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Value Co-Destruction in IT Service Ecosystem Drivers and Outcomes

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VALUE CO-DESTRUCTION IN IT SERVICE ECOSYSTEM DRIVERS AND OUTCOMES

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ABSTRACT

IT service is a critical element of visionary organizations. It plays a crucial role in creating value and supporting businesses in achieving their goals. Despite the intense efforts to substantiate the value-creation capability of IT services, most research in the area is focused on the positive aspects of IT service value and ignores the importance of investigating the value-destruction aspects of such services to eliminate barriers to IT service betterment. Co-destruction of IT service value is not sufficiently investigated. Hence, the aim of this research is to add to the understanding of IT service value co-destruction by developing a framework for IT service value co-destruction. The research follows an interpretive approach to building a framework based on a case study and grounded theory technique in an educational institution. The findings reveal value co-destruction drivers and outcomes at the IT service ecosystem's micro, meso and macro levels. This research is in progress.

Keywords

Enterprise IT, IT service management, Qualitative research, value co-creation

INTRODUCTION

IT service is "using information technology as a means of enabling value co-creation by facilitating outcomes that customers want to achieve, without the customer having to manage specific costs and risks" (Basham, 2019)**.** IT services are the lifeblood of contemporary organisations, integrating people, technologies, and business processes to achieve organisational objectives. Effective IT services reduce costs, boost innovation, facilitate digital transformation, and ensure a company's survival and growth by fostering digital transformation. Organizations face substantial pressure to provide IT services that efficiently and effectively support their strategic objectives in unpredictable economic and social dynamics (Cusick, 2020; Galup, Quan, Dattero, & Conger, 2007). Value and value creation are central to modern IT service and, consequently, to the success of an organisation (Cusick, 2020). Understanding value and its creation are important for organisations because it guides how they approach and manage their IT services to maximise value. In reality, however, not all relationships and interactions result in positive or value-creating outcomes; sometimes, they even result in "value co-destruction" outcomes that lead to tangible and intangible losses (Järvi, Kähkönen, & Torvinen, 2018). Despite the importance of investigating and eliminating such destructive factors, most value research in IT service focuses on the positive aspects of value and its creation processes (Lempinen & Rajala, 2014; Winkler & Wulf, 2019) and ignores the co-destruction of value. It is from this background that the present research emerges.

To help address the incomplete understanding of the value phenomenon, this study attempts to answer the question: How could the value co-destruction be understood in a multi-level IT service ecosystem? This paper is a "research-in-progress" paper in which initial insights and coding are presented and discussed as a basis for further research. Multi-level conceptualization of value co-creation (Chandler & Vargo, 2011) forms the framework of this explanatory research (Gregor, 2006). To capture the empirical evidence from the IT service ecosystem , interpretive case study (Walsham, 1995) with a grounded theory technique has been adopted (Gioia, Corley, & Hamilton, 2013). The findings identify broader levels of value co-destruction drivers and outcomes at the various ecosystem levels. We chose a large educational sector as the case study as understanding dimensions of value creation and destruction in this sector is critical from both theory and practice. The present study contributes to theory as follows. The research is focused on value creation in the context of IT service and explores the drivers and outcomes of value co-destruction in the IT service context. It also offers an ecosystem approach for understanding the dynamics of multiple actors' interactions in micro level of individual and dyadic relationship between users and IT service provider, meso level of IT actors focused on technology and IT processes and macro level of IT actors focused on business and strategic goals that provide a multi-level perspective to value co-destruction in IT service.

PRELIMINARY LITERATURE REVIEW

Although value co-creation may be the primary objective of service ecosystems, their actors may have a variety of objectives within or across ecosystem levels. Therefore, value co-creation may sometimes result in value co-destruction. (Plé &

