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I WANT A LAMBORGHINI: AN ETHNOGRAPHY OF CRYPTOCURRENCY COMMUNITIES

Silviana Tana
The University of Melbourne, stana@student.unimelb.edu.au

Christoph Breidbach
The University of Melbourne, christoph.breidbach@unimelb.edu.au

Andrew Turpin
The University of Melbourne, aturpin@unimelb.edu.au

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I WANT A LAMBORGHINI: AN ETHNOGRAPHY OF CRYPTOCURRENCY COMMUNITIES

Research in Progress

Tana, Silviana, University of Melbourne, Victoria, AU, stana@student.unimelb.edu.au
Breidbach, Christoph F., University of Melbourne, Victoria, AU, cbreidbach@unimelb.edu.au
Turpin, Andrew, University of Melbourne, Victoria, AU, aturpin@unimelb.edu.au

Abstract

Understanding how digital technologies transform service businesses more generally, and financial services more specifically, is an ongoing research challenge for the Information Systems (IS) discipline. In an effort to gain insight to this problem, we undertook an in-depth ethnographic study of several hundred cryptocurrencies miners, traders and developers. We present a typology of those involved in this cryptocurrency ecosystem, identifying actors as one of 'Knowledge-Seeker', 'Visionary', 'Novice', or 'Fortune Hunter'. This typology exposes the roles individuals in cryptocurrency communities play in transforming financial services by delineating the actions of cryptocurrency service providers, blockchain educators and cryptocurrency communities. By exploring how the roles of actors changed over 8 months, we highlight that learning is a precondition for value cocreation and transformation in financial services, and offer a theoretical and contextual contribution by extending digital transformation insights from customer perspectives. Furthermore, our empirical results contribute to a better understanding of how new customer roles emerge and transform, which we presented as two distinct customer role trajectories in cryptocurrency-enabled service ecosystems.

Keywords: Digital Transformation, Cryptocurrency Community, Customer Typology, Blockchain.

1 Introduction

In 2008, Satoshi Nakamoto developed Bitcoin in response to the global financial crisis and resulting distrust in financial services (Nakamoto, 2008). At the time, Nakamoto’s aim was to challenge financial institutions, stating: “what is needed is an electronic payment system based on cryptographic proof instead of trust, allowing any two willing parties to transact directly with each other without the need for a […] third party” (Nakamoto, 2008 p. 1). Today, the Bitcoin market is worth $190 billion dollars (CoinMarketCap, 2018), and represents a prime example for how information technologies (IT) transform service industries.

Digital transformation has been a common theme in information systems (IS) research (i.e., Nambisan et al., 2017), and specifically in studies at the intersection of service science and IS (Rai and Sambamurthy, 2006; Barrett et al., 2015). In the case of cryptocurrencies, technical and computational challenges have received particular attention to date, with Eyal and Sirer (2014) exploring Bitcoin mining or Mai et al. (2018) investigating market volatility. However, understanding the managerial and organizational challenges associated with cryptocurrencies (Beck et al., 2017), and its transformative impact on service ecosystems (Risius and Spohrer, 2017; Seebacher and Schüritz, 2017), remains an understudied research priority for IS research. Here, we highlight three critical gaps.

The first is a gap in theoretical knowledge associated with digital service ecosystem transformation. The IS literature highlights that the conceptual boundaries of digital transformation remain ambiguous (Nambisan et al., 2017), and that research in this area lacks impact (Aggarwal and Lucas, 2005). Sev-
eral calls related to digital transformation research since emphasized the need to adopt novel research designs; for example, through macro-lenses on digital transformational processes (Agarwal and Lucas, 2005), or by utilizing theoretical lenses from disciplines like marketing (Rai, 2016).

The second is a gap in empirical knowledge related to the processes through which cryptocurrencies transforms service ecosystems. Existing cryptocurrency research focused on technical challenges (Eyal and Sirer, 2014), or is conceptual in nature (Brenig et al., 2015). Therefore, empirical studies are needed (Risius and Spohrer, 2017), pertaining to questions of how cryptocurrencies transform service ecosystems (Seebacher and Schüritz, 2017). Moreover, with existing empirical studies concentrated on quantitative work (Abramova and Böhme, 2016; Harlev et al., 2018; Mai et al., 2018), complementary insights from qualitative studies are needed (Morisse, 2015).

