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Innovation Diffusion from the Service-Dominant Logic: *The case of the Metaverse.*

Master Thesis Project in Knowledge-Based Entrepreneurship

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June 2022.



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The authors (represented by their avatars) hold a meeting via Spatial - a virtual environment within the Metaverse.

Acknowledgement

We, Abdul Aziz and Rabih, would like to express our gratitude to our families for their support during this research. We also thank all the interviewees for their valuable contributions to our research. Lastly, our sincere thanks go to Johan Brink for his generous assistance throughout the research process, and for introducing us to the Service-Dominant logic.

Abstract

This paper aims to examine the diffusion of innovation as a collective endeavour of actors, more specifically, market disruptors. Drawing on service-dominant (S-D) logic and service ecosystems perspective, innovation is conceptualised as a process of altering the set of interrelated institutions – long-lasting rules, norms, values and beliefs – that coordinate and govern value cocreation and resource integration practices. Such alterations are done by actors through what is referred to as institutional work. That said, the purpose of this paper is to explore and identify the patterns of institutional works that market disruptors collectively do specially in the early phases of innovation. The Metaverse, as a novel value cocreation structure, was examined as a case study in which 14 actors were studied as units of observation. By analysing the collected primary and secondary data, we identify a pattern of the conducted institutional work sorted by occurrences. By dismantling this pattern, our findings show a great focus on creating work that targets the cognitive institutional pillar.

Keywords: *institutional work, service-dominant logic, innovation diffusion, metaverse, service ecosystems*

Prologue

It is 6:30 am, a soothing sound wakes me up, it is an alarm coming out of my smart eyeglasses. Having them on, augmented reality (AR)-designed windows pop up and start floating around in my room that is rigged out in a tranquil tropical morning theme. As per my configurations, the device dictates my daily schedule with a highlight of my priorities. While sipping my coffee I hover over the news widget which reads aloud a summary of the most resonant events. Getting prepared for my high-intensity interval workout, I stand on my smart yoga mat, step inside the virtual world of “Decentraland” to navigate through a multitude of real-time classes delivered by a virtual fitness centre, and ultimately attend a live session in Germany. Full immersive mode is activated, which renders my spot of presence into a simulation of the training room with exact dimensions thanks to the geospatial mapping technology. In other words, my room in Sweden is transformed into the session room in Germany, wherein I am accompanied by real people represented by their avatars.

Afterwards, my professional day - as a brand specialist for garment and fragrance industries - starts by meeting my international team in our virtual space built on the "Spatial" world. After releasing our digital garment collection for virtual-world avatars, we are soon announcing our new real-world garment collection. Therefore, I am going to coordinate a meeting with the textile contractor. As he is located abroad, this meeting is about to take place in the virtual world of “Second life”. Once again immersive mode is on, and I can touch and feel the fabric with tremendous tactile feedback is tremendous thanks to my haptics gloves.

It is already midday; I am heading to a restaurant downtown to have lunch with my friend. My eyeglasses send out a notification to my friend approving my health status. A few KM away from the destination, three bubbles are floating in the field of my vision, representing three recommended plates, taking into consideration my diet and preferences. I blink through a yeast-free pizza with seaweed and confirm my payment in cryptocurrency via my iris ID. I arrive and find my meal cooked and ready by a food 3D printer.

I still have one meeting with our French fragrance supplier before closing my business day. Again, we are catching up virtually with full immersive mode. This time the “overseas scent” feature is activated, and thanks to the smart diffuser integrated with my smartwatch, I can smell an approximate scent of the fragrance samples. We wrap up this meeting by deciding on our next perfume collection.

It is evening, my smart glasses assist me in preparing my dinner, as they suggest a few recipes based on the product availability in the fridge – prioritizing the items with a close expiry date. Having finished my work on the project, I have now decided to attend a concert by one of my favourite bands, Cold Play. The concert will be performed in a virtual world known as "The Sandbox". I pick a proper outfit for my avatar, activate the fully immersive, and go join the event. It is bedtime, I want to wind down, my eyeglasses offer me a meditation program to set me up for a night of deep sleep. The program is controlling my house lighting to provide a serene ambience. A few minutes later, I take them and my smartwatch off, place them on the wireless charger, and fall asleep. It is 6:30 am, a new day, a fresh start, and a new experience is looming.

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1 Introduction

1.1 Background on Innovation Diffusion

Heraclitus, a well-known Greek philosopher, was right when he once said, “change is the only constant in life”. Indeed, the ways we conduct our everyday activities and how we fulfil our needs are constantly changing. The change that has occurred to the way we conduct professional meetings post the Covid-19 pandemic provides a good example. Before the pandemic, the norm was that meetings are almost always conducted physically. Today, however, the norm is broken; it became fairly normal to not only conveniently conduct meetings virtually, but also work and study from distance. The main enabler or driver behind these changes is innovation, as it provides new solutions for emergent or even existing problems practices, norms, rules value (Greve, 2003). The interesting question is then about how these changes, once they emerge, get to be accepted among people in society. Although the source of this change is innovation, not all innovation solutions gain widespread acceptance. To emphasise the complexity of the diffusion process, Rogers (2003) inaugurates his book about this topic by saying that “Getting a new idea adopted, even when it has obvious advantages, is difficult” (p.1). He (Rogers, 2003) is one of the key scholars who have attempted to study the black box of innovations and how they diffuse. With his well-known theory of diffusion of innovation, Rogers (2003) tries to explain the process of innovation diffusion and the underlying factors behind why certain innovations successfully diffuse while others fail to do so. Although he crafted his widespread model, many scholars have criticized the model as being overly rational and mistakenly smoothed, disregarding context, environment, network influences and other socially constructed variables that hinder innovation diffusion (Lyytinen & Damsgaard, 2001; Strang & Macy, 2001). For example, Moore’s (2014) criticism of the smoothness of the model highlights that there are cracks in the diffusion curve suggested by Rogers (2003), hindering adoption by the mass market. What Moore (2014) calls ‘the chasm’ is the most critical crack, emphasising that innovation diffusion is a complicated process that requires further investigation.

Vargo & Lusch (2004) realized that the issue is not only in Rogers’ model, or any other model for that matter, but also in the whole marketing discipline. They argued that the marketing research has been plagued by inheriting a model of exchange from economics, whose logic is heavily based on the exchange of (tangible) goods. This logic gave all the emphasis on tangible resources, exchange value, and transactions. They, therefore, introduced and further developed an alternative metatheoretical logic, one in which service provision is fundamental to economic exchange, and not goods (Vargo & Lusch, 2004). This logic, service-dominant logic (S-D), developed through time to address, incorporate and encompass vital issues and concepts that, together, explain the full story of marketing. After the futility of trying to understand economic activity in terms of the traditional dyad (producer-consumer), S-D logic acknowledges that value is always co-created, and always is a multi-actor process, including hundreds if not millions of actors. Furthermore, S-D logic stresses the fact that such value cocreation activities necessitate the establishment and utilisation of also co-created, shared, governing, and

coordinating rules, norms, and beliefs (institutions). At last, it became apparent from the perspective of S-D logic that these institutions form subsets of actors, creating overlapping and nested structural groups (subsystems), which are referred to as *service ecosystems* (Vargo & Lusch, 2004, 2011, 2014, 2018).

1.2 Problem area

Departing from S-D logic and its service ecosystems perspective, Koskela-Huotari (2018) provides a more holistic conceptualisation of innovations and markets evolution. She capitalized on the structural and institutional attributes of service ecosystems, and conceptualised markets as “multidimensional value cocreation structures” which gain permanence and objectivity through adopting internalising its ‘institutions’ by more actors. She also argues markets evolve from innovations. In more detail, innovation emerges when an actor(s) who is embedded in institutional arrangements – a set of interrelated institutions that govern a group of actors – perceives these arrangements as complex and incompatible with the actor’s vision (Siltaloppi et al., 2016), and hence the actor decides to think ‘otherwise’ to create value (Koskela-Huotari, 2018). Since value is always cocreated including multiple actors, Koskela-Huotari (2018) conceptualizes innovations as “Novel, proto-institutional value cocreation structures” (P. 134). The term proto-institution describes new rules, values, practices, and beliefs that are narrowly diffused and only weakly ingrained, but have the potential to become widely institutionalized, i.e., widely internalized and adopted by actors (Lawrence et al., 2002). In other words, innovation is invention until it is at least narrowly diffused. This, however, means that innovation implies a change in the institutional arrangements that govern the actors from which “novelty” emerged. This purposive attempt of the actor to think ‘otherwise’ and alter these incompatible institutions is called institutional work, which refers to the actor’s work that aims at creating, maintaining, and disrupting institutions (Lawrence & Suddaby, 2006).

Having that in mind, Koskela-Huotari (2018) develops an extended model of market evolution as institutional dynamics of value cocreation structures, where the point of departure of it is the emergence of novelty. The model (see Figure. 1), as will be further explained in more details in the literature review, includes four phases. The first phase represents the emergence of innovation. The second phase is about the process of the formation of proto-institution, which refers to the fact that the novelty that emerged in phase 1 is now adopted by more actors, and has the potential to diffuse further. Also, this phase highlights that an erosion of the existing market, that new solution aims to replace, begins at this phase, causing uncertainty among actors (Koskela-Huotari, 2018). It can be argued that this phase mirrors ‘the chasm’ in Roger’s (2003) model, which is a crack in which innovation diffusion is stuck between the early adopters and the early majority (Moore, 2014).

The third phase is where the resolution of incompatible value cocreation structures (i.e., markets) occurs. At this phase, the ‘new’ solution is not new anymore, but more of an alternative as it gained more legitimacy along the way. Therefore, a resolution between the two (the old and the alternative) markets is done through synthesis or replacement. Finally, the fourth phase represents the objectivation of the value cocreation structure(s). That is, the novelty that emerged in phase 1 is now internalised and became not only normal but also taken

for granted among actors. Of course, the whole narrative depends on other actors, whether they advocate for the new value cocreation structure or the old prevailing one. In other words, in each of the phases, actors who are confronted with the novelty split up into two main categories: *market disruptors*, who support and advocate for the innovation; and *market maintainers* who support and advocate for maintaining the prevailing (existing) solutions. Both groups conduct what is referred to as *institutional work* to legitimise their desirable solution and delegitimise the other one. The rate of diffusion depends on the success of market disruptors in their institutional work (Koskela-Huotari, 2018).

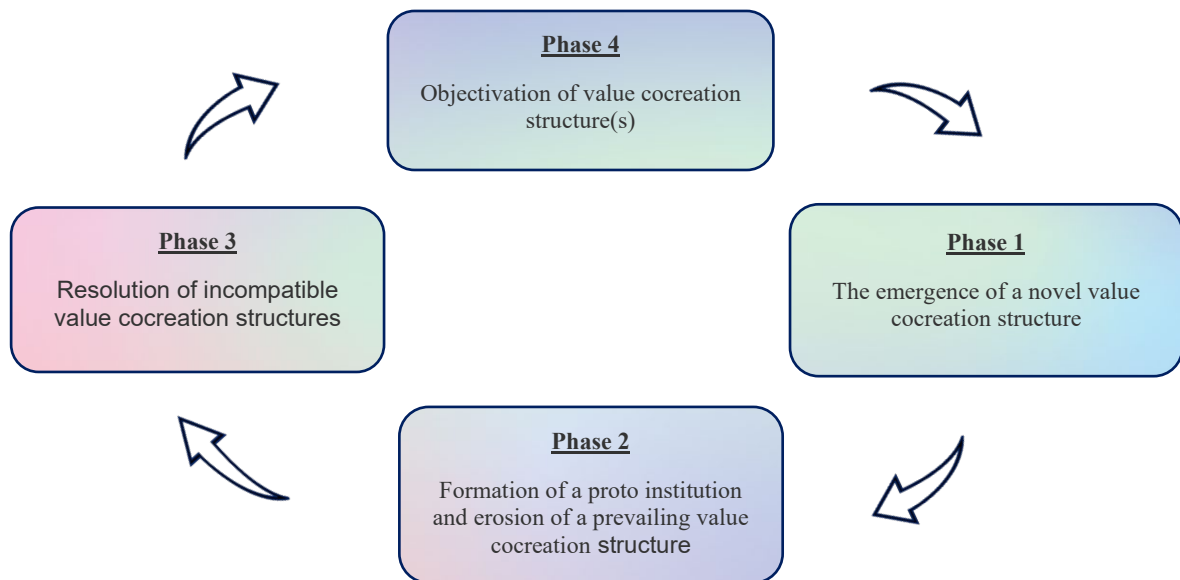


Figure 1. The four phases of market evolution as the institutional dynamics of value cocreation structures (Koskela-Huotari, 2018).

To summarize, S-D logic argues that innovation is about creation, maintenance, and disruption of the institutions (institutionalisation) in a co-creational fashion (Vargo et al., 2015). The problem area of this paper, however, is related to the diffusion of innovation after it emerges. The most commonly used theory to understand this phenomenon is the classic diffusion theory, represented by Rogers (2003). Lyytinen and Damsgaard (2001) warn that this classic view has several shortcomings and limitations. To name a few, they argue the classic understanding of innovation diffusion does not take into consideration: 1) the complex and networked attributes of innovation; 2) the critical role of institutional structure of the market in shaping the diffusion field; and 3) the fact that innovation is always socially constructed. As Vargo et al. (2015) expressed it, “traditional innovation approaches, which center on the development of new products and corporate processes, limit the understanding of the co-created, systemic, and dynamic nature of market innovation.” (p. 71). On the other hand, S-D logic, with its service ecosystem perspective, provides an opportunity for a more holistic and transcending view of innovation diffusion, and hence market evolution.

Reflecting on Koskela-Huotari’s (2018) model, it can be argued that innovation diffusion (actually) starts in phase 2, namely ‘the formation of a proto-institution and erosion of a prevailing value cocreation structure’, as novelty evolved to be narrowly adopted by other actors than those who initiated it. Although the model brings the S-D logic from its abstract and metatheoretical level to the midrange theory level, the model has yet to be empirically validated. In other words, the model only provides a conceptual understanding of markets

evolution, lacking any kind of empirical observation that validates it. Furthermore, the model does not provide an in-depth examination of market evolution in each phase. More specifically, it does not inform about the ‘howness’ of the diffusion of innovations (as proto-institutions). Finally, although the model emphasizes the institutions and institutional work as foundational to the market legitimation process, it does not identify which institutional work is more relevant to which phase, leaving practitioners with no guidance.

1.2.1 The Metaverse as a context

The story narrated in the prologue envisages a day spent in the Metaverse. “The Metaverse” is a term that has taken off with a blast of hype and controversy since Facebook was rebranded as “Meta”, back in October 2021 (Ingram, 2021). The hype has intensified by many giants – such as Adidas, Nike, Samsung, JP Morgan, and Deloitte – across different sectors declaring their leap into the Metaverse (Accenture, 2022). Nevertheless, the term is still vague and ambiguous with no singular comprehensive definition (Sparkes, 2021). The “Metaverse” is traced back to Neal Stephenson who coined the term for the first time in his sci-fi novel “Snow Crash” in 1992. According to Stephenson (1992), the concept was defined by that time as a three-dimensional virtual space that is parallel to the real physical world, wherein people – represented by their avatars – can interact and do their jobs. However, the connotation of ‘the Metaverse’ in today’s words appears to be more than that. From both narratives, the one presented in the prologue of this thesis and the one written by Stephenson, one can sense an innovative value that is not created by a single actor, rather it is co-created by a constellation of actors. In fact, one can already live a comparable novel virtual experience co-created and enabled by a multitude of actors, as demonstrated by Joanna Stern in her real-life example of a day spent in the Metaverse (Stern, 2021).

The ongoing discourse, in public and business fields, is pondering whether the Metaverse is an opportunity or a bubble. The incessant speculations may mislead entrepreneurs, investors, and even users. Truly, as learned from the dot-com bubble, following the hype recklessly may lead to unfavourable consequences. The divergence and vagueness inherent in defining the Metaverse, will exacerbate the situation. Moreover, given the newness and complexity of the Metaverse, there is a dearth of research that investigated this trend. More importantly, the Metaverse provides an excellent opportunity as a case to investigate innovation diffusion, as it can be argued that the Metaverse is in the second phase of Koskela-Huotari’s (2018) abovementioned model.

For one thing, as already mentioned, phase 2 is characterized by the fact that the new value cocreation structure (the Metaverse in this case) is internalized by more actors than those who initiated change in phase one (Koskela-Huotari, 2018). That is, the innovation is transformed into a pro-institution, since it is adopted by third-party actors that are outside of the initial circle (Lawrence, 2002). Indeed, this is the case in the Metaverse, where there are presently more than 160 organizations attempting to co-create the Metaverse (Radoff, 2022; Lee et al., 2021; Mudrick, 2021). For instance, Meta (formerly Facebook) assigned a budget of USD 10 Billion for the project of the Metaverse (Forbes, 2021). In a similar fashion, Microsoft acquired Activision Blizzard for USD 68 Billion, ascribing this step to their intentions of building the Metaverse (Caminiti, 2022). Beyond that, several companies from traditionally low technology

industries are taking steps to establish themselves as early entrants of the Metaverse, including Adidas, H&M, Nike, and Deloitte (Accenture, 2022).

For another, phase 2 is distinguished by an increased level of heated discourse and publicity (Koskela-Huotari, 2018). In this respect, the Metaverse is an ideal scenario. The term "Metaverse" has been referenced in more than 12 000 news articles since October 2021 (Oremus, 2021). A great deal of publicity has been generated in app stores, where more than 550 mobile applications use the word "Metaverse" in their value proposition (Perez, 2022). As a result, it is considered one of the buzziest words for 2021/2022 (Caminiti, 2022). Finally, Koskela-Huotari (2018) states that phase 2 is characterised by stimulated actors thanks to publicity and the heated discourse, which is also the case in the metaverse. She also highlighted that these actors turn into either market disruptors or active market maintainers. There has been a heated discussion concerning the Metaverse worldwide in recent months, and this can be heard among actors. A study conducted by Daugherty and Sweet (2022) on 4650 C-level executives in 35 countries indicates that 71 percent of respondents are confident that the metaverse will positively affect their business and will eliminate the constraints of the traditional internet. In the same survey, 41 percent of the executives stated that the program has staying power and is transformational. In contrast, critics claim that the Metaverse has an inevitable dark side that is socially unbearable. For example, Jamison (2022) argues that the Metaverse encourages severe antisocial behaviour, pornographic content, unregulated gambling activities, and finally, major information security issues. He claims that these issues, although they exist in the Web 2.0 era, will be magnified, and multiplied in the Metaverse.

Based on the aforementioned arguments, the Metaverse represents an excellent opportunity for an in-depth investigation of elements of the second phase of the model.

1.3 Research Scope and Purpose

The purpose of this study is to investigate how innovation diffusion occurs as a collective (proto-institutional) endeavour, especially in the early phases. As already highlighted, innovation diffusion relies on actors' (specifically disruptors) *institutional work* to internalize the novelty and further legitimise it among other actors. This study is limited to the second phase of Koskela-Huotari's (2018) model for two main arguments. First, as mentioned in the problem area, it can be argued that diffusion (actually) starts in the second phase of the model, as innovation starts to diffuse beyond the actors who initiated it. Second, it can be argued that this phase mirrors the 'chasm' in the classic diffusion theory, which represents the most significant gap in the adoption process, specifically between the early adopters and the early majority (Moore, 2014). In this research, as already stated, we argued that the Metaverse is in the second phase of its evolution as the market (value cocreation structure). Finally, as this thesis embraces S-D logic and its service ecosystem's perspective, the theoretical question of innovation diffusion can be reformed as an empirical question about actors' institutional work (Koskela-Huotari, 2018; Lawrence & Suddaby, 2006; Vargo & Lusch, 2018).

That said, the objective of the thesis is to scrutinize the institutional work of actors that aims to further diffuse the novel value cocreation structure under the name of the Metaverse. More specifically, the research question of this research is as follows:

What is the pattern of institutional work followed by market disruptors who aim to institutionalize the Metaverse?

1.3.1 Contributions

This research is the first to integrate the patterns of institutional work of actors as a collective endeavour with the market evolution model introduced by Koskela-Huotari (2018). By answering the research question, the contribution of this thesis is of severalfold. First, it provides a new understanding of innovation diffusion as collective institutional work conducted by actors; a new understanding that is grounded on the S-D logic and its service ecosystem perspective. Second, as this thesis embraces the S-D logic worldview, it responds to Vargo & Lusch's call to provide more empirical research to shape and verify the midrange theory, which acts as a bridge between metatheory (the abstract level of the logic) and future empirical research (Vargo & Lusch, 2018). Third, this research responds to Koskela-Huotari's (2018) call to strengthen her model with empirical data collected for the specific purpose of validating and, more importantly, developing it. Finally, and most importantly, this thesis provides insights directed to both researchers and practitioners about the patterns of collective institutional work conducted by market disruptors in the early phases of market evolution (i.e., innovation diffusion). Contextually, the research provides insights for those who are interested in the metaverse from a marketing perspective.

1.3.2 Delimitations

The authors have chosen to limit the research to only the second phase of Koskela-Huotari's (2018) model for two main reasons. First, as already argued, phase 2 represents a major bottleneck in the process of innovation diffusion, since it is somehow similar to the chasm (Moore, 2014). Second, the fact that the Metaverse is arguably in phase 2 enjoins the authors to focus on this phase specifically.

Furthermore, the authors chose to study market disruptors' institutional work, and not market maintainers. In the words, this research only focuses on efforts that aim at the formation of the proto-institution, and the erosion of the prevailing value cocreation structure; it does not include the efforts of actors who actively work 'against' the evolution of the Metaverse.

As Chapter 1 presented the introductory background, the problem area, and research scope and purpose, the rest of the thesis body will be structured as follows: Chapter 2 discusses the relevant literature and shapes the theoretical framework needed to answer the research question. Chapter 3 explains the methodology that was followed by the authors to conduct this research. Then, Chapter 4 presents the analysis of the empirical findings of the data collected, while Chapter 5 Discusses and reflects on these findings. Finally, Chapter 6 concludes the research and provides researchers with recommendations for future research.

