These eight categories are identified through data coding in NVivo. The first category of project objectives is labelled JOSEPHS®' Co-creators. This category presents objectives that place the importance of accessing JOSEPHS® wide range of co-creators at the forefront of their project. The reason for this is manifold, for example companies operate in a B2B context and usually do not have contact to end consumers, or they want to engage with people in a setting that is facilitated by a third party and not influenced by company employees, or they wish to engage with an audience that is not necessarily their typical customer. Second, companies engage in co-creation at JOSEPHS® because they wish to provide exposure to their product. Especially, start-ups and companies with a limited budget identify this as a motivation. Third, some companies are motivated to engage in co-creation because it also offers networking opportunities. This can include other companies that also exhibit a prototype at JOSEPHS®, staff, Fraunhofer SCS or external stakeholders such as retailers. Fourth, companies engage in co-creation because they want to test market acceptance of their prototype. Market acceptance can include a variety of aspects that companies are interested in. For example, testing a hypothesis about different design options or examining the user friendliness of a device. Fifth, companies are motivated to engage in co-creation at JOSEPHS® to gather market intelligence. This can include for instance collecting information on the geographical location of customers that purchase a certain product to understand which region might be suitable for opening a physical store. Sixth, companies are interested in conducting a product test which is focusing on technical aspects to understand how the prototype performs in use situations over a longer period of time. Seventh, some companies would like to identify a suitable price range for their product or service through co-creation. Finally, some businesses are interested in testing JOSEPHS® as a method for co-creation. This can include aspects such as the approach to data collection, the design, or the suitability of the entire concept for the purpose of co-creation.

Table 2 Project objectives and exemplary quotes an overview of all eight categories of project objectives and quotes from the individual interviews with companies to present specific examples for each identified category.

Table 2 Project objectives and exemplary quotes

Project Objective	Exemplary Quotes
JOSEPHS' Co-creators	*Establishing contact to end-customers is of particular importance to Company F which operates in a B2B context. "We had in the past […] not much direct contact to the end-customer and can't really accurately say how the end-customer […] perceives our products, how they assess it and what suggestions of improvement the customer may have".*
	Company G highlights the importance of receiving "unfiltered feedback and from all target audiences and above all without any sympathy factors. And that is the most important thing: Just because I have a start-up and I ask some friends, then that doesn't mean that it's of value to me, what feedback they give. Because if they aren't honest enough, then they just share kind words and that is of no use. It is really very difficult to launch an idea onto the market and then also generate feedback."
Exposure	*Company D clearly states: "We didn't really have an objective. We just wanted to introduce it [the product]".*
	Company L, a start-up from the region, also articulates the product exposure as an objective of their project: It was "somewhat also about showing the [product]".
Networking	*Company B explains that they "wanted to make new contacts".*
	Similarly, aside from testing market acceptance of their products, Company G's objective was also to establish new contacts with distributors who may "buy a few [products] for their shops"
Market acceptance	*Company E stresses: "The market and customer acceptance regarding the product was really important to us." The interviewee highlights that the company was interested in receiving criticism and aimed to explore: "What makes sense, what is nonsense and what can we improve?".*
	Company L's goal was to gather feedback on their online configurator which is used to customize a high-end product to the needs of the specific customer: "It is always a challenge when you just offer your products online to communicate the quality of the product via the configurator". Their objective was to understand how the configurator can be improved.
Market intelligence	*Company L's objective was to gather market intelligence: "To know where customers are from helps us with the decision where we want to open a shop. Where can we expect good returns?" To understand where the customers are from, Company L offered "some coupon codes on a blanket, worth ten euro" in order to track where the customers are from.*

Product testing	*An interviewee of Company F states: "My objective was to see how the installation of the two [technology] systems work out in general. That is separate from the other objectives that we agreed with JOSEPHS®. Just the fact that something like that was installed on-site to find out how smoothly does it work. […] It was important to find out the stability of the systems on-site, to find out not only what problems do occur with the end-customer but also in interaction with the supervising team."*	
Price acceptability	*Operating in a B2B context Company H's objective was to understand what people are willing to pay for their product because: "We need to be aware of it for production. Do we need to produce it low-priced or do people say that they gain such benefits from it that they are willing to pay more for it?"*	
	Company N defines a clear project objective: "We wanted to find out especially what price range people are expecting. What are people willing to pay for the product?".	
Method testing	*Company F explains: "Another main goal for me, that we didn't communicate but still was a goal for me: how does such a probe work with JOSEPHS®? How many people come? How many people participate? How does the supervision work on-site? How much do you have to directly engage in the supervision and evaluation as a company and how much does JOSEPHS® do? I would say also a test of the service of JOSEPHS."*	
	Company K points out that "it is always part of a research project to explore new methods and methodologies". The interviewee reveals: "It was particularly interesting to understand how to engage people with an exhibition so that they don't only pass by but actually interact with the items [prototypes] and how one can observe this interaction."	