The third is a contextual gap related to the important question of how individuals cocreate value in service systems (i.e., Bitcoin trading systems). Current studies related to cryptocurrencies and Bitcoin, adopted organizational perspectives, including cryptocurrency exchange competition (Janze and Gvozdevskiy, 2017), firm resilience (Ingram et al., 2015), or pricing (Mai et al., 2015; Mai et al., 2018). Therefore, the roles of customers as cocreators of value in cryptocurrency contexts like Bitcoin remains a largely unexplored area to date (Abramova and Böhme (2016). This is challenging because understanding customer roles is a necessary prerequisite when attempting to explore digital transformation processes more broadly (Payne, Storbacka and Frow, 2008; Lusch and Nambisan, 2015).

This short paper presents research-in-progress aiming to explore how cryptocurrencies transforms service ecosystems. We present empirical findings from an in-depth ethnography that we conducted over eight months in the context of cryptocurrency communities (i.e., Bitcoin meetups). Our work thereby provides three important contributions to IS and service science research: first, we offer a theoretical contribution through a typology that explains four archetypical roles customers perform as cocreators of value in service ecosystems transformed by cryptocurrencies. Our typology serves as an important avenue to understand digital service ecosystems transformation, thus establishes theoretical contribution through originality (Corley and Gioia, 2011), and by identifying “multiple ideal types, each of which represents a unique combination of the organizational attributes that are believed to determine the relevant outcome(s)” (Doty and Glick, 1994 p. 232). Utilizing service-dominant (SD) logic (i.e., Vargo and Lusch, 2008) enables us to interpret our findings using a theoretical lens stemming from marketing, as called for by Rai (2017), to explain the factors driving customer value cocreation associated with cryptocurrencies.

Second, our empirical contribution stems from unique evidence that explains how new customer roles emerge and change in cryptocurrency-enabled service ecosystems. We explain the connection between technology (i.e., cryptocurrencies) and social behaviour (i.e., customer roles and trajectories), through two distinct trajectories, thereby extending current IS research that focused on technical designs associated with cryptocurrency mining only (i.e., Eyal and Sirer, 2014).

Finally, we offer a contextual contribution by providing a rich description of cryptocurrencies communities as our research context, thus responding to calls for new knowledge about how cryptocurrencies facilitate value cocreation (Risius and Spohrer, 2017), as well as the adoption of blockchain-based services in society more broadly (Lindman et al., 2017).

This paper is structured as follows. First, we provide a literature overview on cryptocurrencies and embed our discourse in service-dominant (SD) logic as our analytical lens. We then explain our research method, before presenting findings, and discussing these as well as future opportunities for IS and service researchers.

2 Cryptocurrencies and the Digital Transformation of Financial Services

Bitcoin, the most prominent cryptocurrency, was purposely built using blockchain (Nakamoto, 2008), which enables immutable and transparent transactions in peer-to-peer networks through the use of cryptography and consensus mechanisms (Beck and Müller-Bloch, 2017). Early miners who executed
block validations and transactions helped associated cryptocurrency services to. However, current knowledge related to cryptocurrencies in the IS discipline is largely limited to the technical and computational challenges (Eyal and Sirer, 2014). Consequently, the managerial and organizational aspects associated with digital transformation processes enabled by blockchain in general, and those in cryptocurrencies contexts, more specifically, remain comparatively poorly understood (Risius and Spohrer, 2017). This represents a challenge for IS research, which acknowledged that the conceptual boundaries of digital transformation remain ambiguous (Nambisan et al., 2017), and that scholarship in the domain lacks impact (Aggarwal and Lucas, 2005). Rai (2016) therefore recently called for IS scholarship to “be at the forefront of knowledge creation pertaining to transformative digital phenomena” (2016, p. v), especially as they pertain to the service sector.