2 Theoretical Framework

2.1 Service-Dominant Logic

Reviewing the marketing literature and the trajectory of how it evolves, it becomes evident that Service-dominant (S-D) Logic has been the most prevailing logic for this millennium. S-D logic came to challenge the old conventional understanding of service as a unit of output and the producer-consumer divide that the literature has been plagued with. Instead, this logic claims to provide a more holistic, inclusive, integrative, and synthesized worldview that integrates goods and services and furnishes a more robust foundation for marketing thoughts and practices (Vargo & Lusch, 2004). In S-D logic, service should not be equated with the definition of services that stems from the conventional good-dominant (G-D) logic. While the G-D logic sees services (plural) as intangible units of output that are demarcated from the tangible goods, The S-D logic views service (singular) as the process of serving (Vargo & Lusch, 2004). More specifically, the S-D logic defines service as “the application of specialized competences (knowledge and skills) through deeds, processes, and performances for the benefit of another entity or the entity itself” (Lusch & Nambisan, 2015). In this sense, service becomes the fundamental basis of all economic exchange between actors, and not as contradistinction from tangible goods, where goods become nothing but a mechanism to distribute the service provision. Embracing this premise while zooming out to the macro-level, S-D logic defines all economies as service economies, where all entities -individuals and organisations- are actors that exchange services (Vargo & Lusch, 2015). The use of such generic term (actors) reflects how, in S-D logic, all entities are fundamentally the same thing: resource integrators and service exchangers (Vargo & Lusch, 2018).

From the perspective of S-D logic, the ultimate reason behind service exchange is value creation. To reflect on the abovementioned definition of service, value is the indication of the ‘benefit’ (Vargo & Lusch, 2008). Therefore, value is only determined by the beneficiary. This implies that value is subjective to the entity in question, “making each instance of its creation contextually distinct” (Vargo & Lusch, 2018, p. 8). Value definition thus extends from value-in-exchange and value-in-use to include the notions of value-in-experience and value-in-context. S-D logic acknowledges that value is created through the action of multiple actors. More specifically, value is co-created by multiple actors through the integration of resources available in the service ecosystem to which the beneficiary, who also is a resource integrator, belongs. In that sense, S-D logic sees the cocreation of value as a positive statement, that is, it is not optional (Vargo & Lusch, 2015). In other words, no actor can deliver value independently; instead, they take part in the offering of value propositions (Vargo & Lusch, 2018). This again highlights the role of the actor as an integrator of resources in a wider network of other resource-integrating actors.

Resources in S-D logic are divided into operand resources and operant resources. Operand resources are those on which an operation or action is required to produce an effect. They’re often tangible and static in nature, such as natural resources. On the other hand, operant resources are the capability to act upon the operand resources to create the desired benefit (Vargo & Lusch, 2004). Such distinction implies that operand resources are potential resources and their ‘resourceness’ is not acquired and realized without the applying operant resources to

them (Koskela-Huotari & Vargo, 2016). More importantly, this emphasizes the strategic importance of operant resources for the actors, which makes them the fundamental resources for strategic benefit (Vargo & Lusch, 2015).

Finally, S-D logic realizes the need for institutions and institutional arrangements to coordinate resource integration and value cocreation activities (Edvardsson et al., 2014). Inspired by North (1990), S-D logic defines institutions as “humanly devised rules, norms, and beliefs that enable and constrain action and make social life predictable and meaningful” (Vargo & Lusch, 2015, p.11). Those rules, norms, and beliefs are what govern the interpersonal relations among actors, shaping the service (eco)system within which they interact (Edvardsson et al., 2014). Institutions, and their roles, in value co-creation will be handled in depth later in this section.

Since its inception, scholars have been, and continue to, further consolidate, extend, and elaborate S-D logic. This is mostly manifested in the development of the logic’s foundational premises/axioms (Vargo & Lusch, 2015). First, Vargo and Lusch (2004) announced that the inception of the logic was built on eight foundational premises that were later developed to become eleven (Vargo & Lusch, 2008). It was then later further consolidated into 5 axioms from which the rest of the foundational premises can be derived (Vargo & Lusch, 2015).

Figure 2. summarizes the axioms and the foundational premises of S-D logic. As displayed, the foundational premises can be derived from the five axioms.

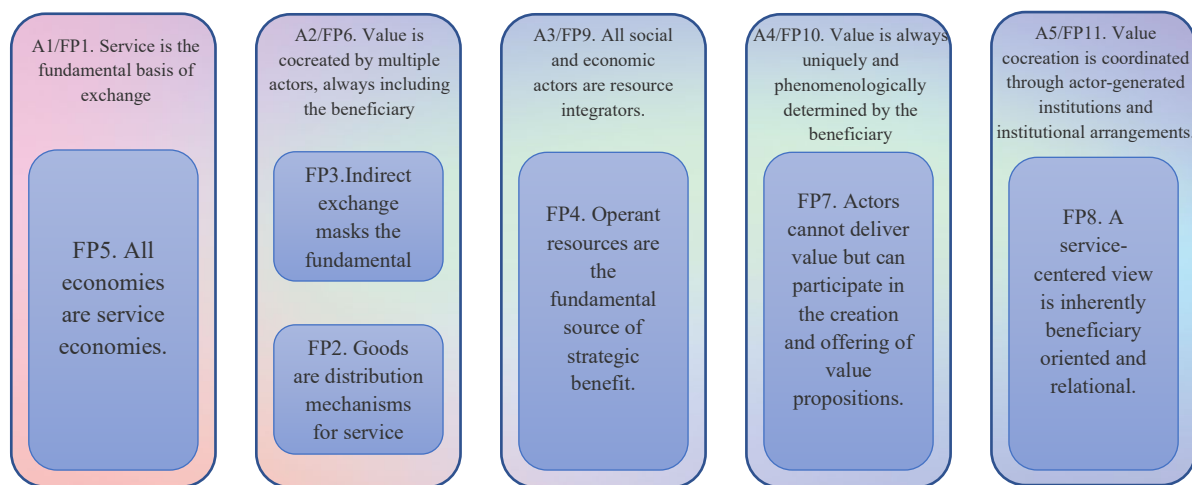


Figure 2. Axiom and Foundational Premises (Vargo & Lusch, 2018).

2.2 Service Ecosystems

As its foundational premises/axioms indicate, S-D logic broadens the perspective of exchange and value creation. The logic recognizes that all social, as well as economic actors, are resource integrators. Thus, the logic embraces an Actor-to-Actor (A2A) orientation that “points toward a dynamic, networked and systems orientation to value creation” (Vargo & Lusch, 2011). That is, networks, where resource integration, value co-creation, and service exchange occur, are not only networks in its simple definition as the aggregation of relationships. Although the network perspective tends to capture much of the complexity of value co-creation (Vargo & Lusch, 2014), it is still, however, static and fails to capture the dynamism of value co-creation.

Therefore, the incorporation of systems perspective to the S-D logic became central to be able to capture the dynamic nature of service exchange (Vargo & Lusch, 2018). The (eco)systems perspective on service challenges the normative positions from which the research on service unquestionably departs. It provides service researchers with a more holistic worldview than the one that treats one actor as the dominant actor (producer). Standing on FP6 and FP9 (see Figure 2.), the ecosystem perspective allows a more broadened view that sees all actors as resource integrators and value co-creators. The term ecosystem is borrowed from biology to express the loose interconnection of the actors where the survival of one actor is always dependent, directly, or/and indirectly, on another actor (Vargo & Lusch, 2014).

Lusch and Nambisan (2015) define service ecosystems as “relatively self-contained, self-adjusting system of mostly loosely coupled social and economic (resource-integrating) actors connected by shared institutional arrangements and mutual value creation through service exchange”. Being a *relatively self-contained* structure means that exchanges among actors, whether competitively or cooperatively, are done as a response to a local problem or opportunity. Such A2A exchanges and interactions spread across tiers of actors within the ecosystem, leading to the creation of a relatively self-contained (self-sufficient) structure.

As mentioned, a service ecosystem is composed of resource integrating actors. These actors often belong to, and obtain resources from, nested subsystems or overlapping (eco)systems (Lusch & Nambisan, 2015). The interactions and exchange processes not only influence actors in question but also influence other actors to which the actors in question are connected (Vargo & Lusch, 2014). Once again, These A2A exchanges spread across the service ecosystem, allowing actors to adjust to one another, which makes the service ecosystem *self-adjusting* (Vargo & Lusch, 2014). This highlights that actors enjoy some degree of agency (power) that allows them to adjust and adapt (Vargo & Lusch, 2018). At the same time, however, the overall structure of the ecosystem imposes that actors are also constrained to some degree, which allows actors to exchange in a relatively predictive environment (Lusch & Nambisan, 2015).

Any system that includes actors (social and economic) requires some kind of mechanism of coordination. A service ecosystem has shared *institutional arrangements* as what coordinates resource integration and value co-creation (Vargo et al., 2015). As mentioned, institutions are human-made formal rules, social norms, and cultural and cognitive meanings. Institutional arrangements are then defined as “sets of interrelated institutions that together constitute a relatively coherent assemblage that facilitates coordination of activity in value-cocreating service ecosystems” (Vargo & Lusch, 2018, p. 301). Such institutions and institutional arrangements are *socially constructed* by actors who are, at the same time, enabled and constrained by them. Institutions continually change to adapt to conflicts that may arise among actors. They function as interpretive frameworks that enable actors to coordinate their collaborative actions, reconstruct them, and make sense of them (Vargo et al., 2015). According to Scott (2013), institutional rules are divided into three main pillars under which all the institutional rules can be categorized; these are namely regulative, normative, and cultural-cognitive rules. Regulative rules include all the formal and explicit rules and laws and activities that regulate, and consequently, enable and constrain actors’ behaviour; such regulations come in form of rule-setting, monitoring, and sanctioning (Edvardsson et al., 2014).

Normative rules are the social norms and values that determine what is acceptable and desired. More specifically, normative rules are the norms and values that provide actors with the evaluative perspective to allow them to perceive social benefits and constraints (Scott, 2013). Finally, Cultural-cognitive rules highlight the beliefs that shape actors' perception of reality (Edvardsson et al., 2014). In other words, Cultural-cognitive rules are those ideas, beliefs, and ideas that actors hold and take for granted, and that actors use to make meaning of their surrounding environment (Scott, 2013).

Together, regulative, normative, and cultural-cognitive rules are institutionalized in service ecosystems so that they shape the behaviour of actors while integrating resources and co-creating value, and 'thus drive the well-being of service ecosystems' (Vargo & Lusch, 2018, p. 278). This further explains and justifies how and why service ecosystems are relatively self-contained. Furthermore, as already stated, institutions, and hence institutional arrangements, are socially constructed (Scott, 2013), which means that they are not static phenomena; they are subject to change. In other words, they emerge, evolve, and manifest in socially constructed realities and *practices* (Scott, 2013). Put differently, institutional rules are created, maintained, and modified by human action (Hatch & Zilber, 2011). Once again, this further explains and justifies how and why service ecosystems are relatively self-adjusting. To summarize, the term *service ecosystem* is incorporated into the S-D logic "to capture the dualistic, dynamic, resource-integrating (through service exchange), enabling, and constraining value-(co) creating structures" (Vargo & Lusch, 2014, p. 24). Innovation, as a novel value creation, does also happen in the ecosystem. The following section will discuss innovation from S-D logic, service ecosystems, and institutional perspective.

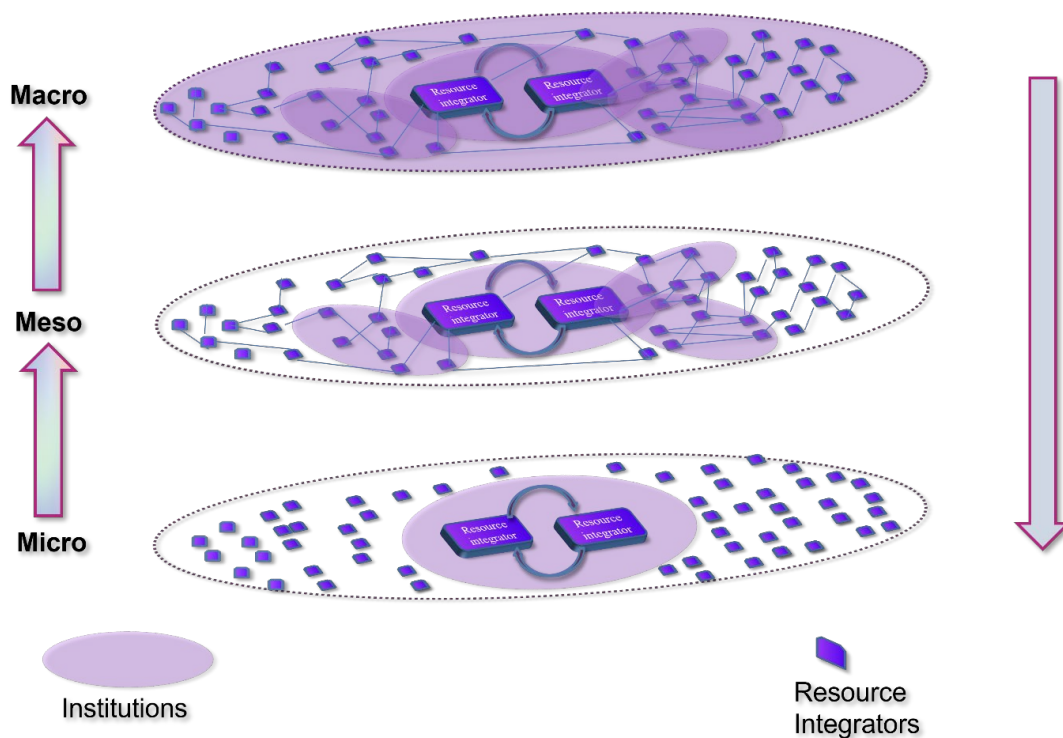


Figure 3. Service exchange and resource integration within Service-ecosystems (Vargo & Lusch, 2018).

2.3 Innovation in service ecosystems.

The notion of service innovation and how enterprises view their nature and process has been widely discussed in the literature (Miles, 1993). Many argue that it is still vaguely defined (Drejer, 2004; Witell et al., 2016). What's unvague, however, is the enormous impetus this topic has gained, which is manifested through the amount of literature on innovation from various research disciplines (Toivonen & Tuominen, 2009; Carlborg et al., 2013). In a literature review of the scholarly work on service innovation, Coombs & Miles (2000) categorize the literature on this topic into three perspectives that diverge on how innovation is conceptualized; these are (1) Assimilation; (2) Demarcation; and (3) Synthesis. Although these perspectives significantly differ, most of the research under them are still constrained by tangible–intangible and producer-consumer divides (Lusch & Nambisan, 2015). Furthermore, the previous literature on innovation highlights a paradoxical tension regarding whether innovation is conceptualized as an outcome or as a process (Witell et al., 2016; Helkkula et al., 2018). Another tension that is highlighted in the literature is whether innovation is firm-centric or a multi-actor phenomenon (Koskela-Huotari, 2018). Therefore, a call for an all-encompassing view to overcome these paradoxical tensions was heavily emphasized in the literature (Coombs & Miles, 2000).

S-D logic, with its service ecosystem view, provides a processual, systemic, and most importantly, institution-based point of departure for innovation conceptualization (Vargo & Lusch, 2018), one that goes beyond the tangible–intangible and producer-consumer divides (Lusch & Nambisan, 2015). The logic provides a worldview that treats (tangible) goods as nothing but a mechanism or a vehicle to distribute service. Hence, the distinction between “service innovation” and “product (goods) innovation” becomes not only unnecessary but also irrelevant (Lusch & Nambisan, 2015).

As stated, the service ecosystems perspective embraces an (A2A) orientation and the institutional arrangements by which actors are governed as the fundamental way to understand and explain the interwoven fabric of actors exchanging service to co-create value (Chandler and Vargo, 2011, 2014). Two of the defining characteristics of institutions are that they are long-lasting and, most often, taken for granted, and they are thus perceived to be the objective structure of social reality (Siltaloppi et al., 2016). To express how embedded actors are in these institutions (norms, values, beliefs, rules, and meaning), North (1990) refers to institutions as “the rule of the game”. This embeddedness implies that it is uncommon that an actor will deviate from the institutions and institutional arrangements in which the actor is positioned (Siltaloppi et al., 2016).

A service ecosystem comprises actors that co-create value through resource integrations, all (the actors and their practices) of which are governed by institutional arrangements (Lusch & Nambisan, 2015). Since S-D logic suggests that service ecosystems are governed by institutional arrangements (Lusch & Nambisan, 2015), innovation thus is seen when actors co-create value through resource integration in a *novel and better* way (Lusch & Nambisan, 2015; Vargo, Wieland, & Akaka, 2015). A change in the actors' value creation process (i.e., innovation) implies a change in the institutional arrangements that govern them. From an institutional perspective, innovation thus can be understood as a process that “unfolds through

changes in the institutional arrangements that govern resource integration practices in service ecosystems” (Koskela-Huotari et al., 2016). As the service ecosystem provides a systemic way to understand value co-creation and service integration, it conceptualizes innovations as *emergent properties*. An emergent property of a system is defined to be contingent on the connective structure of the system’s components (Harper & Lewis, 2012,). An emergent property does not only refer to the outcome (innovation as an outcome), but emergence also includes the interactions and the mechanisms that caused the outcome (innovation as a process) (Haan, 2006). Viewing innovation as an emergent property of service ecosystems reconciles the paradoxical tensions in innovation’s conceptualization as either a ‘fixed’ outcome or as a process of interactions (Koskela-Huotari 2018).

A service ecosystem, by definition, is a system of systems. That is, each service ecosystem is a part of a bigger whole (Vargo et al., 2015). This means that, a system that is considered to be a whole at one level is contained at another level (Vargo & Lusch, 2016). The conceptualization of ecosystems thus involves three-level: micro (e.g., firms), meso (e.g., industries), and macro (e.g., nations) levels of contexts (Chandler & Vargo, 2011). In line with structuration theory (Giddens, 1984), ecosystems are thus characterised by a multilevel institutional structure (Akaka, Vargo, & Lusch, 2013). For example, a firm culture (institutional arrangements on micro level) reflects both the industrial norms (institutional arrangements on meso level) and the national culture (institutional arrangements on macro level) (Koskela-Huotari et al., 2016). Furthermore, on any level, actors are always embedded in several different service ecosystems (Vargo & Lusch, 2018, p. 305). A student, for example, is an actor in his university, his family, his sports team, his part-time job company, and his own start-up business. Each of those service ecosystems has its own sets of interrelated institutions (i.e., institutional arrangements). Koskela-Huotari (2018) calls this *institutional pluralism* and defines it as “the co-existence of multiple inhabited institutional arrangements” (p. 120). One consequence of this pluralism on actors is that they face incompatible prescriptions for action, or *institutional complexity* (Siltaloppi et al., 2016). Koskela-Huotari (2018) defines institutional complexity as the “multiplicity of institutional arrangements confronting actors with conflicting prescriptions for action” (p. 120).

Siltaloppi et al. (2016) argue that institutional complexity is a prerequisite for innovation and lies at the core of it. When actors face these incompatible prescriptions that stemmed from multiple institutional arrangements, the prevailing institutions get affected as the problematic circumstance prompts reflection and inspires collaborative attempts to resolve the conflict. Once an actor is confronted with institutional complexity, it reduces his/her “taken-for-grantedness” of a part of the prevailing institutional arrangement governing them. actors are then compelled to respond to this institutional complexity in some manner in order to re-establish coherence, order, and meaning in their social lives. Consequently, the multiplicity of the institutional arrangements turns into “toolkits” for actors to jointly change and rebuild the value cocreation practices (Siltaloppi et al., 2016). These toolkits are used by actors in what is called *institutional work*. Lawrence & Suddaby (2006) define Institutional work as “the purposive action of individuals and organizations aimed at creating, maintaining and disrupting institutions” (Lawrence & Suddaby, 2006, p. 215). Hence, Innovation, from the service ecosystem perspective is conceived as a process of reconfiguring the institutional structure in

service ecosystems through institutional work (Koskela-Huotari, 2018). Considering the complexity of the structures of service ecosystems and the taken-for-grantedness of the sets of interrelated institutions among actors, this process is complicated and carries conflicts and tensions until the institutional structure is reconfigured. This is because that institutional work always includes multiple actors, each of which is governed and guided by various institutional arrangements. Therefore, innovation should be seen “as a process of ongoing negotiations, experimentation, competition, and learning.” (Koskela-Huotari et al., 2016, p. 2996).

The adoption of institutional work, while emphasizing on the systemic, structural, and nested nature of the service ecosystem, allows us to view innovation at multiple levels of aggregation, “thereby examining the microprocesses of a focal actor doing institutional work (e.g., a firm or user), while acknowledging that his efforts occur in the context of other actors doing their institutional work” (Koskela-Huotari et al., 2016, p.117).

2.4 Forms of institutional work

Institutional work is of huge importance to the S-D logic as it translates the theory to managerial and entrepreneurial practices. In fact, as a result of the huge institutional shift in S-D logic, an explanation of innovation in service ecosystems is sought by interpreting it as an institutionalization phenomenon (Vargo and Lusch, 2016). The concept of institutional work was introduced by Lawrence & Suddaby (2006) who presented a robust framework that lists and categorizes the different forms of institutional work. As the abovementioned definition implies, the concept of institutional work is specifically concerned with the actions that affect institutions, and not the other way around. However, it is worth mentioning that the relationship between institutions and action is recursive in nature. That is, institutions provide templates for action, in addition to the regulative mechanism that enforces these templates. Then, the same actions can affect those templates recursively, which results in a change in the institutions (see Figure. 4). As this paper is mainly concerned with innovation, which refers to new actions that affect institutions, then our focus is only on institutional work (represented by the lower arrow in figure. 4, that from action to institutions) (Lawrence et al., 2009).