Table 3 provides a summary of the project objectives for each of the company interviewed. The companies' typical type of transactions refers to the specific product or service they tested at JOSEPHS®.

Table 3 Companies' initial project objectives

Company Code	Type of Transactions	Project Objectives							
		JOSEPHS' Co-creators	Exposure	Networking	Market acceptance	Market intelligence	Product testing	Price acceptability	Method testing
A	B2C	X			X			X	
B	B2B	X		X	X				
C	B2B	X			X				
D	B2C		X						

E	B2C				X			X	
F	B2B	X			X		X		X
G	both	X		X	X				
H	B2B	X			X			X	
I	B2C				X				
J	B2C		X		X				
K	B2C	X							X
L	B2C		X		X	X		X	
M	B2C	X			X				
N	B2C	X					X	X	

Planned Project Outcomes

This section presents the tangible and intangible outcomes that were initially identified as a project objective. As introduced in the first section of the findings chapter, eight categories of project objectives are discussed.

JOSEPHS' Co-creators

During the individual interviews with 14 companies, nine of them identified access to a variety of co-creators as a motivation to engage in co-creation at JOSEPHS®. For example, while Company B expected to generate new ideas and receive feedback from JOSEPHS®' co-creators which has been met: *"That was apparent in the feedback"*. Company A had a positive experience with JOSEPHS®' co-creators and as a result they will *"work more often with JOSEPHS® or generally, with user integration, especially when it comes to things that concern the customer directly or should be tailored to the needs of our end customers"*. Although, Company A could not consider everything that was suggested by co-creators, they collected these inputs: *"We completely left our original thought how to offer technology supported [service] to our [clients]. We originally thought that we equip our facilities with certain things, basically as basic equipment [...]. But that is often not wanted and if yes, then [the client] wants to have very individual things. But we don't know that. [...] This is something that we discovered at JOSEPHS®, and that's why we now say, we develop a kind of exhibition catalogue, where we tell the [client], 'hey, you could have all of these things, we can put you in touch with specialist companies, give you contacts, advice services' [...]. This is the direction we are going in now, so not anymore, that we think, we equip the [facilities] with these technical devices, but rather, no, we prefer to function as advisors"*. Thus, the co-creation project at JOSEPHS® had a major impact on the overall strategy and offering of Company A: *"JOSEPHS® was really interesting and gave us a different reference point"*. Overall, the suggestions and ideas derived through the co-creation project have been incorporated into the concept. Aspects that relate to the app that was a second area for the project has also delivered feedback that Company A considers. Prior to the start of the co-creation project, Company A mentioned that Person E from JOSEPHS® explained to them that JOSEPHS® *"tries to stay away from too many numbers. JOSEPHS® does not want that. It is not the concept of JOSEPHS®"*. Yet, the interviewee points out: *"For us as a company, numbers do play a role even when we know that they are not representative but if I know I had 50 visitors and five like it then that is an indication and if I can't estimate it at all [...] then it becomes a problem for the company. Yes, JOSEPHS® does not do market research but without it at all, it does not work either"* (Company A). While the overall

number of co-creators contributing their ideas is *"not really our main concern",* it is an indication that Company A would want as part of their project results. Although, Company N states that their *"expectations have been exceeded"* and the *"number of filled-in questionnaires was quite high",* they also point out that the quality of many questionnaire responses was rather low, and a large amount of data was not usable. *"We noticed - well, I don't know, but I assume that some school classes have filled in the questionnaires, which means we had plenty of data that we weren't able to use* (Company N)". Company N states: *"We expected more potential customers, especially the customers that might be interested in our product, so for example older people, who like culinary things, that was something that we expected based on the estimated numbers that we have received from JOSEPHS®. It turned out that this didn't quite match up, on the one hand regarding the volume, the number of people wasn't as big as anticipated and on the other hand the structure of the visitor groups wasn't quite what we expected."* As a result of the co-creation project, the company found out that *"there is a correlation between how much people like to cook and how likely they would use the device".* This result was expected but Company N's objective was to prove or disprove their own hypothesis. Company C cooperated with another partner on developing an app and both consider the access to JOSEPHS®' co-creators as a very important motivation to utilise the LL for co-creation purposes. The company states that their partner was on-site *"and scanned the post-it's on our black board and he said, based on the post-its and the comments that he usually receives via their website, he can see that we really got a representative sample of the city's population and that was one of the most important sentences during the whole time here, because we wanted to reach the local population".* Also, Company F used the co-creator insights from JOSEPHS® internally: *"it was perceived as very pleasant that we go a step further with our products and ask people on the street how they like the product. Internally that was very well perceived. And we also publicised to the appropriate decision makers how the intersections with the end customers looked like."* Similarly, Company G states that access to JOSEPHS® co-creators gave them *"a good representation of the population and not that one has to say, well, they are all in the same age group and have the same opinion, so you have a good rational base to work with further."* Company M explains that they only fully understood JOSEPHS®' concept during their test phase. The interviewee explains that they should have engaged with JOSEPHS®' co-creators much earlier in the process: *"It is cool, and we should have done it earlier [...] if we got the feedback much sooner through these channels, then we could have reacted much quicker to it and could have saved [...] development costs, which of course involves costs and time [...]. I emphasise the point that we should have done it much sooner, because then I could have saved myself this whole customised stuff with extremely high costs and would have chosen standard navigation from the beginning and wouldn't have had any problems. It is really a lot of work that we had because of that"* (Company M). Company K summarises their experience with JOSEPHS®' co-creators as follows: *"The most important experience was that the realisation of co-creation worked out well, so the how-to-engage-people. I had the feeling that there was a space created in JOSEPHS® in which it worked really well. Where people see themselves as co-creators and are happy to share their ideas."* Company H states that they usually attract *"more technically inclined people. At JOSEPHS® we were able to hear some opinions from people that wouldn't normally come to those kinds of things"* (Company H).