Here, we build on Rai’s (2016) work, and argue that investigating the drivers and processes through which cryptocurrencies transform service ecosystems, for example in the context of Bitcoin and financial services, represents a prime opportunity to advance knowledge related to digital transformation in service more broadly, and to contribute much-needed insights related to the managerial and organizational issues associated with digital transformation driven by cryptocurrencies in financial services.

Investigating digital service transformation requires new theories (Rai, 2016). Prior IS research exploring service (Breidbach and Maglio, 2015; Breidbach and Ranjan, 2017) increasingly relies on service-dominant (SD) logic (i.e., Vargo and Lusch, 2008), which provides the necessary vocabulary and assumptions to develop new insights about the digitally transformed service ecosystems (Lusch and Nambisan, 2015). Specifically, SD logic conceptualizes service as value cocreation, which involves the application of competences and skills by one actor (i.e., the firm), for the benefit of another (i.e., the customer) (Vargo and Lusch, 2016). Furthermore, Brust et al. (2017) have shown a strong connection between SD logic research and the IS discipline, thus providing further evidence for the suitability of SD logic in this work. In this context, it is now evident that understanding the roles of customers as cocreators of value is considered a prerequisite when attempting to explore digital transformation processes more generally (Lusch and Nambisan, 2015; Breidbach and Maglio, 2016), and is therefore an ideal starting-point when exploring how cryptocurrencies transform financial service ecosystems.

3 Research Method

3.1 Overview

Investigating how cryptocurrencies transform financial services is an emerging area of inquiry. We therefore relied on an exploratory ethnography as our research method, which allowed us to closely engage with our research context (Brown, 2014), gain new insights into a previously unexplored area of inquiry (Harvey and Myers, 1995), and understand the phenomenon under investigation, as perceived by the individuals that we studied (Gobo, 2008). Ethnographies are about observation of a context through in-depth fieldwork and theory-building (Fetterman, 2010), but do not intend to actively change the conditions therein (Baskerville and Myers, 2015). Ethnographies are therefore one of the most common research methods in the IS discipline whenever inductive theory building in exploratory settings is the goal underpinning the inquiry (Myers, 1999). For example, prior IS research used ethnographies to study information-use by knowledge workers (Schultze, 2000) or enterprise system implementations (Lee and Myers, 2004).

3.2 Data Collection

We followed the precedence of prior ethnographic studies in the IS discipline (i.e., Schultze, 2000) as well as ethnographies conducted in contexts where access is limited, like conferences (Holloway et al., 2010; Nyqvist et al., 2017), meetings (Meschitti, 2018; Schwartzman, 1989), or community studies, and collected data through observations, interviews, and secondary data sources (i.e., documents provided to us). Specifically, like Brown-Saracino and Stiman (2017), we became active participants in public and community group gatherings that, in the context of our present work, were cryptocurrency-
cies-related community events held in Melbourne, Australia. These gatherings included Bitcoin conferences, cryptocurrency workshops and networking events, or cryptocurrency masterclasses targeted at miners, traders or investors. All events studied were suitable to explore customer processes and behaviour because customer learning, a key element of service transformation (Hibbert et al., 2012), was central to the activities taking place there. Furthermore, each event attended by us represents a complete value creation “sphere” (Grönroos and Voima, 2013), where service providers and customers engage, with their action observable by us. Service provider were represented through organizers (i.e., cryptocurrency education providers), offering knowledge extension, investment, trading or exchange services, while attendees represented service customers. We attended a total of 14 events held between May and December 2017, when data collection reached saturation. Table 1 provides an overview:

<table>
<thead>
<tr>
<th>No.</th>
<th>Date &amp; Place</th>
<th>Duration</th>
<th>Attendees</th>
<th>Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>May 2017, Melbourne, AUS</td>
<td>1.5h</td>
<td>31</td>
<td>Introduction to Ethereum</td>
</tr>
<tr>
<td>2</td>
<td>Jun 2017, Melbourne, AUS</td>
<td>1.5h</td>
<td>60</td>
<td>Introduction to Bitcoin/Blockchain</td>
</tr>
<tr>
<td>3</td>
<td>Aug 2017, Melbourne, AUS</td>
<td>1.5h</td>
<td>51</td>
<td>Introduction to Ethereum</td>
</tr>
<tr>
<td>4</td>
<td>Sep 2017, Melbourne, AUS</td>
<td>2h</td>
<td>167</td>
<td>Bitcoin and Blockchain</td>
</tr>
<tr>
<td>5</td>
<td>Sep 2017, Melbourne, AUS</td>
<td>2h</td>
<td>56</td>
<td>Ethereum and Alcoins</td>
</tr>
<tr>
<td>6</td>
<td>Sep 2017, Melbourne, AUS</td>
<td>1.5h</td>
<td>47</td>
<td>Legal and Regulatory Issues</td>
</tr>
<tr>
<td>7</td>
<td>Sep 2017, Melbourne, AUS</td>
<td>1.5h</td>
<td>74</td>
<td>Introduction to Bitcoin/Blockchain</td>
</tr>
<tr>
<td>8</td>
<td>Sep 2017, Melbourne, AUS</td>
<td>3h</td>
<td>50</td>
<td>Ethereum Development Masterclass</td>
</tr>
<tr>
<td>9</td>
<td>Sep 2017, Melbourne, AUS</td>
<td>1.5h</td>
<td>43</td>
<td>NEM Blockchain</td>
</tr>
<tr>
<td>10</td>
<td>Oct 2017, Melbourne, AUS</td>
<td>1.5h</td>
<td>84</td>
<td>Crypto Trading Workshop</td>
</tr>
<tr>
<td>11</td>
<td>Oct 2017, Melbourne, AUS</td>
<td>1.5h</td>
<td>66</td>
<td>Introduction to Ethereum</td>
</tr>
<tr>
<td>12</td>
<td>Oct 2017, Melbourne, AUS</td>
<td>4.5h</td>
<td>100</td>
<td>Initial Coin Offering (ICO)</td>
</tr>
<tr>
<td>13</td>
<td>Nov 2017, Melbourne, AUS</td>
<td>2h</td>
<td>175</td>
<td>Fintech and Blockchain Panel</td>
</tr>
<tr>
<td>14</td>
<td>Dec 2017, Melbourne, AUS</td>
<td>2h</td>
<td>90</td>
<td>Initial Coin Offering (ICO)</td>
</tr>
</tbody>
</table>

Table 1. Cryptocurrencies-related Events Attended during Data Collection

Following best practices for ethnographic research in the IS discipline (Baskerville and Myers, 2015), we adopted the role of an active observer, and immersed ourselves into the research context. One author of this study attended each event, and participated in the same activities as other attendees. Throughout each event, the researcher took field notes using a notepad as well as mobile phone applications to describe incidents, interactions with other attendees, as well as actions and statements made by attendees (i.e., questions asked during a panel session). In addition, we also collected data using unstructured ethnographic interviews. We conducted 31 ethnographic interviews, which typically lasted from 10-15 minutes, and were summarized on-site immediately afterwards. After each event concluded, the researcher transferred handwritten note into Microsoft Excel spreadsheets, and also created memos, following suggestions by Yin (2016). Additional data points collected include each event’s start/end time, discussion topic/goal, artefacts used, person(s) interacting with host (questions, comments, discussion points, etc.), and any relevant quotes. Overall, we conducted 27.5hrs of participant observations, with the observational data, field notes, and interview summaries resulting in 76 pages of text for analysis. Finally, we also collected secondary-data, including photographs and presentation slides provided to us by event organizers, as well as pamphlets and brochures. In addition, we gained access to the publicly available attendee-lists for 11 of the 14 events, which resulted in detailed information about the background of 729 attendees (i.e., job titles, self-stated areas of interest associated with cryptocurrencies). Our cumulative data set thereby compares favourably to that of prior IS ethnographies, including Koch (2001) who completed 9hrs of observations and four interviews when studying e-commerce initiatives, or Magnusson et al.’s (2012) 27hrs.
3.3 Data Analysis