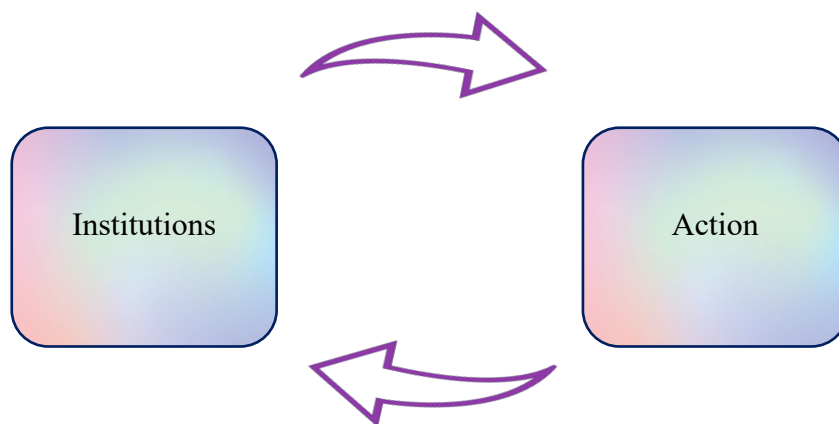


Figure 4. The recursive relationship between institutions and action (Lawrence et al., 2009).

The framework presented by Lawrence and Suddaby (2006) proposes three main categories of institutional work, namely *creating*, *maintaining*, and *disrupting* institutions. Regardless of the

category, Lawrence and Suddaby (2006) did not claim to provide an exhaustive list of the forms of institutional work, especially that countless types of institutional work keep rising. This chapter discusses and lists the forms of institutional work under each category as it was presented by Lawrence and Suddaby (2006). For a complete understanding of each form of institutional work, readers are recommended to visit the respective reference.

2.4.1 Creating institutions

As the name suggests, this category includes the type of work that aims to create new institutions. Through an extensive review of empirical research, Lawrence and Suddaby (2006) have identified nine distinct sets of practices that fall under this category. These practices will be presented and defined in the table below. The definitions are based on Lawrence and Suddaby's (2006) paper unless otherwise indicated:

Forms of Definition institutional work	
Advocacy	The mobilization of political and regulatory support through direct and deliberate techniques of social suasion
Defining	The construction of rule systems that confer status or identity, define boundaries of membership, or create status hierarchies within a field
Vesting	The creation of rule structures that confer property rights
Constructing identities	Defining the relationship between an actor and the field in which that actor operates
Changing normative associations	Re-making the connections between sets of practices and the moral and cultural foundations for those practices
Constructing normative networks	Constructing of interorganizational connections through which practices become normatively sanctioned and which form the relevant peer group with respect to compliance, monitoring, and evaluation
Mimicry	Associating new practices with existing sets of taken-for-granted practices, technologies, and rules in order to ease adoption
Theorizing	The development and specification of abstract categories and the elaboration of chains of cause and effect
Educating	The educating of actors in skills and knowledge necessary to support the new institution

These forms can be divided into three broad sub-categories: the first – *advocacy vesting, and defining* – is clearly a political endeavour in which actors reshape the rules, property rights, and borders that govern access to material resources; the second – *constructing identities, changing norms, and constructing networks* – focus on actions that reconfigure actors' belief systems; the third subcategory – *mimicry, theorizing, and educating* – change abstract categorizations by altering the boundaries of meaning systems (Lawrence & Suddaby, 2006).

2.4.2 Maintaining institutions

Although the issue of maintaining institutions is of huge importance, it has received significantly less attention in the literature. Jepperson (1991) argues that institutions are

characterised by automatic mechanisms of social control that makes institutions relatively self-producing. However, relatively few institutions enjoy this reproductive power, while the majority of institutions require ongoing maintenance. Lawrence and Suddaby (2006) have listed six types of institutional work that aim to maintain institutions. These practices will be presented and defined in the table below. The definitions are based on Lawrence and Suddaby's(2006) paper, unless otherwise indicated:

Forms of institutional work	Definition
Enabling work	The creation of rules that facilitate, supplement and support institutions, such as the creation of authorizing agents or diverting resources.
Policing	Ensuring compliance through enforcement, auditing, and monitoring
Deterring	Establishing coercive barriers to institutional change
Valorising and demonizing	Providing for public consumption positive and negative examples that illustrate the normative
Mythologizing	Preserving the normative underpinnings of an institution by creating and sustaining myths regarding its history
Embedding and routinizing	Actively infusing the normative foundations of an institution into the participants' day to day routines and organizational practices

The first three, 'enabling', 'policing' and 'deterring', are primarily concerned with maintaining institutions in a regulative sense, by ensuring compliance with the rule systems. The other three, 'valorising and demonizing', 'mythologizing' and 'embedding and routinizing', are primarily concerned with maintaining institutions on the *normative and cognitive* level, by reproducing existing norms and belief systems (Lawrence & Suddaby, 2006).

2.4.3 Disrupting institutions

Through their extensive empirical review Lawrence and Suddaby (2006), spotted a third distinct category of institutional work. Actors tend to disrupt when their interests are not served by the institutional arrangements in which they operate. Hence, they work on disrupting this set of institutions that hinder them. such institutional work revolves around attacking or undermining the mechanisms that guide actors to comply with institutions. Lawrence and Suddaby (2006) realize that creating new institutions is one important way to disrupt existing institutions. However, they argue that it is not the only, nor even the dominant way. They have listed three types of institutional work that aim to disrupt institutions. These practices will be presented and defined in the table below. The definitions are based on Lawrence and Suddaby's (2006) paper, unless otherwise indicated:

Forms of institutional work	Definition
Disconnecting sanctions	Working through state apparatus to disconnect rewards and sanctions from some set of practices, technologies, or rules

Disassociating moral foundations	Disassociating the practice, rule, or technology from its moral foundation as appropriate within a specific cultural context
Undermining assumptions and beliefs	Decreasing the perceived risks of innovation and differentiation by undermining core assumptions and beliefs

Once again, it is worth mentioning that none of these lists is exhaustive. Lawrence and Suddaby (2006) do not claim to cover all types of institutional work. Rather, they aimed to sketch the terrain associated with the three categories of institutional work.

2.4.4 Cross-category work

Berthod et al. (2019) realized the complexity and intersectionality of these three categories and the difficulty of separating them from each other. Therefore, they provided a fourth group of cross-category work. Within those forms of work, actors simultaneously do creating, maintaining, as well as disrupting work. The table below presents the forms of institutional work that fall under that category. All of which are based on Berthod et al. (2019) selected overview of institutional work. The definitions are as they stated in their paper, followed by the source form which there were cited:

Forms of institutional work	Definition
Boundary work	The attempts of actors to create, shape and disrupt commonly accepted distinctions between people and groups (Zietsma and Lawrence, 2010).
Practice work	Actors' efforts to affect the recognition and acceptance of sets of routines as recognized forms of activity (Zietsma and Lawrence, 2010).
Negotiation work	Defining a negotiation mode, shaping attitudes, and managing internal differences during negotiations to take conflicting institutionalized expectations into account and allow the negotiations to continue and result in an agreement (Helfen and Sydow, 2013)
Preservation work	Also called 'dirty work' (Hirsch and Bermiss, 2009: 262), institutional preservation is the strategic decoupling of older norms and institutions to transfer these norms into a new institutional order. Thereby, this type of work includes attempts at maintaining older institutional orders and contributing to the creation of the new one
Leadership work	The work of an organization's administrators to (i) demonstrate the organization's cultural fitness to elements of its institutional environments, and (ii) create and maintain organizational integrity and coherence among the various constituents of an organization (Kraatz, 2009).
Design work	The emergent embodiment of new and old ideas into new physical artifacts that mediate between innovation and institutionalized expectations (Hargadon and Douglas, 2001)

Rhetorical work

The composing of arguments in such a way that they mitigate criticisms of the status quo and advocate change (Suddaby and Greenwood, 2005).

In their empirical, multiple case study, Koskela-Huotari et al. (2016) found that while the practices of breaking (disrupting) and making (creating) institutions are imperative to make an institutional change, institutional maintenance is also crucial so that the changes become an integral part of the institutional structure that coordinate value cocreation. That is, to do enduring change, some parts of the prevailing institutional arrangements must be challenged while, simultaneously, maintaining other parts. The maintenance of other institutional rules is important as it provides other involved actors with a sense of security and makes “[the] ‘new’ rules of resource integration more recognizable, and the change is perceived as less abrupt from the perspective of the actors” (Koskela-Huotari, 2018, p. 126). Therefore, the three types of institutional work (disrupting, creating, and maintaining) should not be understood as sequential, but as a simultaneous interplay.

2.5 From Innovation to Market: Innovation Diffusion

Just like innovation, the concept of markets and how they evolve has been widely mentioned and used in marketing in the literature. Surprisingly and paradoxically, however, the conceptualisation of arguably the most important term of the marketing literature is still somehow absent (Johanson & Vahlne, 2011). Venkatesh & Peñaloza (2006) expresses that when they said that “paradoxically the term market is everywhere and nowhere in our literature” (p. 252). The predominant understanding of markets is heavily built on neoclassical economics, where markets are defined as mere exchanges between buyers and sellers (Mele et al., 2014).

In their work for a holistic market conceptualization, Mele et al. (2014) identify several weaknesses that the legacy of neoclassical economics leaves on the understanding of markets. First, its emphasis on exchange points up the role of the “product” as a central element in all business activities, while trivializing the importance of customers. Second, the emphasis on product exchange necessarily led to a distorted picture of value creation, as it focuses on the exchange value and disregards use value. Third, the huge emphasis on the seller–buyer dyad acts as a blinder, making it hard to recognize that this dyad is also a part of a larger network of actors who also contribute to the creation of value. Finally, reducing the evolution of markets to be merely seen as a set of demand/supply equilibria does not take into account the social dimension that helps in explaining the “organized, as well as spontaneous, patterns in market making and shaping” (Mele et al., 2014, p.101).

As previously stated, S-D logic and its service ecosystems perspective provide a processual, systemic, and institutional approach to studying value cocreation in human societies (Vargo & Lusch, 2004, 2011, 2016). Departing from there, Koskela-Huotari (2018) built an integrative and transdisciplinary framework of market evolution by merging the studies of innovation and market. In that line, she conceptualizes markets as “*Institutionalized, multidimensional value cocreation structures. Markets consist of both invisible institutional arrangements internalized*

by resource-integrating actors and visible value cocreation practices and resulting service ecosystems through which the invisible structure is brought into a time-space existence by resource-integrating actors.” (p.134). In the same vein, she conceptualizes innovations as “Novel, proto-institutional value cocreation structures. Innovations are emergent properties of service ecosystems that unfold due to institutional complexity that enables actors to (purposefully) change the dimension(s) of value cocreation structures through institutional work.” (p.134). The term proto-institution was developed by Lawrence et al. (2002) to describe ‘Institutions-in-the-making’. In their words, it describes “[new] practices, technologies, and rules that are narrowly diffused and only weakly entrenched but have the potential to become widely institutionalized” (Lawrence et al., 2002: 283).

With these transcending conceptualizations of innovations and markets, Koskela-Huotari (2018) develops an extended model of market evolution as institutional dynamics of value cocreation structures. Building on S-D logic and its service ecosystems perspective, she introduces a recursive four-phase process model of market evolution. The model conceptualizes innovation as proto-institutional value cocreation structures and explains how it emerges and evolves to become a market through institutional work conducted by multiple actors who aim to either disrupt or maintain the prevailing market.

The model (see Figure. 5) constitutes of four phases: (1) the emergence of a novel value cocreation structure; (2) the formation of a proto-institution and erosion of a prevailing value cocreation structure; (3) the resolution of incompatible value cocreation structures; and (4) the objectivation of the value cocreation structure(s). The first phase represents the emergence of an innovation whereas the subsequent three phases correspond to the evolution of innovation to become a market (Koskela-Huotari 2018).

Phase 1 represents the phase where Innovation as a novelty emerges. It occurs when the institutional pluralism experienced by the actors turns into institutional complexity, which reduces the legitimacy and the taken-for-grantedness of the prevailing value cocreation structure (read chapter 2.3). This enables actor(s) to think differently and innovate. As actors initiate the institutional change, two types of actors emerge: *market disruptors* and *market maintainers*. Koskela-Huotari (2018) identifies market disruptors as the actors who support and advocate for the emergent proto-institutional value cocreation structure. Hence, they carry out *institutional work* to both further diffuse the novel value cocreation structure, and delegitimise the prevailing value cocreation structure. On the other hand, she identifies market maintainers as the actor who supports and advocate for the prevailing value cocreation structure. Hence, their institutional work is dedicated to maintaining it. If market disruptors succeed in their institutional work, they gain more attention from their surrounding actors and the process of market evolution progresses to the next phase.

In phase 2 (the focus of this study), there occurs two simultaneous processes. One is concerned with the formation of a proto-institution while the other is concerned with the erosion of a prevailing value cocreation structure (Koskela-Huotari 2018). The novelty that emerged from the first phase turns into a proto-institutional value cocreation structure as it gains more legitimacy. That is, the novel value cocreation structure comes to be adopted by a bigger number of actors than those who initiated the change, and hence turns into a proto-institutional

value cocreation structure. The process can be interpreted as a legitimacy tug-of-war. Suchman (1995) defines legitimacy as “a generalized perception or assumption that the actions of an entity are desirable, proper, or appropriate within some socially constructed system of norms, values, beliefs, and definitions.” (p. 574). Although it is on subjective judgment, Bitektine and Haack (2015) argue that legitimacy is a collective perception. Therefore, Koskela-Huotari (2018) argues that, in the context of market evolution, legitimacy is the collective approval of a value cocreation structure. As more actors jump on board, the legitimacy and coherence of the novel value structure increases, while the prevailing value cocreation structure begins to lose legitimacy. This implies the market disruptors, through institutional work, not only work toward legitimizing the novel value cocreation structure, but also toward delegitimizing the prevailing ones (Koskela-Huotari 2018). Market maintainers’ role at this phase is to fight back and restabilize and re-legitimize the prevailing value cocreation structure. With these two opposing powers, assuming that the proto-institution has gained sufficient attention, conflict escalates. As a result, the discourse expands and more actors take part, becoming either market disruptors or market maintainers (Koskela-Huotari, 2018). Here appears the importance of the earlier mentioned three types of institutional work, namely creating, disrupting, and maintaining (Lawrence & Suddaby, 2006). It is worth reemphasizing the fact that, even for market disruptors, institutional maintenance is crucial as it makes the new practices more recognizable by actors, and hence, more acceptable to be integrated with their institutional arrangements guiding them (Koskela-Huotari et al., 2016). In other words, institutional maintenance provides (other) actors with a sense of security while pushing them to change the way they do things (Koskela-Huotari, 2018). In other words, the institutional maintenance that market disruptors may do is different in purpose from the one conducted by market maintainers, as the former aims to provide other actors with a sense of security to encourage them to accept the change, while the latter aims to restabilise the prevailing value cocreation structure.

Phase 3, namely the resolution of incompatible value cocreation structures, follows from the success of the market disruptors, whose numbers have grown significantly. Here the alternative – not new anymore – value cocreation structure appears to be a legitimate alternative to the prevailing value cocreation structure, but still not fully. This means that value cocreation structures aren’t legitimate enough to eliminate the other. This generates uncertainty for all the actors. To stabilize the situation, a resolution between the alternative and incompatible value cocreation structures is needed. The reconciliation can be attained when both maintainers and disruptors resort to third-party value cocreation structures and use them as templates. Irrespective of whether disruptors or maintainers achieve success during this phase, the existing co-creation structure is bound to undergo a significant transformation, and possibly a complete replacement.

Phase 4, the last phase, is the objectivation of the value cocreation structure. The market becomes stable at this point and the value cocreation structure is accepted and internalized as the new normal. In this stage regulative, normative, and cognitive institutions are settled to govern the market. As a result, the discourse is relatively low.

Figure 5. illustrates the extended model of market evolution as institutional dynamics of value cocreation structures developed by (Koskela-Huotari, 2018). The model displays and

summarises all phases and what they comprise. The figure also illustrates how and to what degree the value cocreation structure would change as an outcome of the institutional work of market disruptors or market maintainers.

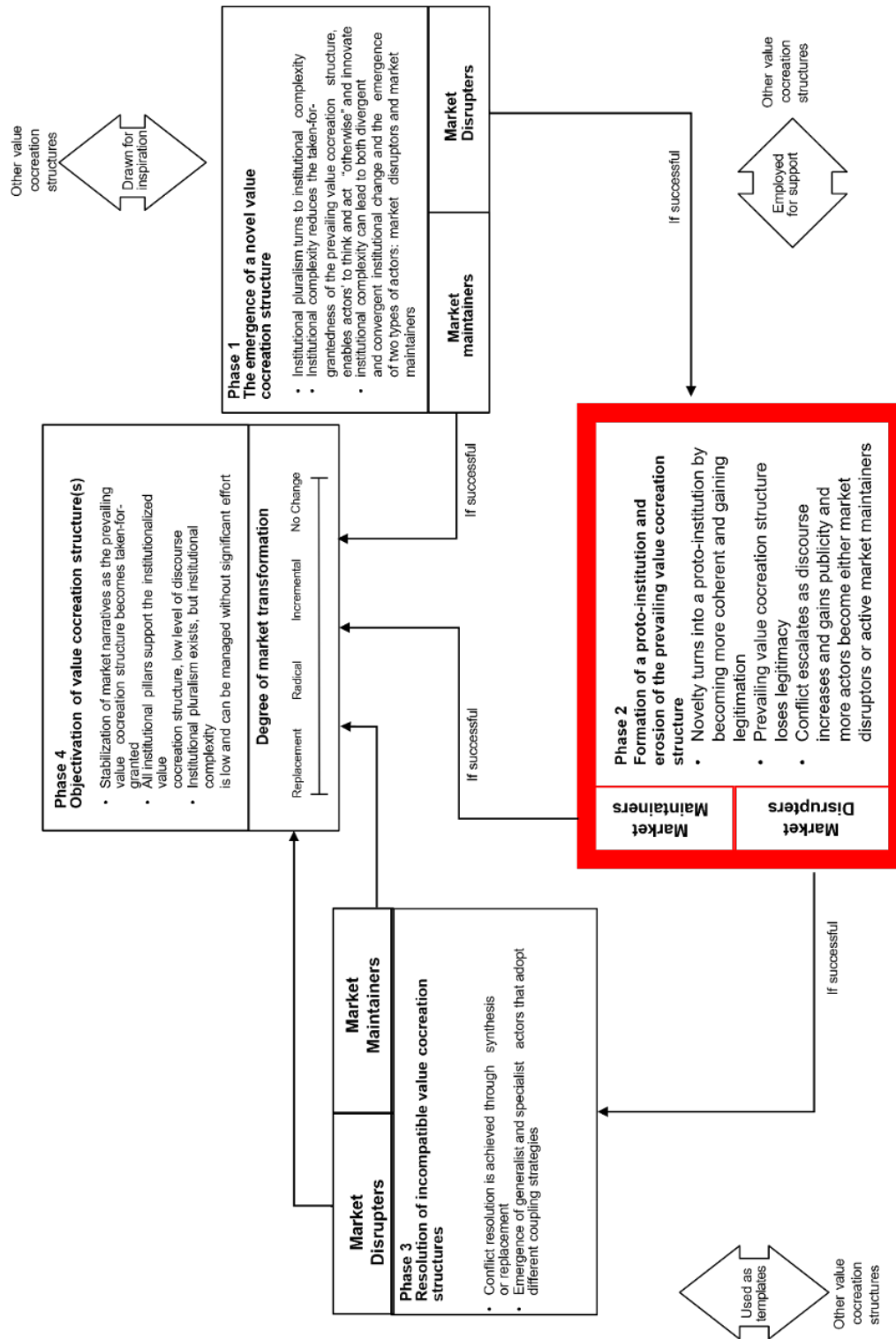


Figure 5. The extended model of market evolution as institutional dynamics of value cocreation structures.

2.6 Summarizing the Theoretical Framework

As explained in the problem area, this paper's topic is mainly about innovation diffusion. More specifically, the purpose of this study is to investigate how innovation diffusion occurs as a collective endeavour, especially in the early phases.

As earlier mentioned, the classic innovation diffusion theory, usually represented by Rogers (2003), has dominated the literature in recent decades. Several Scholars argue that there are several theoretical gaps in this classic view (Bui, 2015; Lyytinen & Damsgaard, 2001; Moore, 2014; Strang & Macy, 2001). For example, Lyytinen and Damsgaard (2001) criticise this classic view with several shortcomings. They argue the classic understanding of innovation diffusion does not take into consideration: (1) the complex and networked attributes of innovation; (2) the critical role of institutional structure of the market in shaping the diffusion field; and (3) the fact that innovation is always socially constructed. Additionally, Strang and Macy (2001) argue that the classic view is excessively atomistic, rational, and mistakenly smoothed, disregarding context, environment, network influences and other socially constructed variables that hinder innovation diffusion.

Vargo & Lusch (2004) realized that the issue is not only in the classic theory but also in the whole G-D logic that the marketing discipline is plagued with. They, therefore, introduce S-D logic with its service ecosystems perspective, which together provide a processual, systemic, and most importantly, institution-based point of departure to the understanding of value creation innovation conceptualization (Vargo & Lusch, 2018). Innovation can thus be understood as a process that “unfolds through changes in the institutional arrangements that govern resource integration practices in service ecosystems” (Koskela-Huotari et al., 2016). Such changes are generated through institutional work, which refers to the actor's work with the purpose of creating, maintaining, and disrupting institutions (Lawrence & Suddaby, 2006).

Koskela-Huotari (2018) builds on these understating and develops a recursive model that explains market evolution (i.e., innovation diffusion) as institutional dynamics of value cocreation structures, where the point of departure of it is the emergence of novelty (i.e., innovation), as illustrated in Figure 5. The emergence and the diffusion of innovation in her model rely on the institutional work conducted by market disruptors. Hence, the theoretical question of innovation diffusion can be reformed as empirical question about actors' institutional work (Vargo & Lusch, 2018; Koskela-Huotari, 2018; Lawrence & Suddaby, 2006). In the literature review, we have identified four categories of institutional work, namely, creating, disrupting, maintaining, and cross-category (Berthod et al., 2019; Lawrence & Suddaby, 2006).