Chumpitaz Cáceres, 2010) and value outcomes can vary between value co-creation and co-destruction (Chowdhury, Gruber, & Zolkiewski, 2016; Plé & Chumpitaz Cáceres, 2010) . Co-destruction is defined as 'an interaction process between service systems that results in a decline in at least one of the system's well-being'. Various factors, such as a failed interaction process or failed resource integration, may contribute to a decline in well-being. This implies that if collaborating parties fail to integrate their resources, their interaction process may fail (Plé & Chumpitaz Cáceres, 2010). Thus, value co-destruction is closely connected to value co-creation (Vargo, Maglio, & Akaka, 2008) .This is especially significant for the service ecosystems as they have many actors and interactions within and across layers of the ecosystem. Furthermore, most prior research has viewed IT value from the perspective of a single actor like customer (Dam, Le Dinh, & Menvielle, 2020; Holbrook, 1996) or business department (Afflerbach, 2015; Buchwald, Urbach, & Ahlemann, 2014; Kohli, Grover, Clemson University, College of, & Mary, 2008). More recently, decisions made by multiple actors with a focus on shared resources have led to the concept of value co-creation (Gobel, Cronholm, & Hjalmarsson, 2016; Mandrella, Zander, & Kolbe, 2016; Winkler & Wulf, 2019). Scholars call for more research on the value co-creation process (Payne, Storbacka, & Frow, 2008; Vargo, Akaka, & Vaughan, 2017) - especially the interactions between levels and outcomes in service systems (Beirão, Patrício, & Fisk, 2017).

A service ecosystem is defined as a 'relatively self-contained, self-adjusting system of resource-integrating actors connected by shared institutional arrangements and mutual value creation through service exchange' (Vargo & Lusch, 2016). The structure of the service ecosystem is multi-level, with higher-level structures emerging from lower-level interactions (Vargo, 2019). These levels are not independent; rather, they present different analytical perspectives. Hence, for analysing through ecosystem lens your analysis "oscillates" among micro, meso and macro levels (Akaka, Vargo, & Lusch, 2012). For a better understanding of how value is cocreated, researchers should examine value or determination at and from multiple levels, as well as the relationships between those levels (Chandler & Vargo, 2011). Scholars encourage the development of study on value co-destruction, particularly in the context of complex ecosystems, where the actions of a single actor can result in the intentional or unintentional co-creation or co-destruction of value, for themselves or other actors. Therefore, value co-creation and value co-destruction may alternate over time or even coexist for ecosystem actors (Chowdhury et al., 2016; Plé, 2017). Hence, it is a significant area for investigation in the complex context of IT service which is barely investigated. Recent research calls for more studies on value co-destruction (Mustak & Plé, 2020) to identify the antecedents and outcomes of value co-destruction (Saha, Goyal, & Jebarajakirthy, 2021) for the ecosystem. Plé (2017) study indicates that value co-creation and co-destruction are two sides of the same coin and they co-exist so both aspects should be considered when assessing value perception. Previous value co-creation research mostly focused on positive value co-creation, with a few studies on conflictual value co-creation (Laamanen & Skålén, 2015) or value co-destruction (Dam et al., 2020). Similarly in IT service domain, there is a huge gap in empirical research on the value co-destruction factors as most studies are focused on the value and value creation process of IT service (Lempinen & Rajala, 2014) and related frameworks such as ITIL (Cronholm, Göbel, & Åkesson, 2020) and COBIT (Buchwald et al., 2014).

METHOD

The study is qualitative and is based on Grounded Theory (Charmaz, 2006; Gioia et al., 2013). An interpretive case study approach was used to define the units of analysis (Walsham, 1995). In accordance with the grounded theory approach, the researcher may use ideas from the literature and other sources to construct the theory's components in initial stages. The literature will be extensively consulted during the study's final stages (Glasser & Strauss, 1967).Given the complexity of service ecosystem, it should be examined in a specific context (Voss, Perks, Sousa, Witell, & Wünderlich, 2016). Hence, for our study, we chose a higher educational context because of two main reasons. First, improving IT service is evidently a top priority for the organisation and examining the dimensions of value destruction in this context is highly relevant and demonstrates the practical importance of current research. According to the 2020-2025 strategy plan of the organisation, the university has invested approximately $350 million on digital infrastructure, including $20 million on educational technologies such as virtual learning and digital research infrastructure, to support the most critical functions of learning and teaching, research, and engagement: "We will simplify the technology environment to ensure we provide services that are easy to access and use and improve the student and staff experience." The second, higher education sector is a large-scale organization, and its IT service has a complex and multi-level nature with many actors that suits the purpose of current study. This is consistent with the fact that as enterprises grow in size and complexity, the emphasis shifts from the micro level to the meso and macro levels (Vargo & Lusch, 2019). The research is set in the IT services division (~320 workers) within a large Australian educational institution (~50,000 enrolments). The IT service division has a complex structure with multiple internal and external stakeholders and seven main IT domains: IT foundations (network and platforms); IT learning and teaching; IT research (E-research, data management); IT service centre (performance and service management); IT operations (strategic delivery); and IT value management (IT strategy, planning and engagement). Each IT domain comprises of different levels of IT directors, IT managers, IT supervisors and IT engineers who are dealing with users and customers (such