Exposure

JOSEPHS® can offer exposure to companies and their prototypes. While some companies may see this a natural consequence of their engagement with JOSEPHS®, four companies identified exposure as one of their project objectives. For instance, Company D knew from the beginning that their *"target audience wasn't represented"* at JOSEPHS®. Company D target audience are *"disabled and severely disabled children, that expanded to overall disabled people and both, with physical impairment and mental impairment. Our second target audience are senior citizens."*

Considering this very specific target audience, the company's main focus was general exposure of one of their products: *"We said, come, let's try it, Nurnberg is our main market, and that was the reason"*. As a result of their project at JOSEPHS®, the interviewee explains: *"Many people got to know us"* is an advantage. Although, Company D did not articulate any clear objectives with respect to the product, the amount of feedback they received was unexpected: *"We received a lot of feedback, predominantly positive. [...] It was interesting to see how people react. We already knew, that it would be positive, but we were a bit surprised to see that even the people that walked past, left a note. We didn't think we would get that many notes, I honestly have to say that."* However, the interviewee also acknowledges: *"The contact with the people is nice, even if they aren't related to our work, but it isn't really useful for us."* Therefore, Company D met their original objective to exhibit on of their products but has not been able to derive any further benefits from the experience. One of Company J's objective was to showcase their prototype and the interviewee says *"with that I was really satisfied"*. On the other hand, Company L had a specific objective in mind in relation to the exposure of their company and product. Company L acknowledges that *"the local press coverage was great"*. Through an article by the Nürnberger Nachrichten people were attracted to visit their business island at JOSEPHS®: *"We even had people visiting our manufactory and when we ask them where they have heard about us, they said JOSEPHS®"*.

Networking

Different to the objective to increase awareness through exposure, Company G and Company B explicitly aimed to expand their network. For example, Company G's objective was not only to test market acceptance of their products, they were also hoping *"that maybe one or two distributors might come by, see it and buy a few for their shops. And of course, with Nurnberg it is ideal, because it's a great shopping city. It was definitely a wish that we would have liked to see one or two distributors coming by"*. Although, distributors have not approached Company G, *"the comic shop owner bought some products for his own shop"*. Company B also met their objective to expand their network: *"Through the feedback new contacts were made"*. The interviewee states: *"There was one project on smart school gear and then there was one evening at JOSPEHS, where some people from schools and the education industry were there. And there was also a school backpack manufacturer there and we were able to connect. So customer engagement at JOSEPHS® held true"*. Therefore, both Company G and Company B could benefit from JOSEPHS®' network.

Market acceptance

The project objective that has been mentioned the most among interviewed companies is market acceptance. Out of 14 companies, eleven state that they are interested in understanding if their product or service is satisfying customer's needs by engaging in co-creation. Incorporating initial feedback based on a questionnaire, Company F developed a second questionnaire together with JOSEPHS®' team during the test phase to examine the user friendliness of the devices they presented and also refine what has been probed. In a nutshell, learnings from the first questionnaire helped refining the second questionnaire: *"basically to learn and to directly implement that"*. While the basic concept remained unchanged, the co-creation project at JOSEPHS® led to significant improvements of the devices under study (Company F). Company A reflects on their experience at JOSEPHS® and state that *"it also opened our eyes"*. The interviewee explains that the project had a far-reaching impact on the overall offering: *"We completely left our original thought how to offer technology supported [service] to our [clients]. We originally thought that we equip our facilities with certain things, basically as basic equipment [...]. But that is often not wanted and if yes, then [the client] wants to have very individual things. But we don't know that. [...] This is something that we discovered at JOSEPHS®, and that's why we now say, we develop a kind of exhibition catalogue, where we tell the [client], 'hey, you could have all of these things, we can put you in touch with specialist companies, give you contacts, advice services' [...]. This is the direction we are going in*