That said, placing the Metaverse within the recursing market evolution model, fits best in the second phase as motivated in the introduction. Therefore, the Metaverse represents an excellent opportunity as a case to investigate market disruptors' institutional work that they carry out to further diffuse and legitimise the Metaverse as a novel value cocreation structure.

2.7 The Metaverse as context

2.7.1 What is the Metaverse?

The Metaverse is attracting serious attention as a big high-tech trend. However, the literature does not provide a single comprehensive definition or description of the Metaverse (Moy & Gadgil, 2022; Kim, 2021; Ghose et al, 2022). Therefore, this section is dedicated to review a multitude of definitions and descriptions of the Metaverse.

Starting with the etymology of the word "Metaverse", it seemingly refers to an environment that transcends our own universe. The prefix "Meta" has a Greek origin and means: "After", "Beyond", and "Transcending". The suffix "Verse" is borrowed from the word Universe that means the "cosmos", "the entire world", and "the totality of existing things". The term was coined first by Neal Stephenson (1992) in his sci-fi novel titled " Snow Crash". Stephenson defined the Metaverse as a three-dimensional (3D) virtual world where people interact with each other represented by their respective programmable avatars (Grimshaw, 2014). The quote below excerpt illuminates Stephenson's conception:

“He [the protagonist named Hiro] is not seeing real people, of course. This is all a part of the moving illustration drawn by his computer according to specifications coming down the fiber-optic cable. The people are pieces of software called avatars. They are the audio-visual bodies that people use to communicate with each other in the Metaverse. Hiro's avatar is now on the Street, too, and if the couples coming off the monorail look over in his direction, they can see him, just as he's seeing them. They could strike up a conversation: Hiro in the U-Stor-It in L.A. and the four teenagers probably on a couch in a suburb of Chicago, each with their own laptop. But they won't talk to each other, any more than they would in Reality. These are nice kids, and they do not want to talk to a solitary”. (Stephenson, 1992, p. Cli43).

In a similar vein, Cline (2011) authored a sci-fi novel titled “Ready Player One”, wherein he featured the Metaverse as a fully digital universe beyond our world, which is accessible by visor and haptic gloves (Cline, 2011). Other actors built on this definition and portrayed the Metaverse as a virtual universe that consists of a multitude of real-time rendered 3D worlds. In this universe people, represented by their self-crafted avatars, interact in a virtual and immersive manner (Kim, 2021).

Another stream of literature sees the Metaverse, not just as a 3d virtual world that is beyond our real world, but as a nexus of virtual and physical worlds (Smart et al., 2007). Akour et al. (2022), clarified the bridging role of the Metaverse by magnifying the promise of lifelike activities such as education. They portrayed the Metaverse as an immersive virtual world that people access, without leaving their homes, to engage in digital social/economic interactions. They shed lights on three major features of the Metaverse, namely interactivity, corporeity, and persistence. Mystakidis (2022) endorsed this definition, by describing the Metaverse as a post-reality environment that merges the physical real world with the virtual digital world.

A different perspective arises and goes beyond the above listed definitions. Jon Radoff, the author of “Game On”, believes that Neal Stephenson implied that the Metaverse is the successor to the internet. Radoff (2022) claimed that the Metaverse is the Web 3.0, and he concisely defined it as “The Metaverse is the internet evolving into a creative space for anyone who wants to craft experiences”. Radoff also provided an expanded definition, through which he shed the light on key attributes of the Metaverse, particularly, creativity and immersive experience. Drawn from this, Radoff (2022c) declared that “the Metaverse is not necessarily a 2D, 3D or even graphical environment, but it is about the inexorable dematerialization of physical space, distance, and objects”. He embodied this with the help of a social audio application named “Clubhouse”, where users get the illusion of being in the same room with other people engaging in activities like learning or discussing a specific subject, with no graphical representation. This view is in harmony with Cook et al (2020) perception about the Metaverse as Web 3.0 – also known as the “Spatial Internet”. Figure 6 explicates this conceptualization.

Understanding the Spatial Web

Spatial interaction layer

Through next-generation interfaces (e.g., smart glasses or voice), we will be able to interact with contextual, real-time information that has been called up by intuitive and sensory triggers such as geolocation, computer vision, and voice, gesture, or biometric commands. In effect, this merges the digital and physical layers for the user.

Digital information layer

Through sensorization and digital mapping of the physical world, we will eventually create a digital twin of every object in every place. Today, this type of digital information is primarily accessed via screens and dashboards. In the future, it will be retrieved primarily via the spatial interaction layer.

Physical layer

The world as we currently know and experience it through the five senses.

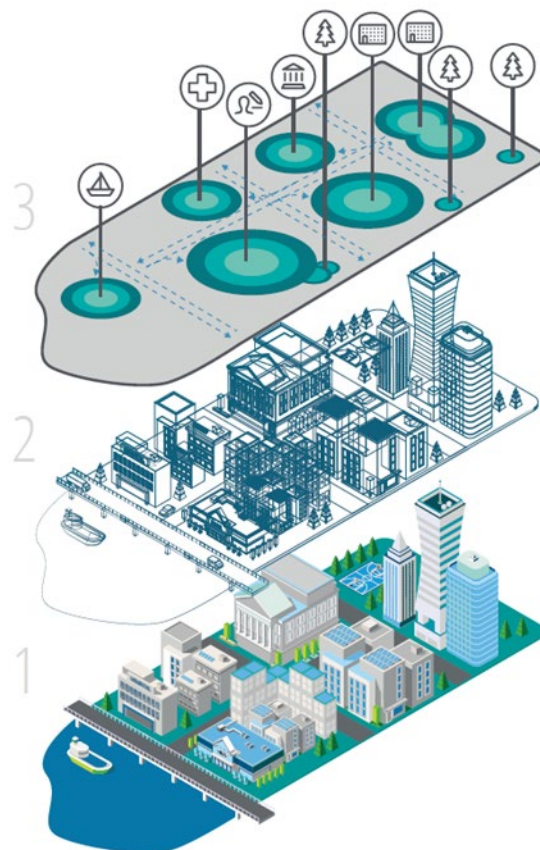


Figure 6. Understanding the Spatial Web. Source: Deloitte Analysis (Deloitte, 2020)

Other viewpoints slightly differentiated between the Metaverse, and the Web 3.0. Daugherty and Sweet (2022) perceived the Metaverse as “an evolution of the internet that enables a user to move beyond browsing to inhabiting and/ or participating in a persistent shared experience that spans the spectrum of our real world to the fully virtual and in between”. They stressed that Metaverse and Web 3.0 are related but not identical. They referred to the Web 3.0 as “the emerging initiatives that are leveraging technologies like blockchain and tokenization to build a more distributed data layer into the internet”. Another report by Moy & Gadgil (2022), stressed that the Metaverse could operate using both web 2.0 and web 3.0 technologies. In order to determine the differences between the two approaches, they developed a comparison table, see Table 1.

Table 1. Comparison of Web 2.0 and Web 3.0 approach to Metaverse. Source: Moy & Gadgil (2022)

Web 2.0 versus Web 3.0 approach to the metaverse			
	Web 2.0	Web 3.0	
PLATFORM CHARACTERISTICS	Example virtual worlds	<ul style="list-style-type: none"> • Second Life • Roblox • Fortnite • World of Warcraft 	<ul style="list-style-type: none"> • Decentraland • The Sandbox • Somnium Space • Cryptovoxels
	Organizational structure	<ul style="list-style-type: none"> • Centrally owned • Decisions are based on adding shareholder value 	<ul style="list-style-type: none"> • Community governed, generally through a foundation decentralized anonymous organization (DAO) • Native tokens are issued and enable participation in governance • Decisions are based on user consensus
	Data storage	<ul style="list-style-type: none"> • Centralized 	<ul style="list-style-type: none"> • Decentralized (game assets)
	Platform format	<ul style="list-style-type: none"> • PC/console • Virtual reality (VR)/augmented reality (AR) hardware • Mobile/app 	<ul style="list-style-type: none"> • PC • Virtual reality (VR)/augmented reality (AR) hardware • Mobile/app coming soon
	Payments infrastructure	<ul style="list-style-type: none"> • Traditional payments (e.g., credit/debit card) 	<ul style="list-style-type: none"> • Crypto wallets
USER INTERACTION	Digital assets ownership	<ul style="list-style-type: none"> • Leased within platform where purchased 	<ul style="list-style-type: none"> • Owned through non-fungible tokens (NFT)
	Digital assets portability	<ul style="list-style-type: none"> • Locked within platform 	<ul style="list-style-type: none"> • Transferable
	Content creators	<ul style="list-style-type: none"> • Game studios and/or developers 	<ul style="list-style-type: none"> • Community • Game studios and/or developers
	Activities	<ul style="list-style-type: none"> • Socialization • Multi-player games • Game streaming • Competitive games (e.g., esports) 	<ul style="list-style-type: none"> • Play-to-earn games • Experiences • (Same activities as Web 2.0, see box on left)
COMMERCIALS	Identity	<ul style="list-style-type: none"> • In-platform avatar 	<ul style="list-style-type: none"> • Self-sovereign and interoperable identity • Anonymous private-key-based identities
	Payments	<ul style="list-style-type: none"> • In-platform virtual currency (e.g., Robux for Roblox) 	<ul style="list-style-type: none"> • Cryptocurrencies and tokens
	Content revenues	<ul style="list-style-type: none"> • Platform or app store earns 30% of every game purchased; 70% goes to developer (example model)⁸ 	<ul style="list-style-type: none"> • Peer-to-peer; developers (content creators) directly earn revenue from sales • Users/gamers can earn through play or participation in platform governance • Royalties on secondary trades of NFTs to creators

To conclude, what the Metaverse is and could be, is still emerging. Though there is no all-encompassing definition, there are some common characteristics across the multitude of definitions. The common characteristics are 1) immersive, interactive, and social experience, 2) dematerialized of physical content, 3) embodied self by a virtual identity, 4) persistence of identities and objects.

2.7.2 The Metaverse Service Ecosystem

In the metaverse context, one can obviously sense an innovative value that is not created by a single actor, rather it is co-created by a constellation of actors. These actors are co-building the metaverse by embracing new practices, rules, and norms for value creation from distinct disciplines, and hence they make up new structures. The ways, they are integrating their operand (tangible) and operant (intangible) resources, are not merely unorthodox, but also avant-garde. They are thinking outside the box, planning, and acting in their own way differently than the prevailing establish norms/practices.

There is unanimity that the Metaverse is not built by one single actor – as some think of Meta - but rather shaped by an ecosystem of new small and renowned huge players (Kim, 2021; Moy & Gadgil, 2022; Lee et al., 2021). These players are collectively building the Metaverse by integrating their resources and exchanging. The Global Market Report by Newzoo states the ecosystem of the Metaverse is composed of actors across various sectors that are categorized into several groups (Mudrick, 2021). The first group “Metaverse gateways” constitutes of actors that provide platform and content, namely virtual worlds. The actors of this group are classified into centralized (e.g., Roblox and Rec room) and decentralized (e.g., Decentraland and Upland). The second group of actors provide services and features. It comprises of subgroups such as “Avatar & Identity” (e.g., Avatar SDK), “User Interface & Immersion” (e.g., Oculus, bHaptics), “Economy” (e.g., Coinbase, Metamask), “Social” (e.g., Snapchat, YouTube). The last group is shaped by actors that are building the enabling infrastructure. It includes subsegments like “Cloud, Scalability & hosting” (e.g., Beamable), “Visualization & Digital Twin” (e.g., NVIDA, Omniverse), “Artificial Intelligence” (e.g., OpenAI, “Decentralized Infra” (e.g., Ethereum), “Adtech & Marketing” (e.g., Adverty), and “Connectivity” (e.g., T-Mobile).

Radoff (2022c) developed a comparable map that represents a broad Metaverse ecosystem. It is an onion model of 7 layers each of them is a subsystem of the broad ecosystem. The 1st layer, *Experience*, includes players that strive to dematerialize the physical space with the intention to provide experience for users, such as games, social interactions (meetings), and music concert. The 2nd layer, *Discovery*, constitutes of actors that allow users to find out an experience of the first layer, whether expectedly or unexpectedly. In the former case, users actively search for experience, for instance through app stores and search engines, whereas in the latter case, users are exposed to new experiences without their request, for instance through ads. The 3rd layer, *The Creator Economy*, is shaped by actors developing gears and tools that empower and enable creators to craft and monetize experience; for instance, designing graphic tools and monetization models. The 4th layer, *Spatial Computing*, is composed of actors that develop technologies that erode the boundaries between physical and virtual worlds, by assisting users

to craft and manipulate 3D objects and connect them to the real world. 3D engines that aim to present geometry and animation, Geospatial mapping, and voice/gesture recognition software are key functions in this layer. The 5th layer, *Decentralization*, represents the unique characteristics of the ideal structure of the Metaverse, as opposed to centralized platforms such as Roblox or Rec room, which are controlled by one single entity. It is here that one of the greatest innovations, namely blockchain technology, enters the picture. With blockchain technology, self-sovereign identities can be established, new methods of unbundling and bundling content and currency can be developed, and financial assets can also be liberated from centralized control and custody. The 6th Layer, *Human Interface*, includes hardware that enables us to interact with the Metaverse – from personal mobile devices to virtual reality headsets to futuristic technologies such as haptic feedback and smart glasses. The 7th layer, *Infrastructure*, is comprised of the technology that facilitates the use of our devices, facilitates their connection to the Internet, and provides content to them – such as the semiconductors, cloud computing and telecommunications networks. Figure 7. visualizes the ecosystem map developed by Radoff.

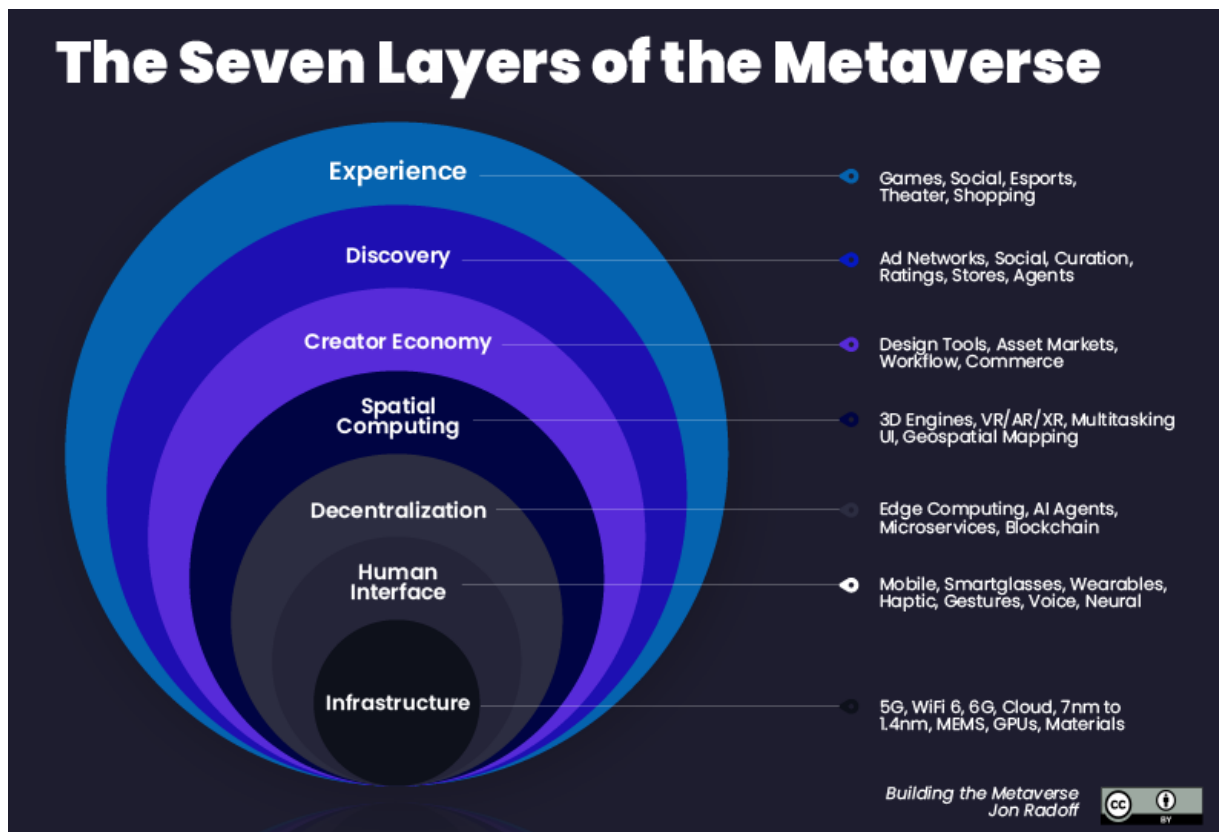


Figure 7. The metaverse ecosystem, *Building the Metaverse* (Radoff, 2022c)

Overall, it can be said that the Metaverse has interdisciplinary characteristics (Lee et al., 2021, p.6). This implies collaboration among different actors having a variety of types of expertise and operating in various fields.

3 Methodology

3.1 Philosophical assumptions

As a condition for being able to generate useful knowledge, it is essential to consider and comprehend our philosophical assumptions. Then and only then, we can effectively put our findings into practice (Bell et al., 2019). Consequently, it is imperative that the assumptions underlying the ontological, epistemological, and methodological assumptions are consistent (Bell et al., 2019).

Ontology refers to the notions on which we base our interpretation of reality. We arrive at our understanding of reality as a result of the assumptions we make about the world we inhabit. Diverse ontological positions define reality in a variety of ways. Objectivism position holds that social phenomena that are encountered are external facts that are outside of our control and might even take place without any recognition or observation on our part. By contrast, the position of constructivism emphasizes the concept of social construction of reality (Bell et al., 2019). Our thesis cannot be supported by the former ontological position, whereas the latter is appropriate for two primary reasons. Firstly, our thesis is centred around institutions. Throughout history, institutions have emerged, evolved, and manifested in socially constructed practices. Consequently, they are the result of human activity (Geertz, 1973; Scott, 2013). Secondly, we are analysing the phenomenon of the Metaverse that is jointly created by a multitude of actors from distinct sectors and verticals. It is not by any means built in a vacuum nor exists objectively, and hence not an external reality. Rather it is constructed collectively by the interaction of the actors and the meaning-making of the observers.

Epistemology is a logical consequence of ontology. The latter concern is the understanding of reality, while the former relates to how we can gain this knowledge (Bell et al., 2019). As a means of ensuring consistency between these philosophical assumptions, we adopt in this thesis the epistemological stance of interpretivism that is derived from constructivism. Interpretivism places the biggest focus on understanding human behaviour. Furthermore, Interpretivism also refers to the meaning behind social action, including how it is carried out and why (Bell et al., 2019). In keeping with our research question, this is consistent with our subject and will help us to respond to it. After all, our objective is to interpret and understand the behaviour of the Metaverse's creators while institutionalising their innovation.

3.2 Research strategy

This study is best suited to a qualitative research strategy to address our research question. First, a qualitative strategy is coherent with our choice of ontological position, constructivism, and epistemological position, interpretivism. When a qualitative strategy is used, attention is focused on the interpretations that individuals make of the world they inhabit, and a view is taken of social reality as an emerging and constantly changing feature of the process of individual creation (Bell et al., 2019). Second, we adopted an exploratory approach that is designed to be inductive and qualitative (Stebbins 2001). When there is limited research available on the topics in question, an exploratory approach may be useful (Bell et al., 2019). This conforms with our thesis owing to the lack of previous studies on institutional work in relation to market evolution phases, with a particular focus on the second phase that denotes

the diffusion of innovation. As a result, an inductive approach provides illuminating findings and helps contribute to the development of a middle range theory that, in turn, facilitates the development of a general theory of service-dominant logic (Brodie et al., 2011). The absence of literature on the emerging concept of the Metaverse is also an important motivator for our exploratory approach. Lastly, a qualitative approach is recommended to study institutional change (Schlüter, 2010). An increasingly prominent role has been placed on cognition and mental models when considering the understanding of institutional change. To gain a deeper understanding of these mental models empirically, it is imperative to consider actors' experiences, perspectives, and stories (Schlüter, 2010).

3.3 Research Design

The most suitable design for our research is a single case study. A case study can be an organization, person, social groups, state-like entities, social groups, event, or phenomenon (Mills et al., 2010; Gerring, 2016). To determine the boundaries of a case, it is essential to take both spatial and temporal factors into consideration (Gerring, 2016). In this paper, we analyse the case of the Metaverse to gain an understanding of how innovation becomes institutionalized. Specifically, we examine the institutional work undertaken by Metaverse builders worldwide during the second phase of the market evolution model by Koskela-Huotari (2018) that includes an emphasis on service ecosystems. Consequently, we consider the Metaverse ecosystem as our unit of analysis, and the organizations that are working to institutionalize the Metaverse as our units of observation. Taking the service ecosystem as the unit of analysis is suggested by Vargo and Lusch (2018) for uncovering how entities carry out institutional work collectively. If not, a narrow unit of analysis (a single company) will fail to understand what is really going on (Vargo and Lusch 2018). It follows that we should perform our study at the mesoscale rather than at the microscale, which implies a degree of complexity that can be addressed by one case study that focuses on the unique characteristics of the case at hand and analyse it in depth (Bell et al., 2019).

Apart from the fact that we are interested in the Metaverse, it possesses characteristics that make it particularly applicable case to our research objective. Firstly, as noted in the theoretical framework, several scholars have delineated the Metaverse ecosystem. The importance of this is evident, particularly when considering an ecosystem of services as a unit of analysis, since the researcher must justify his system of choice based upon its boundaries (Vargo & Lusch 2018). The second point is that the Metaverse, as discussed in Chapter 1.2, is currently in the second phase of the market evolution model, which denotes the diffusion of innovation. We found this essential in pursuing the objective of our study and answering the research question appropriately. Further, both of these factors facilitate the recognition of institutional work that takes place, which in turn facilitates the collection of data.