as students, researchers, staff, and academics). The IT services division represented the case study with its embedded business-oriented teams (macro level), technology-oriented teams (meso level) which in turn have embedded individual IT actors in dealing with users (students, researchers, academics, and staff) (micro level).

Data collection and analysis

We sent our request for participation on a random basis through emails to potential candidates (i.e., those involved in the IT service ecosystem). Following snowball sampling approach, as we went through interviews, we progressively identified other stakeholders involved in IT service process and came to know the ecosystem step by step. We started our open-ended interviews with interviewing the IT directors, managers, and supervisors in first phase of the study, with a loose study design. As stated by interviewees during the first phase of data collection, IT service users and customers are crucial ecosystem actors, and we cannot achieve a comprehensive understanding of the phenomenon without considering their perspectives. Therefore, we will conduct the second phase of the study from the perspective of service users. We completed the first phase by interviewing 14 participants including 5 business-focused IT directors, 3 IT heads, 4 IT managers and 2 IT supervisors. To ensure the validity of our interview guidelines we have conducted 4 pilot interviews to obtain feedback on questions and adjust our interview questions. The researchers managed potential informant bias by 1) promising anonymity (Eisenhardt, 1989), and 2) using open-ended questioning to give the informants wide scope to relate a question as they chose. The interview protocol sought to understand how actors experience the IT service ecosystem. Following the inductive principles of grounded theory, the first phase of data analysis began with an open coding process based on the perceptions of IT service value co-destruction held by respondents (using NVivo software). In this bottom-up approach we conduct a thematic coding procedure to identify, analyse and report themes emerging from our data, acknowledging the data's contextual focus. The themes emerged through a multi-step process (Charmaz, 2006), starting with an initial coding phase we identified micro, meso, macro-level codes in relation to IT service ecosystem value co-destruction. We iterated between the data and extensive memo writing about emerging ideas. As new findings were uncovered in data analysis, more data were gathered to confirm the theoretical interpretations. Relevant patterns of co-destruction drivers and outcomes identified in preliminary data analysis guided subsequent data collection.

FINDINGS

Chandler and Vargo (2011) three-level conceptualization of context (micro, meso, and macro) was used to analyse IT service ecosystem and the results bring to the fore value co-destruction drivers and outcomes at each of the three levels. Figure 1 shows the initial framework for IT service value co-destruction considering value co-destruction divers and outcomes.
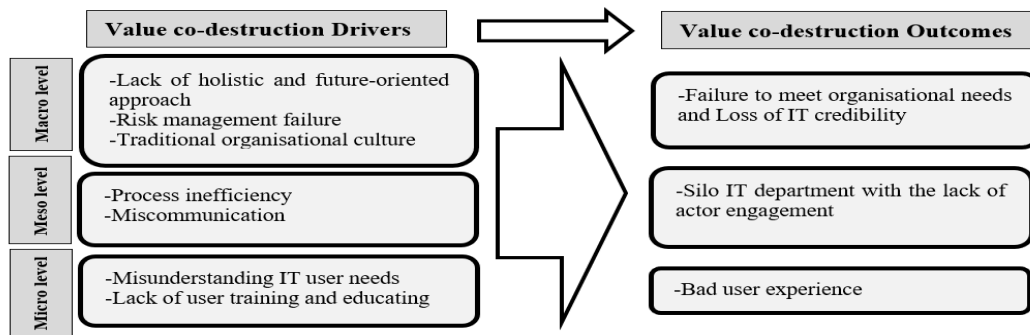