Data analysis followed processes outlined by Miles and Huberman (1994) and Yin (2016), and intended to inductively build theory. First, we compiled, cleaned, and organized all data into a repository, using Microsoft Excel and Word files (Yin, 2016). Second, we followed Miles and Huberman (1994) and analyzed data using open, interpretive, and pattern codes, thus disassembling and reassembling it. Following recommendations by Payne et al. (2008) we aimed to identify roles and practices performed by customers as co-creators of value, as these are understood to provide early indicators for the impact of digital transformation in service ecosystems (Payne et al., 2008). We used a variable-oriented strategy (Miles and Huberman, 1994) to identify and compare the characteristics of groups of attendees as co-creators of value, and triangulated the data that we had obtained through observations and participant-interviews with the data from the publicly available attendee-lists. For example, this process highlighted that one distinct group of participants actively used terms and terminology associated with cryptocurrencies trading and investment when describing their motivation to attend community events (“profit”, “investment”, “ICO”, etc), while others did not. Finally, we created a typology of customer roles and actions to summarize our findings, which represents the theoretical contribution of this study (Colquitt and Zapata-Phelan, 2007).

4 Findings

Cryptocurrency and blockchain communities aim to educate, promote the adoption, and support the growth of cryptocurrency and blockchain ecosystems. They accomplish this by increasing the understanding of cryptocurrency and blockchain technology, and by connecting individuals, thus creating opportunities for the community. The communities that we studied meet anywhere from once a week to once a month, and are organized by volunteers who facilitate the events. These organizers work with representatives from cryptocurrency service providers, or attract guest speakers related to the topics discussed at individual events. Members are typically introduced to this community through their personal network, including friends, colleagues or social media like meetup.com. Individual meetings that we attended typically took place in a dedicated co-working and office hub, or library communal spaces located in the Melbourne CBD.

Our findings indicate that four distinct customer roles emerged in the context of cryptocurrency communities and blockchain service contexts. We describe these as “Knowledge-Seeker”, “Visionary”, “Novice”, and “Fortune Hunter”. First, customers performing the “Novice” role represent the vast majority of individuals in the cryptocurrencies service ecosystems we studied. Driven by a general desire to acquire new knowledge rather than monetary gains, the attendance of Novices at the community events we studied was largely driven by their intrinsic goals:

“This is my first meet up. [I am a] complete beginner, interested to learn more.”

“I come here to find out about Bitcoin and maybe buy it later.”

“[I want to] demystify cryptocurrency and blockchain. How does it work?”

Novices typically highlighted their intention to acquire new knowledge about cryptocurrencies before considering purchasing or using related services. This group of individuals consisted of members of the general public; for example, retirees or those without any technical knowledge. The key focus was to initiate learning processes and to establishing a network within the communities.

Second, customers performing the “Fortune-Hunter” role possessed a high desire for future monetary gains. Fortune-Hunters engaged with cryptocurrencies through trading, Initial Coin Offerings (ICOs), or by actively mining cryptocurrencies. Driven by cryptocurrency rewards, miners, especially in Proof-of-Work mechanism (i.e. Bitcoin), validate blocks and keep the network secure by providing mining skills, equipment and other resources. Or, when traders or investors use their trading and investing skills and experiences to support market growth, these individuals exchange their knowledge with others. Their language was distinctly different from another groups, with terms like “candle-sticks”, “trend line”, and “breakouts” commonly used:
“I am a Bitcoin day-trader and already invest in a few ICOs.”
“Investment opportunity of the century. I also want a Lamborghini.”
“[I am] a currency trader who also trades crypto. Seeking real wealth through mining.”

Third, customers classified as “Knowledge-Seeker”, are individuals driven by the desire to share and expand their knowledge and skills. Knowledge-Seekers were not solely motivated by monetary gains, but aimed to extend their knowledge of cryptocurrencies, and to make positive contributions to society. Knowledge-Seekers included academics, students, or IT-professionals (e.g., developers, IT analyst), who engaged in research and development of cryptocurrency applications:

“Can distributed finance [...] bring a more democratic world? And how [do] ICO or other blockchain-related investments [...] bring good to the society through technology?”