As stated, one of the aspired contributions of our paper is to expand the body of knowledge of SD-logic. This justifies our decision to conduct a case study. Case studies are directly related to theories, and this can both be associated with generating and testing theories (Bell et al., 2019). There are a few limitations to the case study design, however, including its inability to generalize. To circumvent this limitation, it is suggested to embrace a multiple case study approach (Mills et al., 2010; Bell et al., 2019). There was no way we could accomplish this

given our limited time frame and the nature of this project, so we have chosen to focus on a single case in order to fully comprehend the specificities and complexities of institutional work processes. This study should be replicated on a number of novel value co-creation structures and ecosystems, each of which should be treated as a single unit of analysis in order to make our findings more generalizable. Ultimately through a meta-analysis of these research papers that we can develop an overall picture of the institutional work taking place in the second phase of market evolution.

3.4 Research Method

3.4.1 Data Collection

As part of our data collection process, we utilize both primary and secondary sources. Specifically, this is to ensure that enough data gathered from various perspectives within the Metaverse ecosystem will be available to achieve the aspired level of depth. Below we elaborate on the sampling method, setting, and practicalities concerning these interviews.

3.4.1.1 Primary Data

To collect primary data, we employed semi-structured interviews which are suitable with the exploratory nature of the qualitative research strategy. The semi-structured interviews circumvent the drawbacks of structured and unstructured interviews. Unlike the unstructured interviews, the semi-structured interviews help us in keeping the interviewees focused on major pillars such as (in our case) innovation as a multi-actor process. In short, it devises frames for our dialogue which in turn eases the comparison of the data collected from multiple respondents. This is in harmony with the research design we applied, which involved different units of observation, that in our case are the actors who occupied different perspectives and positions within the Metaverse ecosystem. In contrast to structured interviews, semi-structured interviews are flexible. This flexibility is portrayed by giving the respondent the space to elaborate and express openly thanks to the open-minded nature of the questions. Such a feature is imperative for our explorative research, as it generates insightful data through which concepts and theories emerge. Another feature of the semi-structured interviews is the on-the-spot interpretation of responses and probing, so the respondent remains available to elaborate more on raised questions. (Bell et al., 2019)

3.4.1.1.1 Sampling

Given our relatively predefined research topic, the sample should be chosen based on specific criteria that ensure the generation of relevant data. Therefore, in our study we follow a generic purposive sampling strategy. An approach of this nature implies that to obtain useful data, one must interview the most suitable individuals who meet a pre-set of inclusion criteria (Bell et al., 2019). Given that in our research we aim to study the disrupters' perspectives, one imperative criterion was to target actors who have the intentionality and purposiveness to build Metaverse and diffuse the novel institutions to broader market segments. Following this criterion, we used the metaverse ecosystem map to select actors (see Figure. 7). Consideration should be given to the fact that institutional work is a multi-actor process. Consequently, with the objective of conducting an in-depth analysis of this process, we included different actors performing in different layers of the Metaverse ecosystem. We have also included a criterion

designed to capture the genuine point of view of the actor, namely selecting a representative who reflects the actor's views. Those representatives should be able to explain how they create and disrupt institutions based on their knowledge, experience, and authority. A combination of all these characteristics can be found within the profile of Founders, Co-Founders, Chief Executive Officers (CEOs) and other senior executive managers. Considering the international nature of the Metaverse, we have no geographic restrictions.

3.4.1.1.2 Settings and practicalities

As a first step, we identified actors that met our inclusion criteria by reading reports about the Metaverse intensively and then compiled a list of the most significant players in the field. Our next step was to explore their LinkedIn accounts to identify a representative profile of these actors. For each actor, we have added a few personas who meet our criteria. For each invitation, we added a note stating our purpose. We sent a message outlining the topic of the interview shortly after accepting the request (See Appendix 1.). Among the 97 profiles who accepted our invitation to connect, only nine were able to participate and contribute to our research (see Table. 2 below).

Preparation is crucial when conducting semi-structured interviews. The interview guide (see Appendix 2) is one imperative tool that was crafted before conducting the interview. Such a tool helps us in organizing our thoughts and functions as a memory guide to keep a focus on the topic in question. It, therefore, provides an interview logic flow of questions that are relevant to our research topic. By stating relatively similar questions to the interviewees, we guarantee the generation of data that we can compare (Bell et al., 2019). All the recommendations of Bell et al. (2019) were taken into account when developing our guide, such as avoiding leading questions and using clear language. As part of the process, we also familiarized ourselves with the jargon used within the realm of the Metaverse and web 3.0. In an effort to validate the guide, we conducted pilot interviews with Aleksandr Tokarev and Krista Jantti. Due to the minor modifications that resulted from this pilot project, we include both respondents in the research. It is possible that some participants may have more than one role related to the Metaverse, so the perspectives of the contact person will be considered, both as an individual and as a representative of the primary firm.

The respondents are all based outside of Sweden; thus, all interviews were conducted virtually via Zoom. Due to the international backgrounds of the respondents, English was the primary language used during the interviews. There is an integrated video recording feature in Zoom, which eliminated the need to take detailed notes. However, both of us took notes to help them state relevant follow-up questions. The interviewees gave us their permission to record their responses. The records were imported later to Otter.ai, a transcription application. Afterwards, we compared the transcript with the records and made changes as necessary.

3.4.1.2 Secondary Data















Due to the collective nature of institutional work and the fact that we considered the Metaverse ecosystem as our unit of analysis, we decided to enlarge our sample by acquiring secondary data. In this vein we have two goals in mind: 1) to include eminent actors whose representatives were unable to participate in the study, and 2) to broaden the range of perspectives. We became

aware of these actors as their names appeared often in reports and business news regarding the Metaverse. "At the Edge Podcast" program from the McKinsey Technology Council was leveraged to capture the diverse perspectives of three actors committed to building the Metaverse in the context of their respective verticals, specifically consultancy and venture capitalists. The first actor is Cathy Hackl, who is an internationally recognized metaverse/web3 strategist, the chief metaverse officer & co-founder at Journey Consultancy, as well as a co-author of the book "Navigating the Metaverse". Another actor is Richard Ward, who is the Metaverse | Web3 | AR/VR/XR Senior Manager at McKinsey & Company. The third actor is Matt Ball, an expert in web3.0/metaverse, a managing partner of EpyllionCo and Fund Maker venture capital, and the author of "The Metaverse: And How it Will Revolutionize Everything". Another motive for adding these interviews to our database is the fact that the host had a look at the institutional work taking place within the Metaverse ecosystem. Moreover, we have added two major actors in the Metaverse ecosystem, namely Decentraland and Sandbox, in recognition of their remarkable traction and exponential growth.

Documents may serve as valuable sources of secondary data that are generally available for public access without prior permission (Bell et al., 2019). Following our constructionist ontological approach, we consider documents to be texts (Bell et al., 2019). For the actors identified in the "At the Edge Podcast" program, we collected interviews' scripts. We additionally sought out other discourses related to these actors. As a result, we have included Cathy Hackle's speech at the Concrete Love Summit, as well as a conversation between Marc Zuckerberg and Matt Ball regarding the metaverse. For Decentraland and Sandbox, we were unable to locate any topic-relevant interviews conducted by their representatives, so we had to explore their public organizational materials, including pitch decks and white papers. We were interested in learning about the organization's mission, vision, and various strategies/actions for developing and promoting the Metaverse.

According to Hekkert et al. (2007) technological change can be mapped by exploring media outputs. This is in accordance with Bell et al. (2019), who regard media outputs as possible sources for business research. As part of our research, we believe that it is worthwhile to examine the media outputs of the units of observation. In this manner, all information that may be overlooked during the interviews conducted by the researchers or compiled from the "At the Edge Podcast" program will be covered. Additionally, it is a way of complementing data that has been collected solely from organizational documents, as is the case with Decentraland and Sandbox. We examined the official news sources for all actors, regardless of whether we conducted interviews with their representatives or not. Over the time period of April 2020 (Covid-19 being a turning point for virtual worlds) until April 2022, we collected information from actors' LinkedIn profiles, as well as their newsrooms if they are available. Using a media scraping tool named Phantom Buster, we were able to streamline the tedious process of extracting posts from actors' official accounts. As a result, an initial sample of 1668 media output was collected. Following two rounds of screening for relevance, we have determined that only 450 news posts are pertinent.

Table 2. List of actors included in the study.

Actors	Role / Layer of the ecosystem (based on Radoff Taxonomy)	Primary Data			Secondary Data		Other comments
		Contact	Position	Date	Types	No.Doc Extracted	
 Aleksandr Tokarev	Creator Economy layer	Aleksandr Tokarev	360 degree media producer	2-Apr-22	Aleksandr's LinkedIn output	26 posts	
 Eventually XR	Consultancy role + Discovery layer	Krista Jäntti	Founder	4-Apr-22	Krista Jäntti LinkedIn output	72 posts	Krista is the co-organizer of "Exthereal" - a conference about Fashion in Extended Reality bringing together Tech, Digital Fashion, Retail, & Gaming.
 Thredium	Experience Layer + Creator Economy layer	Paula Marie Kilgarriff	Head of Fashion & Retail Partnerships	6-Apr-22	Thredium + Paula LinkedIn output	For Thredium : 72 posts / For Paula : 200	Paula acts also as International Lecturer of Web3 Fashion Marketing, Branding & Retail Innovation
 MetaReach	Consultancy role + Discovery layer + Creator economy layer	Franki Tabor	Founder	8-Apr-22	Franki Tabor LinkedIn output	190 posts	Franki also found the Cyberwear NFT that has a community of 9K
 Thred	Creator Economy layer	Kazi Hussein Arta Koroushnia	CEO / Co-founder CTO / Co-founder	12-Apr-22	Thred + Co-Founders LinkedIn output	For Thred : 5 posts / For Kazi 26 posts	
 Upland	Experience Layer	Tommaso Di Bartolo	Metaverse Strategic Alliances & Partnerships	16-Apr-22	Upland + Tommaso LinkedIn output	For Upland : 31 posts / For Tommaso 190 posts	Tommaso acts also as Professor at the University of California-Devision of dApps. Tommaso is the co-author of "Navigating the Metaverse: A Guide to Limitless Possibilities in a Web 3.0 World"
 Meta	Discovery Layer + Experience Layer + Human Interface Layer	Katie Richman	Partnership lead, New Product Experience	18-Apr-22	Mark Zuckerberg Speech at Connect 21, Mark Discussion with Matt Ball + Meta Official NewsRoom and LinkedIn Output + Katie LinkedIn output	For Mark Zuckerberg : 1 Video + 1 audio discussion / For Meta: 105 Posts	Katie has confirmed that she is not an authorized representative of Meta, and as such will be regarded as an individual actor working at Meta
 Sense of Space	Spatial Computing Layer	Victor Pardiniho	Co-founder & CEO	19-Apr-22	Sense of Space + Victor Pardiniho LinkedIn output	For Sense of Space: 24 Posts / For Victor Pardiniho : 49 Posts	
 TouchCast	Experience Layer	Ricky Houck	Senior Enterprise Account Executive	20-Apr-22	TouchCast + Ricky Houck LinkedIn output	For Touch Cast: 87 posts / For Ricky Hough: 200 posts	
 Decentraland	Experience Layer + Creator Economy layer	N/a	N/a	N/a	White Paper + Official LinkedIn output + Official website announcements and Project Updates	White Paper + 9 LinkedIn Posts + 68 Website Output	
 The Sandbox	Experience Layer + Creator Economy layer	N/a	N/a	N/a	White Paper + Official LinkedIn output+ Official website announcements and Project Updates	White Paper + 175 LinkedIn Posts + 19 Website Output	
 Cathy HACKL	Consultancy role + Discovery layer	N/a	N/a	N/a	Cathy's interview with McKinsey " At the edge" podcast + Cathy 's speech at concrete love 2021 conference organized by house of beautiful business + Cathy official LinkedIn output	1 speech + 1 podcasted speech + 40 LinkedIn posts	Cathy is the co-author of a book titled "Navigating the Metaverse: A Guide to Limitless Possibilities in a Web 3.0 World"
 Matthew Ball VC	Venture Capitalist with focus on web3 and metaverse companies	N/a	N/a	N/a	Matthew's interview with McKinsey " At the edge" podcast + Matthew's discussion with Mark Zuckerberg on the 29th of Oct 2021+his official LinkedIn output	1 podcasted interview + 1 discussion + 40 LinkedIn posts	Matthew is the author of a book titled "The Metaverse And How it Will Revolutionize Everything"
 Richard Ward	Metaverse Web3 AR/VR/XR Senior Manager at leading Management Consulting firm at McKinsey + Discovery layer	N/a	N/a	N/a	Matthew's interview with McKinsey " At the edge" podcast + his official LinkedIn output	1 podcasted interview + 40 LinkedIn posts	Richard focuses on : 1) NFT strategy for Consumer brand, 2) Metaverse for Fashion, and 3)VR Safety Training.

3.4.2 Data Analysis

During our research, we employed a thematic analysis method in order to analyse the data generated from semi-structured interviews. Thematic analysis perfectly complements an approach characterized by inductive reasoning. It is one of the most common methods used to analyse qualitative information (Bell et al., 2019). A major advantage of thematic analysis is that it enables us to address our research questions by examining the viewpoints, beliefs, knowledge, opinions, and experiences of relevant interviewees. Using thematic analysis has another advantage in terms of the versatility of the process. As a result of its user-friendly nature, the thematic analysis allows us to analyse large and complex data sets, ultimately generating the understandings and concepts we are seeking. (Bell et al., 2019).

Atkinson and Coffey (2004) argue that the purpose and context of documents must be considered, in addition to their intended readership which entails. Bell et al (2019) claim that by examining documents from an interpretive epistemological viewpoint, one can discern the perspectives and viewpoints of the authors. This could be done by treating documents as texts, which is more constructivist in nature. Similarly, Bell et al (2019), indicate that qualitative content analysis is a highly dominant tool for document analysis. This strategy is identical to thematic analysis in the sense that we code and seek out themes. As a result, the documents are analysed thematically. Following this, both primary and secondary data were imported into the Nvivo software and categorized by actors. Both perspectives of the contact person, as individuals and as representatives of the company, were included in the analysis.

Our approach to implementing the thematic method complies with the instructions provided in Bell et al. (2019). To keep the context of the interview in mind, we made sure to familiarize ourselves with the transcripts right after each interview and start the coding process. When coding we considered an important aspect. Lawrence and Suddaby (2006) asserted that institutional work is language-driven, with a strong emphasis on speaking (stories, jokes, etc.) and writing (messages, announcements, etc.). As a result, he advised examining discourse, including rhetoric, narrative and dialogue when studying institutional work. During our analysis of the data, we did not simply take the findings as they were, rather, we tried to read between the lines and analyse the language used by the respondents. After two rounds of codes refinement, we categorized them into themes based on their relevance to our research purpose. In this context, it is important to mention that although we used the institutional work taxonomy in the literature review as an analytical tool, we were aware of and open to any new emerging themes.

We conducted the first level of coding separately to mitigate the subjectivity inherent in the thematic analyses, subsequently grouped them together at the final coding stage and ultimately placed them into respective themes. As we placed the codes in relation to themes that represent practices, we took into consideration the codes' properties and interconnectedness. We then classified the themes (practices) into broader themes (institutional work) by analysing how these practices serve the institutional works' objectives based on their definitions.

3.5 Research Quality

Bell et al. (2019) discussed alternative methods to assess the quality of quantitative research apart from reliability and validity. The methods are based on two main criteria, namely trustworthiness and authenticity.

Trustworthiness is composed of four sub-criteria, namely credibility, transferability, dependability, and conformability. First, the *credibility* criterion is meant to assess how well the researcher has understood the social reality and has confidence in the findings. It is crucial to implement two main techniques, i.e., respondents' validation and triangulation, in order to maintain a high level of credibility. Both techniques were employed for this study. During the interview, we asked each participant to review and confirm the script. Moreover, we have committed to sending them the final report that includes all findings and analysis. This promise is valid only for actors from whom we have collected primary data. We likewise employed the triangulation technique in our research, by collecting data from many sources for each actor. Second, the *transferability* criterion is meant to assess the extent to which our research can be replicated in other contexts. Transferability is imperative in our case due to the low level of generalizability, given our constructivist viewpoint and the single case study of the metaverse. Mills et al. (2010) posited that constructivist researchers do not aim to produce generalizable findings but rather a comprehensive process and context description (as it is our intention that this approach), which can facilitate further replication across other contexts. Thick descriptions are taken into consideration in our work. We have provided sufficient detail within our in-depth analysis regarding the metaverse context, explained why it is a suitable case study for our study, and described its ecosystem. In a similar fashion, we interpreted the language, behaviour, and context of the actors within the metaverse. These interpretations are discussed thoroughly in the methodology and are evident in the findings and discussion sections. Consequently, our study will be easier to replicate on other innovations, which in turn will enhance the social relevance of our work and subsequent research. A synthesis of these studies may ultimately serve as a guide to institutional work patterns related to the second phase of market evolution. Third, the *dependability* criterion evaluates how trustworthy is our research. One way to accomplish this was to provide a detailed description of the research methodology. Another way is suggested by Bell et al. (2019) to keep interview transcripts. However, the lack of consent from the participants to publish their interviews, has prevented this from being accomplished. *Conformability* is the final criterion that will be used to evaluate the objectivity of the research. In conducting this study, we attempted to remain as neutral as possible. The conduct and results of the research were not influenced by any strong biases, particularly the fact that we had no previous relationship with the participants or were conducting the research for the purposes of a company. The primary purpose of this study is to generate illuminating findings that add to the body of knowledge related to SD-Logic and further develop the model of market evolution. In order to ensure objectivity, excerpts from interview transcripts are used to demonstrate that the findings are based on the perspectives of the interviewees. Further, a considerable part of objectivity can be demonstrated by analysing the media output of the units of observation.

To achieve Authenticity, various perspectives of the participants must be incorporated, and the social impact of the study should be broadened. As part of this research endeavour, we examined the perspectives of a wide variety of actors acting on a global scale in order to co-create the metaverse. Furthermore, we sought to ensure the legitimacy of this research to be relevant to a wider marketing audience and to produce standardized guidance for institutional work taken at the 2nd phase of the market evolution model.

In the end, it is worth noting that the authors did a self-assessment for the case study design, based on the case study evaluation template -known as CASET- developed by Goffin et al. (2019). (See Appendix 3)

3.6 Research Ethics

The study was conducted in accordance with ethical standards. As part of this process, we asked the interviewees if they were willing to consent to three aspects at the outset of the interview. First, we obtained consent from all interviewees prior to revealing their identities and profiles. A second consent was obtained regarding the recording of the interview for transcription purposes while maintaining confidentiality of the transcripts. Lastly, we made sure to ask them whether they were authorized to represent their companies. Except for the contact person from Meta, all others stated that they were authorized and willing to represent their company. It is important to point out that, as a complement to Meta as an actor, we added secondary data including Mark Zuckerberg's (the founder) speech and discussion about the metaverse as well as analysing the official media output.

4 Case Analysis

In this section the result of the case analysis will be presented. The results will be categorized in a manner similar to the types of institutional work described in the theoretical framework. Within each category, we prioritise the most frequent form of institutional work. A frequency can imply that it happened by the same actor but in separate work, or by different actors. Whenever the names of the individuals are cited, this implies that the quotation is taken either from their interview transcripts (primary or secondary) or from their official media releases. Generally, however, when citing the name of a company, this implies the extract is taken from the company's official media output or organization documents.

As mentioned in the methodology, we used codes to mainly highlight any kind of institutional work that we could observe. These codes were then classified into themes based on the form of the institutional work they manifest. Finally, these themes were aggregated to shape the major categories of institutional work identified in the literature review.

4.1 Institutional creation

Under this category, all of the ten previously presented forms of institutional work appeared in the data at different frequencies. Although all forms of institutional work under this category appeared in the analysis, this section will only highlight the most frequently occurring ones. Additionally, one emergent theme that is related to institutional creating work was significantly apparent in almost all the interviews or sources of secondary data. This theme was labelled as “Mobilizing social power”.

4.1.1 Educating

Out of the 14 actors that were studied, 12 of them performed different kind of actions that aim at *educating* (other) actors on Metaverse-related areas. Although these actions differed in nature or approach, all aimed at the education of other actors in the necessary skills and knowledge to support the adoption of the Metaverse.

As she has been dubbed the Godmother of the Metaverse, Cathy Hackl was noticed to be one of the actors that visibly engage in educating work. The secondary data shows an enormous amount of public speaking occasions where she provides the necessary knowledge to remove ambiguities from the term ‘Metaverse’. Her company, Futures Intelligence Group, is mainly concerned with providing other actors with the necessary skills as its value proposition indicates:

“We help brands be Metaverse-ready! we are the first-Metaverse focused agency. We were born out of the need for brands to understand the Metaverse, enter the Metaverse and create long term strategies for the future of the internet.” – Cathy Hackl

In multiple occasions, she provides guiding definitions of the word Metaverse and emphasis its ambiguity and novelty, which helps actors gain the knowledge and the courage to embrace the Metaverse:

“I believe it’s [the Metaverse] a convergence of our physical and digital lives. It’s our digital lifestyles, which we’ve been living on phones or computers, slowly catching up to our physical lives in some way, so that full convergence. It is enabled by many different technologies, like AR [augmented reality] and VR [virtual reality], which are the ones that most people tend to think about. But they’re not the only entry points. There’s also blockchain, which is a big component, there’s 5G, there’s edge computing, and many, many other technologies.” – Cathy Hackl

Another example of how she educates is illustrated in this quote:

“And I’m very passionate about educating lawmakers. I live in Washington, DC, so I go to Capitol Hill to talk about these technologies to help answer their questions and help them up-level their own knowledge.” - Cathy Hackl

Another significant actor that is heavily involved in educating work is Paula Marie Kilgariff. She exploits her positions as a lecturer, mentor in an accelerator, executive partner, head of the fashion & retail partnerships, and Metaverse event sponsor in educating multiple kinds of actors. For example, she highlighted multiple educating work that was oriented to incumbents in the fashion industry. The work took the shape of providing strategic guidance to actors, mainly incumbents in various industries (other value cocreation structures). Another example is that, through her lecturing, she educates students (actors) and provides them with the necessary knowledge and skills, not only to join the Metaverse but also to gain a disruptive behaviour that qualifies them to participate in shaping the Metaverse:

“My first year [students] have asked the management: could they [students] get attention tokens? They want to be paid to go to class, they think the corporations paying them to get education, they want to vote for which curriculum is relevant to them or not. So, I’ve created a few, how would I say? I wouldn’t called them monsters, but that these are 18-year-old kids questioning centralized systems” - Paula Marie Kilgariff

The content varied depending on the audience’s interest and the field of specialists within the Metaverse. The educating approaches also varied among actors including but not limited to hosting and participating in conferences, summits, podcasts, and events. Additionally, the secondary data indicates that Meta is performing a special educating work designed to develop knowledge and skills crucial for the development and enhancement of the metaverse. The results show that, although different in nature or approach, all actors perform education work except, Decentraland, and Thred. The number of occurrences of educating work among the studied sample is 66, which is the second most occurring form of work among the four categories.