now, so not anymore, that we think, we equip the [facilities] with these technical devices, but rather, no, we prefer to function as advisors". Thus, the co-creation project at JOSEPHS® had a major impact on the overall strategy and offering of Company A: *"JOSEPHS® was really interesting and gave us a different reference point"*. Overall, the suggestions and ideas derived through the co-creation project have been incorporated into the concept. Aspects that relate to the app that was a second area for the project has also delivered feedback that Company A considers. Company C received valuable insights about their target audience that the project manager was not aware of: *"Nurnberg is a commute city […] and to notice that a lot of people who work in the city don't know the city at all, was new to me, so that we have people who are interested in guided tours for shopping or tips and sights suggestions, that they don't get through the event page. That was something that we weren't aware of […]. The needs that are connected with that are sometimes identical with the needs of a tourist, maybe just with a different content, […] but that an impact on our product, which we only got to know then".* Another very essential feedback Company C received from JOSEPHS®' co-creators relate to *"privacy or data sharing"*. Company C is very concerned with data from private persons and learnt through their project that for people *"transparency is everything"*. If transparency is given, they are willing to share their data. As a result, Company C enables users to switch data sharing on and off: *"He must be able to switch it off, [or] he can accept it and that was something that we got to know during the dialogues here"*. Company C was very satisfied with their experience at JOSEPHS® and said: *"Our boss was very happy and told everyone, we had so many user tests, real end-user feedback"*. Company E also received *"some uncomfortable questions"* that indicate where the ideas from the company differ from *"what the customer actually wants. Sometimes it was an eye-opening experience and we had to admit that we had completely different expectations"* (Company E). With regards to their device, *"people said that they do not want another device in the car. Many already use their mobile as a navigation device and could imagine using our device if that would be integrated in the mobile. But they do not want to have another device in the car. […] And that was one thing, that we really didn't expect, that people tell us here that they don't want another device in the car. That they do think it is an important device but not if you have another device and another device but rather that it is integrated in something that one already possesses"* (Company E). The feedback Company E received was *"mainly along the lines that the device is too big"*. Co-creator's also criticised the alarm signal of the device, instead *"people came up with other ideas, some of them we already knew, for example that you don't have an alarm tone but that your steering wheel or seat starts vibrating"*. While some of the feedback was already known to the company, it reinforced those aspects and confirmed initial assumptions. The company took a closer look at the co-creator's feedback and realised *"that there are sometimes expectations or ideas - sometimes quite funny ideas, that we didn't think of before and that motivated people on our side to think again about what direction we want to develop the product"*. As a result, not only the original objectives were met but Company E also received fresh impetus to their product. Company G's objective was to understand how they can best present their brand. For this reason, they let co-creators evaluate two different designs for an exhibition appearance. One design was influenced by an airplane style involving a lot of decoration while the other design was less elaborate and realisable without any great efforts. Due to their B2B relationships, Company G was particularly interested in the question which design is more appealing. As a result of their project, Company G found out that they do not need to decorate their exhibition stalls in an airplane style: *"We already knew that beforehand, but it confirmed our hypothesis. And for us personally changed that we don't take any airplane decoration along to trade fairs. Before I always thought, hm, how can I construct the display and airplane memorabilia and this and that and so on and so forth. This is now integrated in exhibitions and we don't use it at all anymore for trade shows."* While these insights confirm the company's assumptions, they describe it as *"a turning point for us as an organisation"*. Similarly, Company J received feedback that is confirmatory: *"There were mostly things that I already knew"*. For example, *"I displayed it without tactile markers because I was a bit cautious*