Figure 1: IT service value co-destruction drivers and outcomes

IT service value co-destruction Drivers

-Lack of holistic and future-oriented approach (Macro Level) :At the macro level, it is essential that decision-makers have a future-focused and comprehensive approach to the service, so they not only consider the current needs of the stakeholders, but also plan for their future wants as one interviewee declared: "*if you just focus on solving the widgets of today, you're not going to be very well considered tomorrow when you can't meet their (stakeholders) expectations.*" Based on the other respondent opinion, systematic and holistic approach, also needs to be considered in any high-level decision making: "*It will definitely distract the value when there is no understanding of holistic approach that means the understanding of what this tool needs to do and who needs this support. I've seen in my career people coming in with systems that nobody actually thought about the user in the end.*"

-Risk management failure (**Macro Level**): At the macro level, the key to value creation is proper risk management that continuously monitors, evaluates, and eliminates risks. Based on the one respondents' opinion: "*Failure to manage*

technology risk leads to the situation that existing value is taken away. I think failure to manage risk is the clear sign of value destruction." Another interviewee explains the basis for this claim: "*You Might reduce risk which makes the business more resilient to failure, and that's value. And similarly, you might fail to manage risk and caused the business impact, and that's a reduction in value.*" Thus, it is evident that an organisation must always be prepared for the ongoing changes and risks that comprise the continuity and business value of IT service.

-**Traditional Organizational culture** (**Macro Level**): A modern organizational culture and forward-looking mindset among IT department is a critical basis for value creation. One of our interviewees mentions: "*I think rigidity and not being open minded and being dumb. Somewhat not understanding. I think it is about thinking too black and white, I believe that not being able to see the grey is what prevents people from adding value.*" Being involved with ever-changing technology and information world, push organizations to facilitate the relevant culture that people are ready for change. This is necessary for resilience of IT services. As another respondent emphasised that: "*something that really damages value I think is just being kind of stuck in the way we've always done it and not having the willingness to explore new ways. So, when I come up against people who are rigid, I think that it damages the value to the client because there is everything is always just changing.*"

-**Process inefficiency** (**Meso Level**): Apart from culture and mindset, process excellence is an important factor for value creation in IT services. One major barrier to value creation according to one of interviewees opinion is bureaucracy: "*it's very manual and there's a lot of stuff in it where we're repeating the same information multiple times, bureaucracy and red tape is certainly a risk of damaging righty value.*" Such non-agile processes beside traditional metrices and measures could damage the value of a modern IT service: "*I think Sometimes, our measures don't help us, very traditional metrics. Things like our first contact resolution. So, I'm not sure it drives the right behaviours with service teams. I think sometimes there's too much of a focus on volume, not on quality.*" These claims highlight how an inefficient and traditional process could affect the quality of IT service.

-**Miscommunication** (**Meso Level**): Communication is one of the most important factors that affects value creation in positive and negative ways. Most of our respondents point out to the importance of effective communication in many levels of IT service from business stakeholders to IT users. For instance, one IT supervisors mention that: "in *my experience technology is rarely the problem. Communication is what I believe adds or damages value. if there's poor communication, there's misinterpretation. people then get the wrong idea. They don't get the value. That just creates poor value completely.*" This communication should happen effectively between not only IT people but with users and customers as one of our interviewees mentioned*: "I would say when we don't collaborate well so we have a misunderstanding of what the customer wants at the end of the day*" and this is especially important when something goes wrong in IT service based on the opinion of our interviewees: "*also in the event of something breaking, that the communication is critical, It's maintaining the trust of the business and the stakeholders constantly. It's a full relationship.*"

-**Misunderstanding IT user needs (Micro Level) :**Misunderstanding user needs and wants and *not being human focused*, is a major destructor to value creation based on the interviewee's opinions: "*you can have really cool technology, but no one really can find out what to do with it and how to make it valuable and scalable,* so *I think lack of connection to the end user and the user experience and not actually considering that enough.*" In depth understanding of user needs is a baseline for creating maximum IT value for the organization as one IT director believes: *"It is the understanding of what the end user needs and wants and how do you meet it."* Other respondents confirm the lack of plan and resources for implementing a formal feedback process : *"The issue is that everybody is busy, so people don't necessarily have the time for that and also, how do you find that small group that's representative of 40,000 students or 4000 staff."*

-**Lack of user training and educating (Micro Level):** It is also important that IT service providers provide the education and training for IT users to make sure that users are able to benefit from the service that they receive. Based on a manager's opinion: "*I think lack of education is also a high-risk factor and that is not suggesting that customers and clients are not educated, but it's the IT department responsibility to educate clients and customers appropriately.* Another IT supervisor also indicates that users don't get back for the same problem due to the lack of education: "*I think if we make sure we did resolve it properly first time round but ensure that the person would leave educated so they didn't necessarily have to call again.*"