4.1.2 Theorizing

As mentioned, theorizing is mainly concerned with formulating abstract categories and identifying links between causes and effects. A key aspect of theorizing is naming new

concepts and practices to become part of the field's cognitive map (Lawrence & Suddaby, 2006). In our sample of 14 actors, all actors were found to heavily conduct theorizing work. All actors are contributing in their own way to defining the Metaverse and its related concepts. For example, most if not all the actors are attempting to name critical concepts, such as 'Web3, Phygital, collectable, Blockchain, NFT, Crypto, Spatial computing, VR, and AR'.

The term Metaverse, as it is still emerging, is used differently by actors. Actors gave different definitions of it in terms of what it consisted of. Here are some examples of the definition provided by the sampled actors:

“Metaverse, is like gaming, social gaming online where well we are represented as an avatar and have social interaction. That is good enough for present version of definition of Metaverse.” – Krista Jantti

“It's a 3D Internet where you go buy stuff, and you've got more customization and cocreation, and it's more fun” - Paula Marie Kilgariff

“The Metaverse is the next generation of consumer engagement: an immersive experience with a self-sustaining, community-driven economy at its center. It's a new digital reality for consumers empowering joint value creation: to build empathy with brands by becoming part of the product, rather than being the target of advertising.” - Tommaso Di Bartolo

Additionally, eight of the actors were found to clearly theorizing especially in the realm of the Metaverse that particularly concerns them the most. One of the most evident examples of theorizing was the Threedium's 3D Glossary, a glossary that includes explanations for widely used terminology:

“Threedium's Ultimate Guide to 3D/AR/XR terms aims to serve as a holistic glossary, offering simple, straightforward definitions of terms that are useful to anyone who'd like to learn a little more about 3D technology, and how it can be used to elevate your business. In other words, we help you speak our language.” -Threedium

As an illustration of the elaboration of chains of cause and effect, Richard Ward's nacarats a good example that aims to theorize on the utility of adopting Metaverse-related technologies:

“It used to take 18 weeks to train a new recruit to work on one of these helicopters, but what they do now is hand a new recruit a pair of VR goggles, which in effect gives them their own private helicopter to learn on. They spend several weeks doing very intensive quizzes and simulations – where is the air filter and what order do you put these wires in? And one of the fascinating things that has come out of this is that they've been able to shorten their training course from 18 weeks down to ten weeks.”

Overall, the results show that all actors perform theorizing. The common denominator among all actors is when the theorizing is happening on the very abstract level of the Metaverse.

Among the 14 actors, eight conducted theorizing work particularly in their area of specialization within the Metaverse. Close to educating, the number of occurrences of theorizing work among the studied sample is 65, which is the third most occurring form of work among the four categories.

4.1.3 Mobilising Social Power

While Advocacy refers to the mobilization of political and regulatory support by applying deliberate techniques of social suasion (Lawrence & Suddaby, 2006), Actors were found to apply deliberate techniques of social suasion, though aimed at mobilisation social impetus. On various occasions, actors were found to conduct different techniques to publicize and advocate for the rise of the Metaverse. This was apparent mostly among the social media channels of the interviewees as well as the companies they represented. Interestingly, their mobilisation efforts did not necessarily focus on the value proposition that they provide but were more oriented toward advocating for the Metaverse in general. Also, actors were found to make effort to create interest-based clusters of people who are interested in Metaverse-related topics. This strategy was done by Cathy Hackl, Paula Marie Kilgariff, and Krista Jantti. Besides other institutional work that these actors make do towards these clusters, they were found to utilise their positions in these clusters to signal out that they are a vital actor in their surrounding service ecosystem, and hence gain more legitimacy.

Mobilising social power, as institutional work, was significantly apparent in our study since actors did not merely state that they are doing it themselves, but also highlighted that there are several other actors that are shaping sub-communities that revolve around the Metaverse. As observed and highlighted by the interviewees, this is mainly conducted by marginalised actors:

“Well, there are now a lot of different kinds of communities being born that want to encourage women or people of colour or some other [group] to understand blockchain and Metaverse and NFT because people understand that there is a power there are possibilities that should be open for everyone” - Krista Jantti

Altogether, the institutional work, mobilising social impetus, was detected through all the 14 actors, though in different techniques. The number of instances of this institutional work was 38, which were either conducted by the studied sample or highlighted by them but conducted by other actors.

4.1.4 Constructing Identities

It was evident that actors were engaged in constructing identities as part of their institutional work. By constructing identities, we refer to defining the relationship between a given actor and the field in which he or she operates (Lawrence & Suddaby, 2006). The actors highlighted on several occasions that they are witnessing various kinds of such change in actors' identities in their field, or even internally.

For example, Krista Jantti highlighted that, although her education and experience are mainly in software development, her involvement in the Metaverse made an identity transition, from “a developer to designer”. In the same vein, in response to the change happening in the field,

Cathy Hackl's professional identity is now a "Chief Metaverse officer". Additionally, Aleksandr Tokarev stated that he started to present himself as a "VR media producer". New roles became apparent while mapping for actors to be interviewed. For instance, these roles were stumbled upon: "Metaverse Architect", "Token Economist", "Metaverse Producer", "Metaverse Builder", etc.

Victor Pardino noted that the field is witnessing a remarkable trend of redefining the roles of architects, lawyers, and modelers in companies that have a stake in the Metaverse. Also, Paula Marie Kilgarriff spotted the light on a shift in the definition of customer's identities due to the decentralization element that accompanies the Metaverse. She not only highlights but also works on defusing this identity transition of customers, from being users to being stakeholders:

"Then I'm using the infrastructure in a more tokenized decentralized way.

So, we'd have like consensus: customers have become stakeholders" -

Paula Marie Kilgarriff

An apparent shift in the skillset has been noted by many actors. In response to a question regarding the most important skills for the immediate future, most actors indicated that creativity would count more than technical abilities alone. The institutional changes occurring to identities in the Metaverse were relatively apparent through observations, however the only institutional work that has been detected is that of Paula, as mentioned earlier. Changes in identities were detected in 28 instances amongst 10 actors.

4.1.5 Mimicry

To reiterate, mimicry is about incorporating new practices with taken-for-granted practices, rules, and technologies in a way that eases adoption (Lawrence & Suddaby, 2006). Hence, the cognitive gap is lessened rather than emphasized. Consequently, the new practice becomes more understandable. In our sample of 14 actors, only 6 actors were found to do mimicry work. It is worth mentioning that mimicry actions were only captured when actors were analysed as organisations, not as individuals. Therefore, it can be that actors are doing mimicry work that was not stated through the interviews, and not captured in the secondary data collection.

One of the most obvious manifestations of mimicry work that was detected is that of Decentraland. Decentraland is a 3D virtual-world platform in which users can buy virtual pieces of land on the platform as NFTs by the MANA cryptocurrency, which is based on the Ethereum blockchain. It enables users to innovate, create, experience, and monetize applications and content (Decentraland white paper, 2022). The key factor that Decentraland mimicked from the physical world is the adjacency of land. The pieces of land that are owned and monetized by users allow physical (though virtual) clusters of communities. In other words, this adjacency facilitates the spatial discovery of new content, and the creation of special districts based on particular topics or themes. Furthermore, thanks to the 3D spatial attributes, the content of neighbouring pieces of land can be seen from a distance. All these attributes are borrowed from real-world markets, which actors are already cognitively familiar with.

Although this project is fully packed with novel norms, rules, practices, and technologies, Decentraland could lessen their impact and hence ease actors' adoption. In their white paper,

they leverage this adjacency to present advertising opportunities to content creators, which are only one type of actors that may use this project:

“Brands may advertise using billboards near, or in, high-traffic land parcels to promote their products, services, and events. Some neighborhoods may become virtual versions of Times Square in New York City. Additionally, brands may position products and create shared experiences to engage with their audience.” - Decentraland

Another significant example of mimicry is found in the company of *Touchcast*. It is a platform that produces lifelike, virtual conferences and other events without the user’s need for heavy technology. The word “lifelike” is where the mimicking is manifested. Their technology facilitates curating and designing public events and conferences, just like the taken-for-granted, physical way, but virtually. Additionally, it incorporates other services that were even missed, or at least required complicated coordination in the old physical events and conferences. Examples of these are real-time translation, sharing reactions, conducting poll, and instant dubbing and translating. In short, the mimicry work is manifested through replicating real-life experience of events and conferences in the virtual world.

“Touchcast offers you access to a growing universe of incredible mixed reality venues, as well as the ability to create a digital twin of your own space, giving your event the unforgettable multi camera production value it deserves, regardless of where your speaker and attendees are” – Touchcast

Other actors were also noticed to do mimicry work, though not as significant and fundamental as the aforementioned cases. For example, Sandbox was also detected to replicate social events such as The Snoop Dogg concert. The company replicated the Artist’s mansion as a virtual land where the party was hosted. Just like a real concert, ‘Party Passes’ were sold, though as NFTs, in a discriminatory manner, depending on the section the attendant wants to be. This and other events can be seen as institutional work that aims to incorporate new practices and technologies with taken-for-granted practices, rules, and technologies in a way that eases adoption, and hence can be classified as mimicry.

It can be argued some actions conducted by the other actors can be regarded as mimicry work. However, we intended to highlight the actions that appeared to be significant. The number of occurrences of mimicry work among the studied sample is 13. The difference between the occurrences and the number of actors indicates that, sometimes, different mimicry works were conducted by the same actor.

4.1.6 Other Creating Works

Although the rest of the creating work that were mentioned in the literature review were detected among the studied sample, their frequency and significance were not as high as those listed above. Also, some institutional changes were observed that are related to these institutional works, but the institutional work behind them were rarely detected. Therefore, this section will highlight the finding of these works in a short manner.

Although not significantly evident, there were some traces of institutional work on the regulative pillar of the institutional arrangements of the Metaverse, namely advocacy, vesting, and defining. *Advocacy* refers to the direct and deliberate use of social suasion techniques to mobilize political and regulatory support (Lawrence & Suddaby, 2006). That said, only five actors of the studied sample, on five different occasions showed signs of advocacy work. For example, Cathy Hackl stated that she engages with politicians in order to inform them and remove any ambiguity they may have:

“I live in Washington, DC, so I go to Capitol Hill to talk about these technologies with lawmakers to help answer their questions and help them up-level their own knowledge. Some of the challenges of Web2 might not happen in Web3 if we can have these conversations right now.” - Cathy Hackl

Additionally, Krista Jantti highlighted that she is witnessing several attempts of lobbying among marginal actors seeking to further legitimise themselves. She mentioned that several peripheral DAOs (decentralized autonomous organizations) are approaching her to become their ambassador to gain more legitimacy. In a clearer example of advocacy, she mentioned that there are numerous blockchain-based associations in Finland lobbying to push the government to recognise token-based companies as legal.

“There's a lot of associations on blockchain that have combined their power in Finland, they tried to speed up the legislation process. . . . because our [market share] is getting smaller. Estonia is so much further what Finland is right now. So, there are people who are trying to push the legislation machinery. Like do this now because it's good for our country!! If we if we do this, more innovations will come.”- Krista Jantti

The vesting work is clearly observed in this study. Vesting refers to the creation of policies and laws that grant property rights. Non-fungible tokens (NFTs) are regarded as a new way to account for ownership of digital assets. Almost all of the participants shared news about NFTs on their social media channels. There is evidence that NFTs are gaining market legitimacy. Loans secured by NFT collections are becoming increasingly popular. This can be seen from the statement offered by Arta Koroushnia and later validated by the media output:

“Like there was someone recently who owns 100 Crypto punks, and he was able to secure a \$9 million USD loan, like against those crypto punks. The collateral was the NFT”- Arta Koroushnia

When it comes to Defining, which refers to creating and implementing rules that confer status or identity, define membership boundaries, or create status hierarchies within a profession (Lawrence & Suddaby, 2006), the most prominent example was by The Sandbox. They partnered with Dubai Virtual Assets Regulatory Authority (VARA), an Emirati governmental entity established to provide a secure and progressive framework for the virtual assets sector (Shrivastava, 2022). In initiating this partnership, The Sandbox is taking a step forward in legalizing the metaverse.

4.2 Cross-Category Work

The importance of cross-category work lies in their ability to bridge multiple goals simultaneously and can, therefore, serve as new paradigms of institutional work (Vargo, S. L., & Lusch, R. F. 2018, p.324). To put it simply, this category encompasses all the works that are used in some capacity to facilitate the other three categories. In our study, we found two evident cross-category works, namely rhetorical and design work.

4.2.1 Rhetorical Work

Earlier in this paper, it was mentioned that analysing institutional work involves paying close attention to the language used by actors, as suggested by Lawrence and Suddaby (2006). Rhetoric work is about formulating arguments about whether to impede or promote change (Suddaby and Greenwood, 2005). Given that this study examines institutional work from the point of view of disruptors, we observed language that advocates change.

One manifestation of the rhetoric work is observed in the previously quoted excerpts that illustrate how disruptors used vocabulary to either extol the Metaverse's institutions or to criticize the prevailing institutions. Among the other manifestations of rhetorical work are the theorizations of change. Suddaby and Greenwood (2005) argue that those who support new institutions utilize several types of change theorizations as means of persuasive rhetoric, such as teleological, cosmological, and historical. By analysing the metaverse case, there were evidence for the teleological and cosmological approaches. As a matter of teleological persuasion, the argument is constructed with an eye on the desired end-state. A teleological approach can be observed in many instances, especially those relating to use cases (see Undermining Core Assumptions and Beliefs). Mark Zuckerberg's introduction of the metaverse at the Facebook Connect 2021 event is a noteworthy theological example. In his explanation of the metaverse, Zuckerberg outlined its intended purpose and desired end-state.

“We believe the metaverse will be the successor to the mobile internet. We'll be able to feel present like we're right there with people no matter how far apart we actually are. We'll be able to express ourselves in new, joyful, completely immersive ways and that's to unlock a lot of amazing new experiences... And you're going to be able to do almost anything you can imagine, get together with friends and family, work, learn, play, shop, create as well as entirely new categories that don't really fit how we think about computers or phones today. . . . when I send my parents a video of my kids, they're going to feel like they're right in the moment with us not peering through a little window”-Mark Zuckerberg

The second type of theorization of change is the cosmological approach, which asserts that change is a natural and inevitable process. Once more, a notable example of this approach comes from the CEO of Meta. According to him, the metaverse evolved as the next step after identifying a series of earlier shifts. Matt Ball also stated that when it comes to issues related to the metaverse, he embraces a cosmological approach.

“Desktop to web to phones, from text to photos to video. But this isn't the end of the line. The next platform and medium will be even more

immersive, an embodied internet where you're in the experience, not just looking at it, and we call this the metaverse.”-Mark Zuckerberg

“I often like to tell people that we can skip the buzzword of the metaverse, and just take a look at what seems to be an inexorable shift which is more time, labor, leisure, spending, well, fun in virtual worlds, much like the past several decades have shown that same shift to online environments than just smartphones.” Matt Ball

Another manifestation of some participants' cosmological approach can be found in their message to sceptics during the interview. Kasi Hussein, the CEO of Thred, uses a special language to communicate the inexorability of the Metaverse. Kazi recited consecutively *"Look around you"*, and subsequently shed lights on the huge amount of funds being deployed in metaverse research.

Further, another rhetorical work manifested by that linking new institutions brought by actors building the Metaverse to social causes. This serves to depict a positive perspective about the future and how the Metaverse might help address some pressing social issues. For instance, Franki Tabor described the metaverse, particularly digital fashion as a remedy for the increasing amount of textile waste. In a similar fashion, Touchcast brought to light how digital events can reduce greenhouse gas emissions.

“It takes on average 10,000-20,000 liters of water to cultivate just one kilogram of raw cotton. Approximately 700 gallons for just one t-shirt. Fast fashion has an average lifetime of 3 years, 16 million tons of clothes end up as textile waste in landfills (in the US alone). Digital Fashion is the solution to allowing people to be fashionable, without the environmental impact.”-Franki Tabor

“Best of all, the folks at Kepler were able to reduce their carbon footprint between the last in-person conference event in 2019 and this year virtual event by a whopping 98%”- Touchcast

Analogies and metaphors were found to be used by disrupters as rhetorical devices to streamline their arguments. A common application of analogy involves refuting the counter arguments. A good example of this was when Matt Ball argued against critics of the Metaverse regarding its screen time. In another analogy, Matt Ball describes the challenging nature of creating Web 2.0 content in a simple manner.

“In the United States, there's 300 million Americans who watch an average of five and a half hours per day of video. The average senior largely through physical limitations. Watch a 7.4 hours per day of television, usually stationary, usually alone, not particularly responsive to the world or the content in front of them. . . . image is just an image. It doesn't have to understand motion. How does an avatar move? We would assume that a jellyfish and an Arnold Schwarzenegger avatar don't move in the same way. That's additional data. It's not just representation. “-Matt Ball

Metaphors are also used to delegitimize the prevailing institutions. “*You were born, and directly afterward you were given to Google*”, said Paula, when she was speaking to her students about the centralization of Web 2.0.

According to the case analysis, rhetorical works appeared 74 times and were performed by 12 of the 14 actors, making it the most frequently occurring work. This is justifiable given the cross categorical nature of this work.

4.2.2 Design Work

To reiterate, *design work* is about mediating between innovation and institutionalized expectations through embodying new and old ideas into physical artifacts (Hargadon & Douglas, 2001). In other words, the work here is about the provision the new solution (institution) in way that includes old institutions that, if not included, would have hindered the adoption of the new institution. That said, just like mimicry, such institutional work was only detected when actors were analysed as organisations, not as individuals. In that vein, it can be argued that design work is similar to mimicry, as they both utilise old, institutionalized expectations to lessen the cognitive gap rather than emphasizing it. The difference then would be that in design work, actors embody the new institutions in way that incorporates and capitalize on the old, institutionalized solutions. While in mimicry work, actors introduce their new institutions in a way that is significantly similar to the old ones, so they avoid (other) actors’ resistance to adopt. In the sample of 14 actors, only four actors were found to do design work. However, it can be that actors are doing some type of design work that was not stated through the interviews, nor captured in the secondary data collection.

One of the obvious manifestations of design work that was detected is that of Thred. Thred is an NFT marketplace builder designed to help individuals and organisations to launch their personalized NFT collections. Thanks to their service design, users do not need any pre-existing knowledge of NFTs and how they are designed, coding knowledge, nor blockchain-based wallet. The ‘design work’ in their service offering is that they are facilitating institutionalisation of NFTs, while overcoming the barriers that may hinder actor’s adoption.

“What we're doing to diffuse and to grow the marketplace beyond the early adopters, is by removing the barriers to entry . . . via our no code solution and tools. So, you don't need to know how to code in solidity to launch your NFT class, to launch your NFT collection onto the blockchain, you simply click a button on Thred, and then launches until blockchain. The other thing is you don't need a wallet to start the process with Thred. So, we have some in place that allows you to buy sell your NFTs, they'll send you it out in an email, and then you can claim it later in the wallet. And that's a huge barrier to entry for a lot of people” - Kazi Hossain

Another obvious manifestation of design work was detected in Touchcast’s service design. They provide, as mentioned, lifelike virtual conferences and other events without the user’s need for heavy technology. Although they are providing a significantly immersive experience, they still utilise and capitalise on their users’ technology that is already at hand. Many other companies in this sphere require tech-laden complementary tools, such as VR headsets, to be

able to fully live their service provision. Touchcast, however, meditates between their innovation and the already institutionalised solutions, by providing their tech-laden solution in an easy and accessible way to their customers, on their mobile phones and laptops. Ricky Hough expressed the cruciality of design work, while reflecting on the service Touchcast provides:

“The vast majority of things like virtual commerce and corporate training, like it doesn't really need a VR headset, and most people aren't accepting of it yet. So, I think that having an interface where you don't need a supercomputer, you can access it on your phone, you can access it via your laptop or your desktop, that's going to be the key for people starting to adopt these things” - Ricky Hough

Similarly, Decentraland was detected to follow a highly comparable approach to Touchcast. First, their service heavily relies on novel tech-laden back-end architectural components, such as blockchain, that enables the new institutions, such as decentralization. However, the way the sell such novelty is through incorporating them with practices that people are familiar with, manifested in their virtual land concept – that was already touched upon in Chapter 4.1.3 Mimicry. Second, they recently introduced Decentraland’s Desktop Client, which can also be regarded as a design work that utilises old institutions (desktops) that allow their solution to be further diffused, rather than relying on niche segment that have the enabling technology such as VR headsets.

In today’s ‘Metaverses’, just like Decentraland and The Sandbox, the graphic quality is significantly low compared to mainstream games in this millennium, and this due to several technical constraints. Furthermore, such platforms purposely restrain the graphic quality to allow the platforms to run on lower-tier hardware. Here comes the role of the company of Sense of Space, a stark example of design work was manifested in their service. The company provides high quality 3D streaming services that overcomes the hardware barrier to allow users to live more valuable and immersive experience of the Metaverse. From a technical perspective, they have a system that compress large and heavy 3D models and convert them into ‘streamable’ models that would on low-end devices such as VR headsets, mobile phones, and computers that are not that good. To avoid hardware overload, they only stream what really matters from the user’s perspective, which means only what the user is seeing, and according to their position in the 3D space. That said, they provide that physical artifact that mediate between innovation (i.e., the Metaverse experience) and institutionalised expectations (i.e., high quality graphics), which is the definition of design work.