because it was not covered under the patent law yet". Indeed, co-creator's feedback was targeting this feature: *"That was the most frequent feedback. […] But it is quite obvious, and many people mentioned that and they are absolutely right. That is what will make the difference"*. Aside from the tactile markers, Company J also received feedback on the design of the product. The interviewee comments on this type of feedback saying: *"Well the surface is not very good, not very well developed because no designer has worked on it so far."* Although Company J was not able to conduct the intended research due to illness, the interviewee acknowledges: *"I got some realisations out of it that probably find their way into the product development"*. Company H met their objectives: *"We wanted to get the opinions of the end customers. We got a good overview how the acceptability is among customers"*. Yet, Company H also experienced challenges in receiving content-related feedback as they were not interested in design aspects of the product: *"We are interested in opinions regarding the content and not design. Many, many visitors said the box on the [product] is too big, it is way too big and way too heavy. […] Many still focused on the design and just after we told them, that we are already aware of it then they told us other content related feedback. It was really difficult to make people not think about the design but about the content. That was tricky"* (Company H). Company L reveals that *"the things that we discovered during our time at JOSEPHS®, even the ones that we didn't think of beforehand […] have all been changed. That was quite a lot."* Co-creators pointed out that their online configurator is *"very, very complex"*. The company realised the even co-creators that are much older than their target audience can offer valuable feedback: *"Especially when it comes to an older audience […], someone who didn't grow up with a smartphone in the hand, and […] one can get to know the configurator through trial and error. So if you put someone who is 50, 55 and let them configure and then it works, then you know it is really good, that it is completely clear"* (Company L). Similar to Company H, also Company L encountered challenges in directing their co-creators: "*People noted more general things. […] For example, the frame is not very flexible. […] We talked with one of the staff in the second phase and told him that it doesn't make any sense for us if anyone writes down 'fixed frame, not flexible' or 'stable basket, not foldable' and then we could brief them a bit more and tell them what they have to pay attention to and what to answer if visitors ask certain things, for example the wheels are not that flexible, that is right but it has different benefits."* Once this issue was identified and addressed with JOSEPHS®' staff *"other ideas came through for example about the material, how can you achieve a more refined finish for the wheels. Very specific things, that really helped us. The second phase turned because of that from negative to positive."* Therefore, to address the specific aims of the company, both JOSEPHS® and the company have to communicate the relevant information that guides co-creators to the aspects the company is interested in. Company I's motivation to engage with co-creation at JOSEPHS® was to test their new website and how users navigate the new website. On the other hand, Company I also aimed to understand what kind of associations come up with regards to the company and the services they offer to the public. Insights derived from co-creators showed that the minority of people knew about the variety of services Company I offers: *"Many said 'What? This is the [Company I]?' Especially, if people have seen the website before, they are surprised to see how it has been developed"*. The positive feedback Company I received from JOSEPHS®' co-creators reconfirmed that the new website is perceived well: *"We haven't implemented something completely wild, but we actually did something and people are happy with it"*. The interviewee, a consultant who delivers the co-creation project for Company I, describes the common associations with the company: *"[Company I] is mostly associated with unemployment and job seeking. To diversify the associations, that will be a lengthy process to change the image. […] What appears for us apparent is that for [Company I] the process takes longer. […] And this image, which we are achieving and have achieved already, that the focus is now on the customer and that it is about support and not to a 'you have to come to us'. I think that are the most important points, I find"*. Company M explains how they could take advantage of the regular feedback from JOSEPHS®: *"What was good was, that we, let's say, received very early the feedbacks, not after*

three months. [...] We received a weekly report and were able to see the feedback to each point. And had through that the opportunity to develop our conceptional thought: 'Okay, why doesn't this work? And what feedback did the users give'?" Nonetheless, Company M has not *"found out completely new things during the test",* it rather confirmed some of the areas that needed improvements. However, co-creators identified some areas as particularly important: *"We knew that we had to adjust the navigation at some point, JOSEPHS® led us to approach this topic as a priority. And otherwise we would have it on agenda point three, instead of one. And through JOSEPHS® it became priority."* Thus, Company M explains that *"the tangible benefit was that we engaged much earlier with certain topics, then we have planned beforehand."*

Market intelligence

Company L's objective was to gather market intelligence: "To know where customers are from helps us with the decision where we want to open a shop". For this reason, Company L offered *"some coupon codes on a blanket, worth ten euro, which is not much comparing to the overall price of a [the main product] but you would get that off if you buy [the product]."* As a result of this initiative, the company had co-creators redeem their coupon. *"Of course, you can't check accurately who is not redeeming the code even if they are buying but we could see who did use them and know that we benefited financially from the project" (Company L).*

Product testing

Two companies explicitly used their projects at JOSEPHS® to test their products to understand how they perform from a technical point of view. For example, Company F achieved their objective by monitoring the stability of their two systems on-site. During their product testing, Company F received a call from JOSEPHS®' staff that their *"system is not working anymore and then we ask why not and then they say that the wireless network does not work and then we realise that the wireless network button was switched and the colleagues then say, how can you be so stupid to switch the wireless network button, and then we answer, how can you be so stupid to install a wireless network button in the first place, that allows the customer to switch it. That is the real stupid thing and not other other way around."* The results of this product test were *"used it for the development of our products and the products of [Acquisition Company]."* The product testing for 'Acquisition Company' was an important consideration for a possible acquisition: *"At that point 'Acquisition Company' was not part of Company F. It was in the preliminary stage in context of ongoing discussions, so that one could also test the format of JOSEPHS® to find out where does this company stand, what can they do, what can't they do, to strengthen our assessment, which was very valuable".* The interviewee elaborates on the maturity of 'Acquisition Company': *"In my opinion was and is 'Acquisition Company' a start-up because many things are still in limbo and in the discovery phase. And we tested it then in comparison to our own smart home user interfaces products with the ones 'Acquisition Company' offers".* The insights from the product testing was then *"used that to decide for a strategy where to focus on in the next couple of months and indeed [Company F and 'Acquisition Company'] signed the contract a couple of months later. That means the 'Acquisition Company' [...] is now a portfolio company of the Company F".* Company N intended to conduct a product testing with their device too: *"Originally, we wanted to observe how the device copes for one and a half months without supervision".* Though, Company N was not able to do so: *"Right before the project started, we modified the device, so that just limited features were available and the particular part that we originally wanted to observe was omitted".* Instead, they *"decided to build a mock-up with artificial flowers that performed consistently throughout".* Therefore, Company N did not meet their own objective of testing the devices functionality due to company internal reasons prior to the start of the test phase rather than JOSEPHS®' capacity to address this objective.