IT service value co-destruction Outcomes

-**Failure to meet organisational needs and Loss of IT credibility** (**Macro Level**): The main outcome of value destruction in macro level is failure to meet organizational requirements. Every decision and action in IT service should be aligned with the organizational strategy and address the business needs at the end. As our respondents indicate: "*failure to deliver what the organization needs is the result of not proper understanding of the organizational needs*" and "*value can be realized better and faster, but with enough checks and balances to make sure that it fits in with the overall needs of the organization. So strategically it's aligned. So, we don't create an erosion of value by having non-strategic solutions.*" Sometimes IT people

forget about the big picture of IT service within the organization as one statement from an IT director indicate this: "*It's a cool widget. Doesn't matter if it's not what the university needs. But it is literally a waste of energy and effort*" and will result in the reputational damage to IT service: "*impacted customers mean reputational damage to IT brand and also it did introduce the lack of credibility or lack of trust in an investment into our function.*"

-**Silo IT department with the lack of actor engagement** (**Meso Level**): Miscommunication mainly result in an isolated IT service which is unable to engage people in an effective way. These isolated IT working areas couldn't provide maximum value for their stakeholders. One of our respondents put this problem this way: "We're *still sort of recovering in terms of how one group deals with another. They went from a process flow from the top all the way to the bottom, close to the client to Silos, vertical silos with people who floated across horizontally Between each of the silos and each of the working areas. Lack of connection in multiple directions. Basically, isolation and lack of connection are big value destructors.*" This isolation *decreases the engagement rate* that is another sign of unhealthy environment that destruct the IT value.

-**Bad user experience (Micro Level):** "*Impacted customers are the major value destructors.*" A good IT service not only provide a pleasant user experience in dealing with technology and information environment, but also make their life easier at the end. For the university context, our interviewee believed that bad user experience impacts the loyalty and is damaging to the reputation of IT service and the whole organization on the other side: "*If you can provide a really good experience, it creates customer loyalty and that it's slightly different in a university context. If you have a bad customer service experience, you're not going to change uni, move degrees, when you're halfway through. But it'll be that customer voice like IT doesn't know what they're doing. They can't help me. Not useful. So, it can be damaged that way.*"

CONCLUSION

The study aim is to develop a framework for value co-destruction in IT service ecosystem. Such framework will add contributions to both service ecosystem and IT service value research domains by applying a multi-level perspective to IT value co-destruction process from "service ecosystem" perspective. Our observations change the way we think about value co-destruction concept as a dyadic exchange between user and service provider to a holistic and multi-level phenomenon. This novel approach is particularly useful for comprehending the intricate context of IT services, which are of paramount importance to organisations' strategic objectives. The disaggregation of the ecosystem levels enables the investigation of value destruction factors within each level. This is in line with previous research stating that the understanding of service ecosystems requires a multilevel perspective, considering an interplay between micro, meso, and macro levels of the ecosystem (Chandler & Vargo, 2011).This new understanding is significant specifically for the complex context of IT service and has barely investigated. This research has limitations that call for additional study. First, only value co-destruction factors are considered. For a comprehensive understanding of value formation, it is essential to consider value co-creation. Second, in order to maintain the research's focus, we interviewed IT directors, managers, and supervisors. The insights of IT users reveal other aspects of IT value nature. Future research will address these limitations by expanding on the preliminary results presented in this paper and demonstrating how value forms within IT service ecosystem dimensions (considering co-creation and co-destruction). To capture the multi-actor perspectives of value co-destruction, the same data collection and analysis procedure will be applied to IT service users whose perspectives are relevant to the topic. It could also be argued that this research relies on the data from only one educational institution. This focus enabled an in-depth analysis of the ecosystem value co-destruction which is a contextual phenomenon (Vargo et al., 2017). Comparing and contrasting other settings in form of a comparative analysis may yield new insights into how the nature of the sector influences the value co-destruction drivers and outcomes at various levels. Future research might focus on offering solutions to enhance IT service by eliminating such value-destructive drives and outcomes.

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