“If you have a 3d Building of like 15 floors, and you are on the third floor, like nowadays, even if they're on the third floor, you are the device is taking all the 15 floors. But what if you could only show the third floor and you know, liberate a lot of memory from the device. And then when you go to the fourth floor, you will only show the fourth floor, and so forth. So that's how we what we do” - Victor Pardinho

As can be noted, design work was only observed when analysing actors as organizations and through their service provisions. In the case analysis 17 instances representing design work performed by four actors, were detected.

4.3 Institutional disruption

This section describes the institutional strategy aimed at disrupting and delegitimizing the pre-existing institutions. Results indicate that actors conducted two of the previously listed forms of institutional work, namely “Undermining Core Assumptions and Beliefs” and “Dissociating Moral Foundations”.

4.3.1 Undermining Core Assumptions and Beliefs

The case analysis found that the most recurred activities undertaken for the purpose of delegitimizing the prevailing institutions fall under the heading of "undermining core assumptions and beliefs". This work attempts to eliminate the cost of moving away from rules, practices, and technologies that have been taken for granted (Scott 2013). As a means of reducing these costs, Lawrence and Suddaby (2006) proposed one strategy to mitigate the perceived risks of innovation and differentiation. A gradual transition may prove to be more beneficial in this regard. According to the findings, the scope of this work encompassed two main activities, namely bridging, and mitigating, and showing transparency.

Starting with bridging and mitigating, it has been noticed that the objective of this activity is to increase a sense of familiarity of the Metaverse. Familiarity is achieved through informative and experimental means. The dissemination of use cases of early adopters or potential future applications is a method of increasing familiarity. The author of Navigating the Metaverse, Tommaso Di Bartolo, has frequently posted information on his LinkedIn page about NFT's application which is a part and a parcel of the Metaverse.

“15 NFT Use Cases That Could Go Mainstream. Steph Curry. Eminem. Paris Hilton. Mark Cuban. Rob Gronkowski. Lil Nas X. Melania Trump. The list of celebrities endorsing NFTs is growing by the hour. But what’s next? What are the NFT categories that are currently in early speculation, but are likely to erupt? There’s a long list of possibilities some more obvious, some more far-fetched...”- Tommaso Di Bartolo

Several participants indicated that Metaverse components could be applied in various fields such as medical, educational, and military, drawing attention to two main features, namely dematerialization of content and artificial intelligence.

“We have a lot of options to apply these technologies, we have these medical facilities where we overlay data from the patient, with virtual 3d models, predictions, and structures, so the surgeon can interact with it. Or else we have these military experiences with HoloLens. Likewise, school projects, of course, school education, or university applications will greatly benefit from this, because you will see just your 3d model floating straight away, or your optimization or you’re planning or your schedule” – Aleksandr Tokarev.

“Or if they like, let's say the AI or the machine learning has picked up that this student, you know has a weakness in arithmetic. They're looking at the same content, but the machine learning is picked up that they have a weakness. So, it would be like you two boys taking my class, right? But one of you may have a weakness in arithmetic is the same module is the same content, but the delivery and the content that you see is completely hyper personalized to your league. So, it's my teaching style and your learning style and the AI is already picked up across what you have in the Metaverse is what I'm what I'm most excited about the Metaverse is the hyper personalization of content, and then the ability” – Paula Marie Kilgarriff

Additionally, certain actors seem to share information regarding technological advancement, including their view of its potential future applications.

“To enable this experience and bring touch to the Metaverse, the team is developing haptic gloves: comfortable and customizable gloves that can reproduce a range of sensations in virtual worlds, including texture, pressure, and vibration. While we're still in the early stages of this research, the goal is to one day pair the gloves with your VR headset for an immersive experience like playing in a concert or poker game in the Metaverse, and eventually, they'd work with your AR glasses” – Meta

Live demonstrations and experiments were shown to be a useful tool for increasing familiarity. We noted this when we spoke with Ricky Hough, Senior Enterprise Account Executive at Touchcast. Ricky provided a live demonstration of their platform during this interview. Additionally, some actors had posted announcements about their public demo events on their LinkedIn profiles.

“So here I am on like a super yacht right now. And I have like Spock roller, and I can actually move around the space in real-time. And be able to pan around and be able to actually come up and say, hey, like, let me tell you this yacht. Like you got a couple, two and a half million dollars. You know, like, check out that sunset, hang out. Take a dip” - Ricky Hough

“Join us for an in-person event during #SXSW2022, where Sense of Space and other Finnish companies will showcase innovations related to the #Metaverse. We will demo our powerful #3D #streaming solution there, alongside other companies such as Varjo, and Nokia”- Sense of Space.

According to the case study, trialability can also result in familiarity. As such, the offer is not limited to providing a free trial period, but rather to provide a means to allow people to test out the new solution with the tool they have at hand, in order to develop a sense of familiarity with the Metaverse. For instance, Meta release AR effect on their social media platforms to be accessed using phone cameras, during a special occasion. Threedium, in a similar vein, recently upgraded their website, which includes a showcase section that allows visitors and potential

leads to interact with real-world 3D examples created with their platform. These can be seen in the following excerpts.

“Ramadan AR Effects: Spark ARcreators MadebyHumans and Filter are collaborating with creators Amr Maskoun and Raffi Ahmad & Nagita to create Ramadan AR effects. Starting April 2, you can try these AR effects on your Stories or Reels.” – Meta

“Through our easy-to-navigate new website, you can discover all the ins and outs of our key solution features and how you can use them to start your very own online visual revolution.”- Threedium

Additionally, the results indicate actions that imply transparency. Eight actors were engaging with their stakeholders in an open and honest fashion. Additionally, this was reflected in their language during the interview. Transparency reduces risks associated with innovation as it leads to consistency between the anticipated value and the actual value. Additionally, actors who are truthful about risks may hinder the audience's tendency to magnify them. For example, the following actors acknowledged that the hype was true:

“...[Metaverse] has become a buzzword, where like every single company is putting the term Metaverse on their report and their strategy.... Like, it gets compared a lot to the.com Boom, in 99. It's like, 99% of these NFT projects are a bunch of rug pulls and scams. And there's a lot of nonsense trying to say the Metaverse, but it's not really.AI was a buzzword a few years ago, and a bunch of companies said it was AI, but it wasn't” – Ricky Hough

“We have to admit that there is hype. There are people wanting to do things just because they're Metaverse or doing NFT because it's an NFT.”- Cathy Hackl

Other actors demonstrated transparency by outlining the flaws of the early versions of the Metaverse that should be addressed.

“There is a need for dealing with the number of scams and cybercrimes that may take place. Here now is the main focus on how to make the Metaverse safer” – Aleksandr Tokarev

“And it's not moderated. You do have people selling drugs, porn, all sorts of things that are still going on in those platforms, because they're not properly moderated yet. There's no real user code. And a good example of the not so good side of the Metaverse would be something like VR chat, VR Chat, where you have people who go in as an avatar, that's not themselves. So, they're disguising their identity. And then they go in there and they're networking. They're trying to date other people. And then say, you suddenly see oh, that looks like a hot looking girl, and you start talking to them, you realize, oh my god, it's actually a man. So that's uncomfortable.... If an

NFT game, hasn't made enough money and they terminate the project, it means all the value of that game, and those NF T's have just gone into nothing. And the promise of NF T's being they're immutable, they're forever not true" – Frankie Tabor

The dissemination of information about technological advancements to eliminate inadequacies and demonstrate simplicity, can be taken as an example of open communication intended to reduce innovation risks.

"Our New AI System to Help Tackle Harmful Content. We're introducing new AI technology that can adapt more easily to act on new or evolving types of harmful content faster." - Meta

"...we're safe to say we're the only company in the world with a proprietary WebAR system with Native Adaptive Streaming for volumetric videos + a cloud-based system that enables you to publish a hologram to WebAR with literally just the click of a button." - Victor Pardino

All in all, the results show that the work of undermining core assumptions and beliefs is eminent in the second phase of market evolution. Among the disruption categories, it is the most common work performed. It is also one of the most recurring themes across the entire collection. It was observed that 60 instances of this work were conducted by 12 of the 14 actors.

4.3.2 Disassociating Moral Foundations

Furthermore, important activities aimed at delegitimizing existing institutions were identified within the work entitled "Disassociating Moral Foundations". This work is also geared toward disrupting, but it occurs less frequently than the previous work. Actors who carry out these activities are attempting to remove prevailing institutions (practices, rules, technologies) from their moral foundations. Haidt (2013) identified six moral foundations, care/harm, liberty/oppression, fairness/cheating, loyalty/betrayal, authority/subversion, and sanctity/degradation. The activities in this institutional work are more closely related to those of the first three foundations. In the context of diffusing the metaverse, the disrupters are implementing two main strategies: 1) underscore the incapacitation of the prevailing institutions, and 2) remove the social pressures that impede change.

Activities aimed at exposing how the existing institutions have failed to deal with emerging socioeconomic problems, constitute the first strategy. By performing these activities, the socioeconomic pressures will be heightened, which in turn serve as a catalyst for deinstitutionalization. Through its news blog published on the 27th of April 2020, Threedium demonstrated that the prevailing institutions were incapable of handling the emergence of Covid- 19. As part of the same article, they discuss their 3-D solution as a potential new way of dealing with Covid-19 wicked challenges. Touchcast, too, penned a post on their official LinkedIn page emphasizing the failure of the current technology to handle the unanticipated situation created by Covid-19:

"Only #EventProfs will know how frustrating it is to hear their attendees saying - "I can't focus on speakers when I keep getting distracted by emails

and other fires going on." And most #eventtech platforms were quickly cobbled together during the lockdown, so you don't have a fool-proof solution yet. The stress is real."- Touchcast

Additionally, Franki Tabor shed light on the shortcomings of traditional social media and the internet (referred to as Web 2.0). She highlighted how social networks were mistreating creators and exploiting their content for advertising purposes. She also discussed other concerns such as privacy violations and political interference.

"...when advertisers came on board, and the algorithms changed, creators had to pay to get views, which made them disgruntled. ... people generally are disgruntled with social networks because of the privacy element, number of political ads, and the divisiveness of those social networks."-
Franki Tabor

In a discussion held between Matt Ball and Mark Zuckerberg on October 29th, 2021, (just one day after the rebranding of Facebook Meta), both sniped at the dominant practices and technologies relating to social media. They brought attention to issues related to radicalization and suppression.

"Web2 is still full of problems that regulators have yet to solve, from radicalization and abuse, data rights, security, and so on"-Matt Ball

"Yet here we are in 2021 and our devices are still designed around apps, not people. The experiences we're allowed to build, and use are more tightly controlled than ever. And high taxes on creative new ideas are stifling. This is not the way that we are meant to use technology."- Mark
Zuckerburg

Overall, only 11 instances of this work were performed by 8 of the 14 actors. Based on these results, this type of work is less prevalent at the second phase of market evolution compared to "Undermining core assumptions and beliefs".

4.4 Enabling collaborative practices

In addition to the forms of institutional work that were identified in the literature, other patterns of practices were strongly detected among the studied sample. The common denominator of the practices is that they all aim to facilitate legitimation through collaboration. Although these collaborations varied in terms of form, nature, and explicit purpose, the broad aim of them was to gain legitimacy on either the actor (micro) level, or more generally, on the collective (meso) level. The reason behind labelling these practices as 'enabling' is the fact that they don't directly create, disrupt, or maintain institutions, but they facilitate, reinforce, and fortify the institutional work accompanied by them, hence further legitimize proto-institutional value cocreation structure (i.e., the Metaverse).

One of the most apparent forms of collaboration is actors associating with other well-established and reputable actors. Such collaborations boosted the institutional works that were conducted by these actors, as it sends a message that these new institutions are promising and

valid to some extent. Although such a collaboration does not completely convince other actors to internalise the new institutions and replace the old ones, it remarkably contributes to the legitimisation process. This collaborating behaviour was apparent among several actors.

For example, Franki Tabor stated that she is in the process of securing a collaborative deal with the football club Manchester United, the world's third most valuable football club in 2022 (Ozanian, 2022), to be responsible for the club's NFT-related business. She expresses the importance of such deal by saying that it "would be really great for me to then have a proper brand to give me credibility for this".

Such practice is clearer in the case of Touchcast. The virtual-event curator company has at least four big actors, namely Microsoft, Nvidia, and Epic games, as core partners. These partnerships enabled Touchcast to further diffuse their services since they are seamlessly integrated with already used platforms owned by these actors.

"With things like [*Microsoft*] Teams application, we can create really scalable solutions that go down market. So, anyone who has access to it should be able to launch a meeting in the metaverse and be able to run their townhall or their conference or the presentation" -*Ricky Houck*

Additionally, Ricky Houck expresses the strategic importance of allying with big actors for Touchcast:

"We're really focused on building like seven figure relationships, and strategically aligning with some of the biggest brands in the world. Like that's really where our focus is" - *Ricky Houck*

In the same vein, The Sandbox and Decentraland have also been establishing long- and short-term partnerships with big actors, mostly from completely different industries. Such partnerships have mutual benefits for both sides. On one hand, The Sandbox and Decentraland increase their publicity through such partnerships which allow them to grow rapidly. On the other hand, actors from different industries such as, Adidas, Nike, Gucci, Hyundai, and Coca-Cola, gain the advantage of being the first movers of their industries into the realm of the Metaverse. Among the studied sample, 8 actors were found to be allying with big actors. It was also worth mentioning that these big actors sometimes belong to other industries. This strategy pertains to the approach of safety in numbers in which firms and individuals become motivated to adopt the innovation when big companies and elites participate (Ahmadjian & Robinson, 2001). The role of elites embracing innovation was also highlighted by Lawrence and Suddaby (2006). Here is an example of The Sandbox partnerships:

"...A Huge thanks to ... 200 brands: Snoop Dogg, adidas, Warner Music Group, Gucci, The Walking Dead, Ubisoft, Square Enix, South China Morning Post SCMP, etc. Partners such as World of Women, Bored Apes Yacht Club, etc." -*The Sandbox*

Some actors were found to engage in partnerships that facilitate and ease the accessibility to their services. For example, Touchcast has announced a partnership with Kollektive

Technology, a leading software-defined enterprise content delivery network (ECDN) provider. Through this partnership, Touchcast enhances the quality of its communication to a whole new level, enabling actors (organisations) to deliver more immersive virtual events to dispersed global audiences. In the same vein, Threedium has announced a strategic partnership with OVR, a decentralized metaverse platform creating a community-owned spatial web, merging physical and virtual worlds through augmented reality. Besides the mutual legitimization benefits for both sides, such partnerships contribute further legitimising the Metaverse as a value cocreation structure.

When they were asked about competitions, almost all the interviewees had a hard time answering, attributing the difficulty to the fact that the metaverse is still new. Ricky Houck attributed this to the fact that the market is still evolving, and actors are focusing on growing it, and hence all will have bigger market shares, avoiding competing over the same market share:

“I think as we move into the metaverse, we have a very different competitive landscape than we did before. I think the strange thing about the metaverse is it's not very competitive, even when we have companies that do similar things to us, because the reality is that we're not competing for the same piece of the pie. Like we're not all taking this one size pie and fighting for it, it's like their success is our success, this pie is still growing more and more. And if they do well, there's a bigger pie for us. And if we do well, there's a bigger pie for them. And, so I've actually talked to a lot of companies that, on paper, you might see as a competitor to us, but it's a very pleasant conversation, and we're actually talking about how can we work together? How can you take on a little piece or I take on a little piece? Or like, how do we share this? And that's in the core of the whole web 3.0 movement” - Ricky Houck.

Thus, it is evident that market disruptors at this stage favour co-opetition and make every effort to ensure that the legitimacy of their innovation is enhanced. Collaboration and partnerships with actors of different size and shape have been established. Even universities have been leveraged as platforms to facilitate educating works. All in all, enabling practices were shown in 41 instances and executed by 10 actors. Again, these practices do not constitute institutional work, but procedures that are designed to facilitate the work.

4.5 Institutional works: Summary Table

Institutional Work	Category	Institutional Pillar	No. of actors	No. of instances
Rhetorical Work	Cross-Category	Cognitive	12	74
Educating	Creating	Cognitive	12	66
Theorizing	Creating	Cognitive	14	65
Undermining assumptions and beliefs	Disrupting	Cognitive	12	60
Mobilizing Social Impetus	Creating	Normative	14	38
Constructing identity	Creating	Normative	10	28
Design Work	Cross-Category	Cognitive	4	17
Mimicry	Creating	Cognitive	6	13
Vesting	Creating	Regulative	7	12
Defining	Creating	Regulative	4	11
Disassociating moral foundations	Disrupting	Normative	8	11
Changing normative association	Creating	Normative	6	10
Advocacy	Creating	Regulative	7	8
Constructing Normative Network	Creating	Normative	1	3

Table 3: This table represents the summary of the case analysis results. The institutional work identified to be performed by the promoters of the Metaverse are presented in a descendent order.

5 Discussion

In this section the pattern of institutional work is visualized and discussed thoroughly. The pattern is broken into pieces and then linked to the enabling practices. By studying the context of the metaverse, the research aims to obtain insight into the pattern of institutional work that market disrupters undertake in order to diffuse innovation. Derived from the summary table, Figure 8 provides a visual representation of the realized pattern.

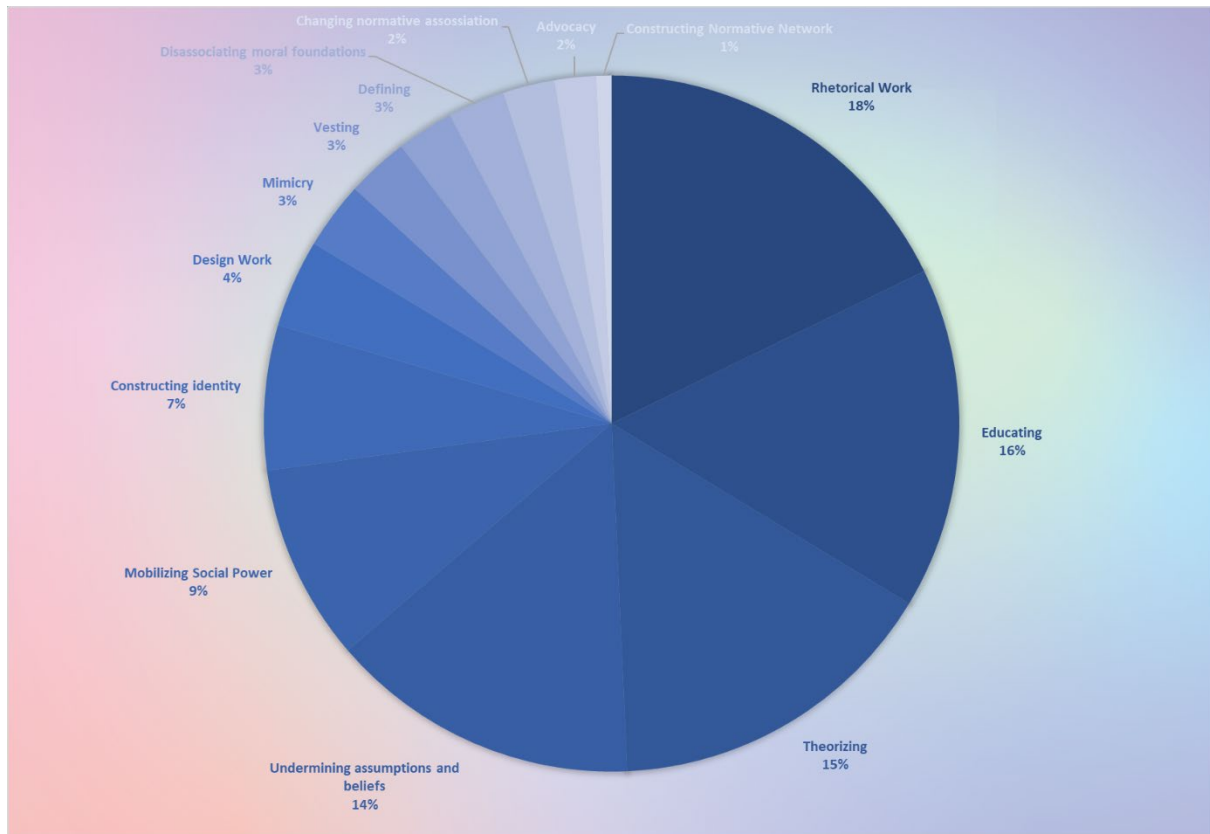


Figure 8. the pattern of institutional work carried out by market disrupters to diffuse the metaverse innovation

In total, 14 institutional works shape the pattern. More than half of this pattern is made up of rhetorical, educating, theorizing, and undermining core assumptions and beliefs works. The identified pattern is scrutinized to construct a comprehensive understanding of it. By dismantling the pattern, two sub-patterns were identified; one that is sorted based on the categories of institutional work and the other that is sorted based on the type of institutional pillars.

5.1 Sub-Pattern 1: sorted by institutional work categories.

As can be seen in the summary table, the institutional work conducted by the market disrupters to further diffuse innovation in phase 2 varied among three main categories, namely creating, disrupting, and cross-category. It has been identified that the institutional work pattern (visualized in Figure 8) is a combination of two sub-patterns. One of the sub-patterns is based on the previously mentioned three categories, as depicted in Figure 9.