Price acceptability

Company H states that as a result of their co-creation project they identified a price range that is acceptable among customer: *"We know now the price range"*. Also, Company E's objective was to identify *"how much would someone be willing to pay for"* for their device. Also, the company had to understand if customers would prefer an entire device or prefer an app. JOSEPHS®' co-creators favoured an app: *"We already had that idea but we didn't know how much people would be interested in that, but it became apparent that it wasn't just an idea but rather something that is worth pursuing"* (Company E). Receiving those insights are *"key for the further development of the product because then we have the results of an opinion poll that tells us that people are on average willing to pay a certain amount for the product and people are on average willing to spend a certain maximum amount. Or how many people can imagine it at all to buy it?"*. The results about the price range have to be considered *"otherwise it might not be accepted by the customer"* (Company E). As a result of the studying the price acceptability among JOSEPHS®; co-creators, Company L *"increased the price [of their product] by 200 Euro, [...] and it didn't have any effect on the revenue. In this case just positive and no negative effects"*. Not all companies achieved their objective with respect to price acceptability. Company N realised that they have to *"further test the price, maybe in a different setting. It became clear that we have to test that differently because the way we have tested so far didn't lead to a result"* (Company N). Moreover, Company N states that they have to reflect on the way they collect data. The project at JOSEPHS® prompted another question: *"Do we really engage our target audience?"*

Method testing

Company K articulated method testing as an objective of their co-creation project at JOSEPHS®. The interviewee explains: *"We gained some interesting methodological insights that we will make use of in the future"*. Also, Company F states: *"We met our internal objectives and we also were able to meet our hidden objectives"*. The latter refers to the method testing of JOSEPHS® as a LL which Company F did not openly communicate to JOSEPHS®' staff. The interviewee describes their experience as *"a very smooth cooperation, that was implemented well. One had never the feeling to be left alone, because we received proactively information, which we could use. We consider repeating it for different products."* Company F is satisfied with JOSEPHS® as a method and would use the LL again for future projects, however, the interviewee does not know in which capacity of for which project they would utilise it again: *"How and in what perspective? Then I would be a bit insecure in how to answer that because the next project that we have in mind is very different product and a very different format, so that it wouldn't be transferable. However, it is important that the setting fits and that the services that JOSEPHS® offers fit"*.

Unplanned Project Outcomes

In total nine out of 14 interviewed companies describe unplanned outcomes they gained from their co-creation projects. The unplanned project outcomes can be summarised in four main areas: Exposure, Networking, Market acceptance, and Legitimisation. The only unplanned outcome that was not identified as an original objective by any of the interviewees is 'legitimisation'.

Exposure

While to some companies 'exposure' was an explicit project objective, two companies have not defined this as a goal but still benefitted from it. For example, Company G explains that they *"received a good media coverage"*. The local newspaper *"Nürnberger Nachrichten published an article"* which the interviewee describes as *"a good side effect"*. Company G did not plan to achieve such exposure but acknowledge the positive impact it had: *"We were able to communicate it well locally that we are currently having an exhibition at JOSEPHS® and that was positive. Yes. Of course, it doesn't have a negative impact when you get more exposure. And it wasn't just empty*

words [...] but it was really a good story". Similarly, Company A recognises that the project was "also beneficial for the image. You are at JOSEPHS®, that raises awareness, who knows what people go in and out there".

Networking

Three companies state they benefitted from networking opportunities that arose as a result of their co-creation project at JOSEPHS®. Company I was able to expand its network by establishing contacts with JOSEPHS®' staff "and of course behind that also the Fraunhofer Institute [SCS]". An employee from Company I "facilitated workshops here and he attended as a guest the re-launch [of JOSEPHS®] as well". External to JOSEPHS® but as a result of the co-creation project, Company E received "two additional but really interesting inquiries that came through the JOSEPHS® exhibition". Aside from the originally defined objectives, Company J also benefitted from the project through events and networking at JOSEPHS®: "I got to know JOSEPHS® and that I was able to listen to other presentations that were really interesting and also visit a project. For me personally, yes, there were additional advantages".

Market acceptance

Company D did not articulate any particular objectives apart from exhibiting their product as their target market is very specific – disabled people, and old people. Yet they received feedback from JOSEPHS®' co-creators. The interviewee explains: "Our target audience wasn't represented [at JOSEPHS®]. This was very noticeable. Some of the young people thought it was a bit boring, but our problem is, that if we design games, that also work with only having to press one button, they can't be as complex and adventurous. This was one of the most common criticisms [...]. It is proven, that especially for disabled children this is really important, that they get the connected balance exercise and especially get to practice stepping backwards and so on, and in addition it is a lot of fun. And also for older people it is really good, for balance exercises and so on, one of the criticisms was there that the dance mat is too small. It needs to be bigger, but the problem is there, which we are aware of, for children it is already almost too big, for grown-ups it too small". While Company D received feedback and suggestions, they did not find it useful.