“[I am] a student currently researching the potential and implementation of crypto[currency] and smart contract solution in supply chain.”

“[Interested in] hybrid solution development between crypto, blockchain and legacy system.”

Fourth, “Visionary” customers represented the smallest group overall, and were individuals who had embarked on an entrepreneurial journey in the context of cryptocurrencies and blockchain. Each Visionary that we interacted with, had profound expert-knowledge, and was motivated by the desire to innovate through decentralized solutions or applications that would not only contribute to society, but also result in monetary gains. Unlike other groups, Visionaries had the ability to combine their skills and ideas associated with cryptocurrency usage and/or blockchain concepts (e.g., by developing a new platform of decentralized banking):

“[We are interested in] removing inequalities for social impact, achieving economic breakthrough, and obtaining financial freedom.”

“[I] have a start-up idea. Blockchain would leverage it.”

“[I] have a vision for borderless crypto[currency] payment and blockchain apps for construction and land developers.”

Figure 1 provides an overview, and also indicates the relative distribution of roles in the cryptocurrency service ecosystems studied:

<table>
<thead>
<tr>
<th>Seeks Knowledge and Learning</th>
<th>Seeks Monetary Gain</th>
</tr>
</thead>
<tbody>
<tr>
<td>KNOWLEDGE-SEEKER (17%)</td>
<td>Low Monetary Incentive</td>
</tr>
<tr>
<td>NOVICE (54%)</td>
<td></td>
</tr>
<tr>
<td>VISIONARY (6%)</td>
<td>High Monetary Incentive</td>
</tr>
<tr>
<td>FORTUNE-HUNTER (21%)</td>
<td></td>
</tr>
</tbody>
</table>

**Figure 1. Typology of Customer Roles in Cryptocurrencies Service Ecosystems**

Finally, we identified participants who attended multiple events (i.e., an individual who initially attended an introductory event later followed-up with a Bitcoin trading masterclass), and recognized two trajectories in shifting customer roles. First, *Novice* customers typically progressed into the *Fortune-Hunter* role, with some becoming *Knowledge-Seekers*, especially when their original intention was...
related to knowledge enhancement. We did not observe any Novice evolving into a Visionary, likely due to the fact that Visionaries possess expert knowledge, funds, and entrepreneurial drive – characteristics that are difficult to accumulate in the relatively short period during which our study took place.

Second, Knowledge-Seekers evolved either into a Fortune-Hunter or Visionary role. We attributed the shift into the Fortune-Hunter role to the exposure of potential monetary gains to be achieved from trading or mining cryptocurrencies, which represented a sufficient temptation for some to abandon their initial altruistic goals. Conversely, Knowledge-Seekers capitalized on their knowledge and maintained their altruistic attitude but developed an entrepreneurial spirit in becoming Visionaries instead.

Table 2 summarizes our findings.

<table>
<thead>
<tr>
<th>Customer Role</th>
<th>Characteristics</th>
<th>Examples</th>
</tr>
</thead>
</table>
| Novice (Trajectory into Fortune-Hunter or Knowledge-Seeker) | • Driven by desire to learn and acquire knowledge  
• Area of interest mostly Bitcoin, aims to learn, establish and accumulate cryptocurrency knowledge | Member of general public |
| Fortune-Hunter (No trajectory)             | • Driven by monetary gains (short and long term)  
• Interest in cryptocurrencies beyond Bitcoin, aim to combine their mining and trading skills with others | Traders, Investors, and Miners |
| Knowledge-Seeker (Trajectory into Fortune-Hunter or Visionary) | • Driven by desire to seek self-development, knowledge application and knowledge sharing  
• Interested in cryptocurrencies in combination with other blockchain applications | Academics, Students, Blockchain Enthusiast, IT Professionals |
| Visionary (No trajectory)                  | • Driven by desire to contribute to society and by monetary gains  
• Advanced knowledge in cryptocurrencies and combination with other blockchain applications (e.g. smart contracts), co-create value and drive service innovation by offering new or changed offerings to the ecosystems shaped by certain vision or mission | Entrepreneurs |