Legitimisation

Four companies explain that the involvement of co-creators in the project has legitimised their actions and endorsed decision making internally as well as supported communication external to the company. For example, Company M identifies that the feedback from JOSEPHS®' co-creators provides more legitimacy internal to the company: "We have clear user-feedback and this user-feedback is taken serious and more seriously than the feedback of our family and friends. And our board completely agreed." Also, Company F used the co-creator insights from JOSEPHS® internally: "I also used it internally, not only to raise awareness for JOSEPHS®, but also used the results to bring on certain decisions. [...] We discussed it with the board, because it is quite rare that we do these sorts of activities". External to the company, Company H acknowledges that it "helps us when we talk to our clients and producers. We can tell them that we did an end-user polling and we know that you can produce this in price range". Similarly, based on the feedback from co-creator's, Company G states: "Through JOSEPHS®, you get rid of your gut feeling and get a rational profound sample size, that you can rely on and that you are able to work with. You no longer have to act blindly, because you know, okay, I have now numbers who confirm this". The interviewee stresses: "Now, we can say to our traders 'okay, you don't need to decorate in an airplane style'. If that is anyway the topic and he has multiple products then that's of course not negative, but if he doesn't want that, then he can display the products in an ordinary way". Involving co-creators at JOSEPHS® also legitimised Company G's action: "When I tell the distributors that we went to Fraunhofer [SCS] and tested it over three months in a LL and that we

have a solid base of results, that is of course completely different than if we say, we tested it on one colleague and he said it is this way and that's now how it is. That has a completely different weight when you have actual data behind it".

Discussion

To compare the project objectives, discussed in the findings' section, with the realised project outcomes, an overview of planned outcomes, unplanned outcomes as well as unmet objectives is provided in Table 4.

Multiple project objectives

Table 4 shows that 13 out of 14 companies have numerous objectives when they take up a co-creation project at JOSEPHS®. The only company that has put forward one objective is Company D. There are several reasons why Company D only focused on exhibiting their product. Company D was approached by JOSEPHS®' staff as they had one business island still available: *"They approached us, because the theme was fitting, and there they had a bit of a problem to fill the stalls. And then they asked us if we could imagine taking part, and we said, that we probably won't reach our target audience. We knew that from the beginning, that why we weren't very disappointed, because we knew we won't get much out of it".* Due to the need to fill one business island shortly before the start of the theme world, JOSEPHS® made a financially favourable offer to Company D. Considering the limited time available, the low expenses associated with the project and the limited rewards expected by Company D, they did not invest much time nor resources into developing the business island: *"We printed posters, but that was one, two weeks drafting, preparation, design. Because it is so close and we didn't have any other expenses, it was relatively simple for us. We also kept it simple."* For these reasons, they decided to exhibit their products without any particular objective. While, the company still received feedback, they were not satisfied and believe: *"If we learn something, then it is just from our users, that means disabled people and that's why this is really a special case. I saw the other things that were exhibited there and that made sense, but not for developing products for a specific target audience."* However, comparing Company D's challenge in reaching a specific target audience with Company L which faced similar obstacles shows that the issue does not necessarily lie with the product. For example, Company L realised that they do not receive valuable input from people that would use or buy their product which is why they changed their focus and asked for feedback with regards to their online configurator which is not product specific. Similarly, Company D could have reflected on their test phase throughout the process and make adjustments to address aspects of their product or business model that does not require feedback from very specific audiences. Also, it was offered to them to run a workshop with their specific target audience: *"We had the idea and the offer of JOSEPHS®, when we said that our target audience wasn't represented, that we could do a workshop, to which we can invite people, but that's where time interfered, when we were exhibiting correlated with the summer holidays and institutions and schools, who would have been interesting, were not available. We are connected to the further education institution and we had exam period at the beginning, so we were very busy ourselves and decided that it would be too difficult to organise that really school classes are coming, in the end we only had two, three weeks and then it was back to school and to organise then a trip for disabled children who need a driver to get them in town, would have been too difficult. Because also in theory, how do they get out, the JOSEPHS® head office is difficult for disabled people, because until they unload a bus with people with walk impediments that takes time. JOSEPHS® is located at a place which is well connected with public transport, but that is a huge organisational effort for groups with 10 people, you need colleagues, the getting there, then you need to ask parents and that is difficult and we decided, that we didn't want to force it, because that would have meant more work".* Due to the constrains and limited effort Company D was willing to put into the project, the objective to exhibit their product remained the only focus of their project.

Table 4 Objectives and Outcomes.

Company Code	Type of Transactions	Objectives and Outcomes								
		JOSEPHS' Co-creators	Exposure	Networking	Market acceptance	Market intelligence	Product testing	Price acceptability	Method testing	Legitimisation
A	B2C	X	✓		X			X		
B	B2B	X		X	X					
C	B2B	X			X					
D	B2C		X		✓					
E	B2C			✓	X			X		
F	B2B	X	✓		X		X		X	✓
G	both	X	✓	X	X					✓
H	B2B	X			X			X		✓
I	B2C			✓	X					
J	B2C		X	✓	X					
K	B2C	X							X	
L	B2C		X		X	X		X		
M	B2C	X			X					✓
N	B2C	X					X	-		
Planned Outcomes achieved (X)		**9**	**3**	**2**	**11**	**1**	**2**	**4**	**2**	**0**
Planned Outcomes not achieved (-)		**0**	**0**	**0**	**0**	**0**	**0**	**1**	**0**	**0**
Unplanned Outcomes (✓)		**0**	**2**	**3**	**1**	**0**	**0**	**0**	**0**	**4**

Objectives not met

All companies met their planned project objectives, apart from Company N that was not able to identify a price range for their device. Company N explained that the quality of the data was not satisfactory: *"It was difficult because the quality of the data was not sufficient. For example, we have 20 questionnaires that state that the customers are willing to pay two euro for the device, which is of course not very useful for me."* Considering the complexity of the electrical device, the suggested price is far below any reasonable assessment. *"As a consequence, we intend to further test the price, maybe in a different setting. It became clear that we have to test that differently*

because the way we have tested so far didn't lead to a result." Aside from Company N, also four other companies, B2B as well as B2C, tested the price acceptability for a range of products and services. All of them identified successfully a suitable price range. Therefore, the objective in itself may not be the cause for the problem.

Most and least common project objectives

Out of eight kinds of project objectives, two were mentioned by the vast majority of interviewees: Access to JOSEPHS®' co-creators, and testing market acceptance. As JOSEPHS®' devotes a lot of effort to attracting a variety of co-creators, the majority of companies consider having access to them as a unique opportunity. There are several reasons why companies value JOSEPHS®' co-creators. First, some B2B firms usually do not have contact to end consumers. Second, some companies wish to have a facilitator that enables this interaction without interfering or influencing the co-creation process directly. Third, some businesses intentionally want to reach out an untargeted audience or even people that lie outside their usual customer segment. Fourth, the space created, and support offered by JOSEPHS® presents a unique opportunity to engage with co-creators in a relaxed atmosphere that simulates a real-life setting. Aside from accessing JOSEPHS®' co-creators, even more companies' aim to test market acceptance of their product or service. Unsurprisingly, companies often formulate rather general research questions with respect to market acceptance as they wish to receive unfiltered an honest feedback from potential customers. This objective aligns with the notion of co-creation allowing for unexpected feedback and suggestions that were not targeted directly. On the other hand, all other categories of project objectives are only put forward a few times. The reason for this can be that some objectives can be considered a natural outcome of another objective and therefore, companies do not explicitly identify them as a project objective. For example, one may argue that testing a product or market acceptance automatically delivers exposure of the company and product. Similarly, companies may benefit from networking at JOSEPHS® through events and workshops that take place but do not consider this a project objective. At the same time, testing JOSEPHS® may also be a natural consequence for companies that complete a project in their LL.

Unplanned project outcomes

Four types of unplanned project outcomes are reported: Exposure, Networking, Market acceptance, and Legitimisation. Among the unplanned project outcomes, there is only one category that has not been mentioned as an initial objective before: Legitimisation. Involving co-creators in the project has legitimised the actions and endorsed decision making of four companies. For example, to achieve legitimisation companies have to test their assumptions or find an answer to their question which are objectives in itself before they can use the findings to justify actions or substantiate a conclusion – both internal and external to the company. Also, legitimisation as a benefit is perhaps only recognised by the company once clients or retailers express their appreciation for end user testing.

CONCLUSION

This paper addressed the question '*How do companies' objectives compare against the realised co-creation outcomes in LLs?'*. Interviews with companies revealed eight different categories of expected objectives, with only one of the 14 companies interviewed not completely meeting the declared objectives. The number of objectives desired and achieved seems to be case specific, as no pattern was detected to match companies' characteristics and results of engagement with LLs. Accessing JOSEPHS® wide range of co-creators and understanding market acceptance are the two most commonly stated project objectives by companies utilising JOSEPHS®. Equally companies engaged with JOSEPHS® more to confirm existing hypotheses and assumptions, instead of using the LL as an exploratory tool.

Interestingly, and particularly relevant to inform managerial practice, engaging with LLs also led some firms to acquire legitimisation as an additional outcome. Such a result was not stated as one of the reasons to engage with JOSEPHS®. Equally nine of 14 companies derived unplanned project outcomes which eight of them consider an additional benefit. Such a result suggests, on one hand, that engaging with LLs can lead to additional, unplanned, and sometimes unrecognised benefits. On the other, the same finding should inform LLs communication strategies to articulate their value proposition more clearly and set and manage expectations consistently. The study provides a better understanding of the organisational co-creation experience in LLs and adds important new knowledge to the literature by creating insights into the LL practices on a project level.

The exploratory nature of this study and the focus on a single case study call for further research in other settings and the extension to diverse methodological approaches, including quantitative large-scale studies to increase generalizability.

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