Table 2. Summary of Customer Archetypes and Roles

5 Discussion, Conclusion and Future Research

The transformation of service ecosystems through cryptocurrencies remains an understudied research priority for IS scholarship (Beck et al., 2017). This short research-in-progress paper aimed to contribute to this broad area by providing an empirical account of how customer roles emerge and change in the context of service ecosystems transformed by cryptocurrencies. As such, our study extends existing contributions that were either conceptual in nature (i.e., Tapscott and Tapscott, 2017) or that provided technical and computational insights associated with specific Bitcoin mining (i.e., Eyal and Sirer, 2014). We furthermore addressed calls for IS research to investigate digital transformation in service contexts more broadly (e.g., Rai, 2016), to study the transformative role of blockchain and its application in service (Beck and Müller-Bloch, 2017; Risius and Spohrer, 2017), and did so by following Payne et al. (2008) as well as Lusch and Nambisan’s (2015) recommendation to initially explore the changing roles of customers in systems affected by ICT.

We found that customers perform four distinct roles in cryptocurrency-enabled service ecosystems: Novice, Knowledge-Seeker, Fortune-Hunter and Visionary, a finding that contributes to a growing discourse related to the poorly-understood roles customers perform as cocreators of value (Payne et al., 2008; Breidbach and Maglio, 2016). However, unlike prior work in the domain (i.e., Breidbach and Maglio, 2016), we demonstrated that novel value propositions stemming from the digital transformation of service ecosystems facilitate the emergence of these roles. Specifically, we found that the desire to seek monetary gains, as well as knowledge or customer learning, are two value propositions associated with the introduction of cryptocurrencies. Our findings therefore extend prior work associ-
alted with SD-logic, which postulated that service providers are the only ones to offer value propositions (i.e., Vargo and Lusch, 2008). Conversely, our work expands this notion by highlighting that value propositions can also emerge from within service ecosystems (e.g., not only from service providers), and can therefore be developed by service customers as well, in response to exogenous digital transformative phenomena. Collectively, our findings expand current understanding in IS that transformative digital phenomena are firm-centric (Nambisan et al., 2017), and that, while utilizing theoretical lenses stemming from other disciplines like marketing (Rai, 2016) is beneficial, there are limitations to the extent to which these can be applied in the IS discipline.

Finally, while this short paper addressed substantial gaps in knowledge within the IS and service research literature related to digital transformation and cryptocurrencies, generalizability is limited within cryptocurrencies and Bitcoin ecosystem context. Blockchain technology behind Bitcoin, as private, consortium, or public blockchain (Peters and Panayi, 2016) create more study opportunities. Thus, ample opportunities for future research remain emerge from here. For one, we focused on exploring the customer side of the service ecosystem, but future studies should investigate the transformational drivers of cryptocurrencies for service providers, specifically by using case study method (Breidbach et al., 2013). Potential areas of interest include the development of new value propositions, service innovations and experiences (Breidbach et al., 2015), ethical issues pertaining blockchain (Asadi-Someh et al., 2016; Breidbach et al., 2019), or challenges industry incumbents face through new market entrants that may be more agile, or more adept, in utilizing cryptocurrencies and blockchain-enabled technologies. The key question to investigate will be how blockchain and cryptocurrencies impacts the orchestrating or intermediary role many service providers currently perform in facilitating service processes (Breidbach et al., 2016). In this context, it will be important to understand whether or not new cryptocurrency-enabled services represent a sufficient substitute to maintain current market-positions, or if entirely new value propositions are needed. Second, our research-in-progress raises new questions associated with customer value cocreation more generally, and customer-learning, in particular (Huetten et al., 2019). We acknowledge that there are likely other potential trajectories for customer learning (i.e., Novice-to-Knowledge-Seeker), and that there might also be additional customer roles. Future longitudinal research could extend our present work by mapping customer roles and learning trajectories over time. Our typology therefore represents a unique starting point for such an inquiry, which would furthermore generate new insights that are complementary to the work by Beck et al. (2017).
References