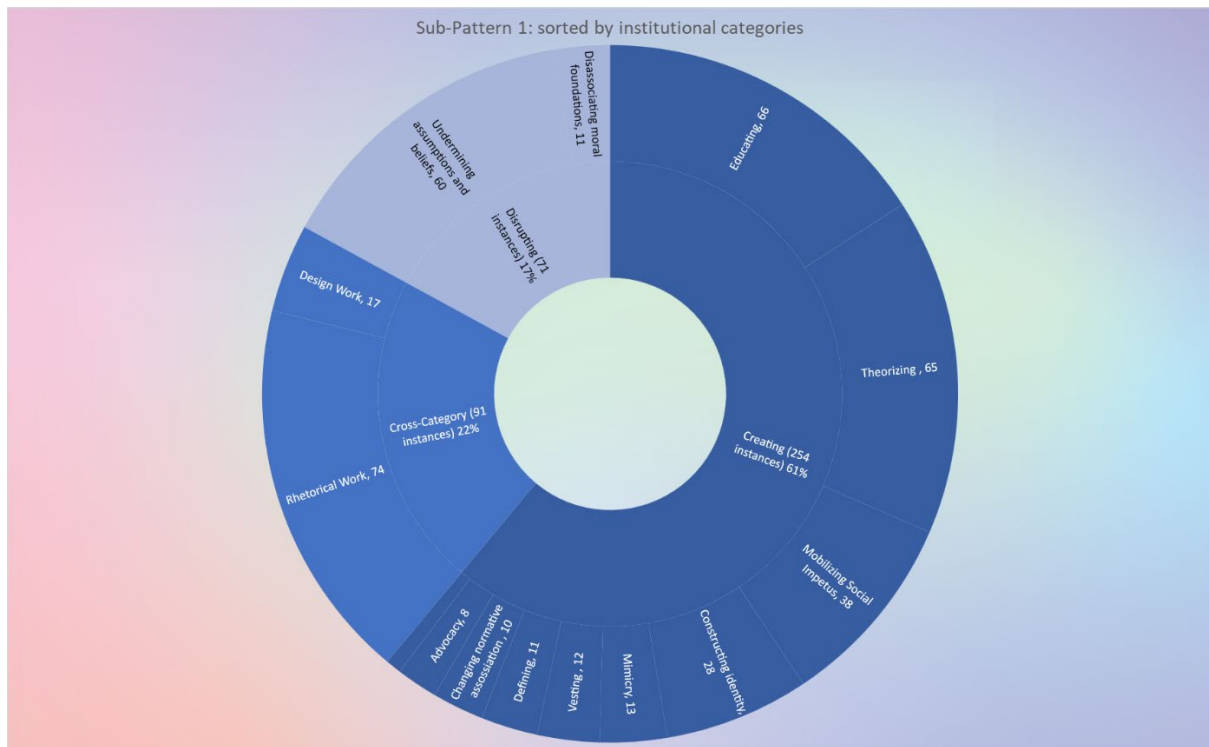


Figure 9. Sub-pattern 1 is based on institutional categories

Literature on institutional work demonstrates that institutional work occurs simultaneously in all the different categories (Koskela-Huotari et al., 2016; Zietsma and McKnight, 2009). Our findings also strengthen these insights and add to it that, although the three types of institutional work occur simultaneously, there is a difference in the impetus of each type that is related to the degree of the legitimacy of the proto-institutional value cocreation structure. That is, the impetus of each category of institutional work varies depending on the degree of diffusion of innovation. In phase 2, it appears that the collective focus of actors' efforts is mostly on institutional creation. Inspired by Lawrence and Suddaby (2006), Zietsma and McKnight (2009) describe institutional creation work is about “defining rule systems and vesting them with the ability to confer property rights, constructing normative networks of actors possessing defined identities in relation to the new rule systems, and developing support for those rule systems through advocacy, theorizing, and educating”.

As phase 2 implies that the novelty turns into proto-institution, which may become new institutions only if it is sufficiently diffused (Lawrence et al., 2002), the issue is then mainly about how to support this proto-institution to survive. As argued by Lawrence and Suddaby (2006), developing support is conducted through, advocacy, theorizing and educating. Indeed, the most prevalent form of institutional work among our studied sample are educating and theorizing. The dominance of these two forms of institutional work can be attributed to the fact that they target (other) actors' perceptions about the proto-institution, especially considering the fact that the survival of the proto-institutions heavily relies on being internalized by a larger number of actors (Koskela-Huotari, 2018).

Educating work is about equipping actors with the necessary skills and knowledge to support the new institution (Lawrence et al., 2002). This explains the prevalence of this work among actors in the studied sample, as they want to increase other actors' knowledge about the Metaverse, so they adopt it and hence further establish it as an alternative value cocreation structure (Koskela-Huotari, 2018). This is in accordance with Eng and Quiaia (2009) who found that education plays a significant role in promoting innovation adoption during uncertain circumstances. Education work was also dominant in a historical media analysis conducted by Boon et al. (2019) to map the institutional work related to Airbnb. However, since this longitudinal does not incorporate the concept of market evolution, it is unknowable when the peak of educational activities will occur. Education techniques differed markedly between large organizations such as Meta and small organizations or peripheral actors. This can be attributed to differences in financial resources and status.

Theorizing is about developing and specifying abstract categories and, most importantly, naming new concepts and practices that need to be part of the cognitive map of actors in the field in which they operate (Lawrence & Suddaby, 2006). According to Orsato et al. (2002), naming is foundational step for further theorizing. This explains actors' emphasis on naming and identifying metaverse-related terms and concepts in this phase, as the findings of this research indicate.

Interestingly, the third most occurring work under this category was a new work identified during this research, namely *mobilising social power*. Similar to the definition of advocacy, we define mobilising social power as the direct and purposeful use social persuasion tactics to gains social support. When actors conduct this work, they aim to further legitimise not only the proto institution but also themselves as actors in the field. This practice can be linked to institutional entrepreneurship, which refers to “activities of actors who have an interest in particular institutional arrangements and who leverage resources to create new institutions or to transform existing ones” (Maguire, et al., 2004, p. 657). Garud et al. (2009) argue that the success of institutional entrepreneurs and their entrepreneurial efforts is a question of gaining legitimacy, which is an increasingly difficult as diverse social groups with heterogeneous interest get involved. Actors appears to mobilise social power around them as a means to overcome the uncertainty and the multidirectional tug of war of interests at this early phase. Furthermore, this work (mobilising social power) relates to the issue of *embedded agency* that is widely discussed in the institutional literature. The issue question actors' ability to change institutions while their actions, intentions, and rationality are all governed and condition by the same institutional arrangement they wish to change. One answer to this issue is provided through the conceptualisation of institutional complexity. The fact that actors are embedded in multiple institutional arrangement allows actors to use the other institutional arrangements as toolkits to change the one they wish to change (Sitaloppi et al., 2016). The new form of institutional work, mobilising social power, provides a practice-based insight of how actor overcome the paradox of embedded agency. By mobilising social power around the proto-institution and the actors themselves, actors are able to overcome the embeddedness that may impede the process of innovation diffusion. According to Sitaloppi and Wieland (2018), the power of the actors is a central in the institutional change process. They conceptualise power “the ability to control or influence other actors (i.e., influence the integration of resources) in

accordance with a particular interest” (Siltaloppi & Wieland, 2018, p.304). Battilana et al. (2009) argue that both peripheral actors (i.e., with low power) and central powerful actors are able to act as a change agent (i.e., doing institutional work), but need to embrace different tactics for advocating change. Edvardsson et al. (2014) argue that, for a configuration of a set of institutions (e.g., a proto-institution) to govern and prevail, it needs to be accepted and internalised by enough actors or actors with enough agency. Therefore, it is not a surprise that actors in the studied sample, who are arguably mostly peripheral, are attempting to mobilise social power around them, and/or the novelty they introduce. In the studied sample, this work was mostly conducted by peripheral actors, trying to mobilise other actors around them and around the novelty they come up with.

As another form of institutional creation, actors were also observed to be working on constructing identities, which refers to the work aiming at defining the relationship between the actors and field in which they operate, according to Lawrence and Suddaby (2006). As they argue, such work is highly associated with the development of professions. They further argue that such work on professional identities can be conducted from outside of the professional groups and/or by the groups themselves. In the case of the metaverse, it is difficult to thoroughly examine in detail how constructing professional identities is occurring for two reasons. First, the metaverse as a value cocreation structure comprises several interrelated layers that contains enormous number of professions, as explained in the literature review (see Radoff, 2022c). Hence, as the study examines the metaverse as a whole, it is not possible to capture all involved professions. Second, as explained in the findings section, this form of work was more captured as an institutional change than as an institutional work. However, it can be argued that the degree of the shift in professional identities varies depending on how radical the innovation is. In the case of the Metaverse, it can be argued that although there is a trace of some changes in some professions, the change in the market is not radical. Back to this background, education work substantially contributes to this professional evolution. Specifically, education work equips actors with the necessary knowledge and skills to assume the new roles. Thus, the interconnectedness of institutional works can be seen.

The second major category was ‘cross-category’ works, which was present in rhetorical as well as design works. It is not a coincidence that this category holds such a great deal of weight. As reflected in its name, the institutional work under this category spread throughout all other categories creating, maintaining, and disrupting. Berthod et al. (2019) asserted that it is hard to distinguish between creating, maintaining, and disrupting, and therefore established the cross-category work to serve as a bridging means. As the findings did not highlight any distinct form of institutional maintenance, the distinction between maintaining work and maintainers ought to be clarified here. Lawrence and Suddaby (2006) introduced the maintaining category to represent the viewpoint of maintainers who strive to maintain current institutions and prevent the diffusion of new ones. Therefore, given the scope of our study was limited to disruptors, we did not find any evidence for maintaining category. However, in accordance with Berthod et al. (2019), our research traced that disrupter are maintaining specific elements of the old structure with intention to ease the adoption process as presented in the design work instances. Taking this approach prevents disrupters from adopting an attitude that would alienate the intended audience, especially those who are emotionally and psychologically attached to the

old structure. Moreover, this approach minimizes the cost of adoption; for instance, Touchcast enable their customer to use metaverse elements on their laptop and mobile without the need for a sophisticated VR headset. Consistently, Koskela-Huotari et al. (2016) argued that successful innovation always includes simultaneous creating, disrupting and maintain works. In their view, maintaining work can be as straightforward as utilizing the existing communication channels. Clearly, this is evident in the metaverse context, for instance the use of on-site seminars and social media in 2D.

Finally disrupting category comes at the last place in our study. The biggest weight of the disruption works mapped in the metaverse context, focuses mainly on removing the cost of adopting the innovation. There are a variety of disruption tactics used here, such as transparency and documentation of use cases. It is logical to assume that disrupting work should be identified when focusing on disrupters. This is also consistent with the notion of simultaneous execution of various institutional work across all the categories (Berthod et al, 2019; Koskela-Huotari et al, 2016). Nevertheless, Boon et al. (2019) deviates from this notion as they, oddly, traced no disruption works when studying institutional work pertaining to Airbnb. This could be rational only if the new institutions become the new normal, namely the phase 4 of the market evolution model, which is not the case for Airbnb.

One aspect that could be noteworthy here is to whether institutional work differs in weight and impact. That is, although institutional creation is the most occurred category in the Metaverse case, this may not necessarily mean that it is the most impactful one. For example, we expect that although mimicry and design work were relatively less occurred than other forms institutional work, their impact on innovation diffusion may be higher than others, like educating or theorizing. This can be related to factors that influence innovation diffusion identified by Rogers (2003) as he argues the compatibility and the complexity of innovation are major determinant of how successful the innovation is. As the impact of each form of institutional work was not the focus of this study, such a claim is to be thoroughly examined.

5.2 Sub-Pattern 2: sorted by institutional pillars

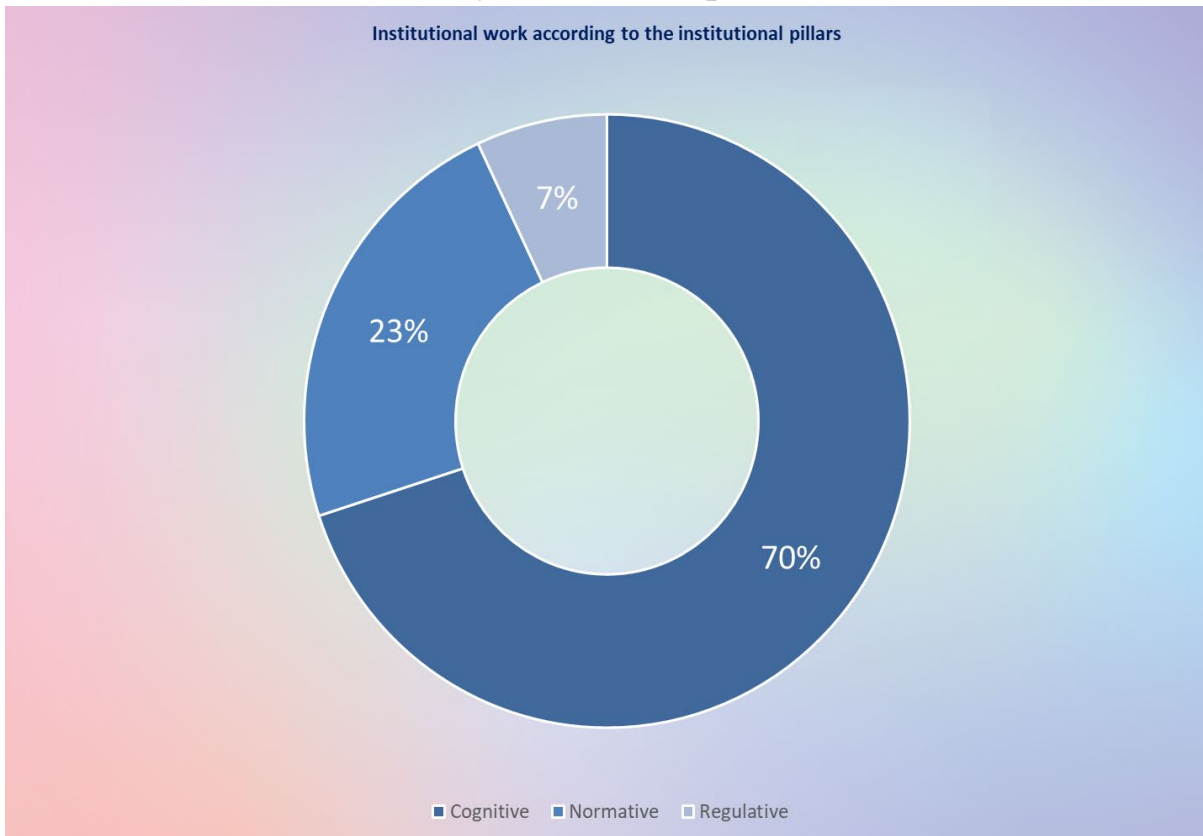


Figure 10. Sub Pattern 2 is based on institutional pillars

As previously mentioned, the institutional work pattern (visualized in Figure 10) is composed of two sub-patterns. The previous section discussed the first sub-pattern that is based on institutional categories. This section examines the second sub-pattern that is based on institutional pillars namely regulative, normative, and cognitive.

Figure 6 illustrates that the institutional pillar heavily targeted by disrupters is the cognitive pillar that constitutes taken-for-grantedness and shared understanding. The findings summary table indicates that the four most prominent institution works address cognitive elements. Predictably rhetorical work is ranked high since it utilizes linguistic devices like selective frames to legitimize new institutions as well as delegitimize the prevailing ones. Sitaloppi and Wieland (2018) suggest that framing is the cornerstone of meaning construction which in turn advances institutional change. Through framing, cognitive elements can be targeted in a manner that motivates change and links it with existing categories and schemas, thus addressing the embeddedness paradox (Hargadon and Douglas, 2001; Seo and Creed, 2002). In part, this concurs with a study on legitimizing Casino carried out by Humphrey (2010), who argued that the building of cognitive legitimacy is achieved by enhancing the use of frames that are compatible with new institutions. Using Humphrey's model, it is evident that establishing cognitive legitimacy at the onset paves the way for obtaining regulatory and normative legitimacy. Next comes both educating and theorizing work that aim to establish cognitive legitimacy of the new institutions. They develop belief systems, assumptions, knowledge, and skills needed for disseminating new practices and technologies (Lawrence &

Suddaby, 2006). Educating and theorizing play a major role in the metaverse, which should not be surprising, given that its nature remains ambiguous for the mainstream and surrounded by many fallacies, misconceptions, and myths. These findings are consistent with earlier research that indicates that theorizing work is key in establishing cognitive legitimacy early in innovation adoption (Distelmans & Scheerlinck, 2021). Also, this study conforms with Athaide et al. (2003) who argue that educating customers is key in making them adopt the change. One more work which relates to the cognitive pillar of institution is of considerable significance in regard to the study of the metaverse, but this time seeks to challenge the taken-for-granted behaviours and perceptions. Undermining core assumptions and beliefs work particularly seeks to reduce cognitive rigidity. Therefore, one can expect that this work will contribute significantly to mainstreaming the metaverse. Talke and Heidenreich (2013), emphasize that to overcome the pro-change bias, disrupters must address the cognitive passive resistance. The latter is composed of fear of losing control, cognitive rigidity, and low psychological resilience.

Establishing normative legitimacy in the context of the metaverse appears important, but not a priority. Mobilizing social power is a manifestation of a work that establish and validate a normative symbolic system of values, moral and norms, in a social group. The eminence of this work could be ascribed to the apparent social nature of the metaverse. With this work, disrupters attempt to normalize the way in which people interact and socialize with each other via the internet. Constructing identities work is also noticeable in the metaverse context. Through this work, normative routines are established such as roles, jobs, and duties. (Kleinaltenkamp, 2018). The normative routines in the metaverse have been shifting in favour of creativity rather than technical knowledge. An earlier study on innovation, Koskela-Huotari et al. (2016), concluded that normative pillar work is indispensable. One of her remarkable findings, is the redefinition of actors' roles and duties. This finding has been further supported in our research.

In our study, actors draw the least attention to the regulatory pillar. It is noteworthy that all of the efforts targeting regulations are derived from the creating works. This could be related to the general view of the metaverse as the evolution of the internet. In other words, parts of the infrastructure already exist, but they need to be upgraded. For instance, in the vesting example, NFT does not conflict with copyrights or other intellectual property rights, but simply adds a layer of protection over the digital artworks. Moreover, there was no evidence of significant interference from government officials in suppressing the growth of the metaverse in this study. Thus, our pattern shows congruence with the theory of permissionless innovation (Thierer, 2016). Against this background, Silicon Valley's maxim resonates in our case; "Don't ask permission, ask forgiveness" (Kenney and Zysman 2016). Lastly, this pattern is compatible with the process of structuration (Lusch and Vargo, 2014, Giddens 1984). This process relies on a bottom-up approach. Ordinarily, regulations are at higher-level structures which result from the interactions among actors at lower levels (See fig in the literature). Considering the foregoing, innovation diffusion at an early stage is unlikely to be accompanied by an intensive regulatory measure since it begins at the bottom.

5.3 Enabling collaborative Practices

As elaborated in the findings section, there was a strong theme that was identified among actors that related to institutional work, namely *enabling collaborative practices*. As mentioned, the commonality of these practices is that they all seek to facilitate legitimation through collaboration. Although these collaborations varied in terms of form, nature, and explicit purpose, the broad aim of them was to gain legitimacy on either the actor (micro) level, or more generally, on the collective (meso) level. Although these practices are highly associated with the institutional work conducted by actors, we do not consider them as institutional work in themselves. They do, however facilitate, reinforce, and fortify the institutional work accompanied with them, and hence contribute to the legitimation of the proto-institutional value cocreation structure (i.e., the Metaverse). By so doing, these practices act as boosters of the realized pattern of institutional work aimed at disseminating innovation.

The role of collaboration is highly emphasised in the scholarly work on institutionalisation as well as innovation diffusion. From an institutional perspective, Lawrence et al. (2002) argue that collaboration is a major catalytic source of change in any institutional field, as proto-institutions – new rules, practices, and technologies that have the potential to be institution of the sufficiently diffuse – always emerge from collaborative relationships. They also highlight that the higher the involvement and the embeddedness of actors in these collaborations, the higher probability is that this collaboration is to contribute to the earliest stages of institution creation, or as they call it, institutional innovation. Such types of relationships were observed among the studied actors. For example, the level of involvement and embeddedness is reflected Touchcast’s partnership with Kollektive Technology which was highlighted in the findings section. The two actors are highly involved in a technical and complex collaboration in order to introduce their service provisions, which reflect the level of involvement in collaboration. Also, as both company’s technology is highly reliant on each other, it implies a high level of embeddedness.

Further, it was evident in the findings that several actors are engaging in collaborations with big and powerful actors, be that from the same institutional field or from another one. Examples of these are Franki Tabor with Manchester United Football Club; Touchcast with Microsoft, Epic Games, and Nvidia. Decentraland and The Sandbox had several collaborations with actors who belong to a different institutional arrangement. This goes in line with Scaraboto and Fischer’s (2013) findings where they identify three market-disruption strategies that peripheral actors – customers in their case – follow to gain legitimacy. These strategies are making use of other institutional arrangements (i.e., markets) to substantiate one’s claim, publicizing desirable innovations and persistent institutional impediments, and lastly, allying with powerful actors.

In the same vein, Zietsma and McKnight (2009) also highlight the role of collaboration in the early phases of institutional creation. They argue institutional creation work is a multi-actor process of collaborative co-creation and/or competitive convergence. In the Metaverse case, the collaborative co-creation was significantly dominant. It is worth mentioning here that, by competition, Zietsma and McKnight (2009) refers to the competing of actors who advocate different proto-institutions and aim to replace the prevailing institutions. In this study, Market

disruptors are assumed to hold and advocate for the same proto-institutions, which justifies the lack of presence of any competitive convergence. The high rate of collaboration, regardless of the variation in terms form, nature, and explicit purpose, can be attributed to the fact that, usually, it is mostly marginalised actors who initiate highly innovative solution and, therefore, they lack legitimacy as well as operand and operant resources. Hence, the collaborative behaviour becomes dominant, especially if we consider the huge incentive actors foresee, knowing that the market is still evolving. Finally, these collaborative practices are ideal manifestations of S-D logic's cocreational conceptualisation of value – including innovation – that is based on dynamic, networked and systems orientation (Vargo & Lusch, 2011).

6 Conclusion and future research

This paper is intended to provide a new perspective on the black box of innovation diffusion. Three theoretical perspectives have guided our research of the diffusion, namely service dominant logic, institutional work, and market evolution. Once they were blended together, the focus of our research was narrowed down to one to unveil the pattern of institutional work that is followed by disrupters in the second phase (where diffusion begins) of the market evolution model. Aside from the temptation of studying a hot topic such as the metaverse, it was an ideal case for our study due to the significant similarities between its characteristics and the 2nd phase of market evolution. Therefore, our research question became: What is the pattern of institutional work followed by market disruptors who aim to institutionalize the Metaverse? The case analysis reveals a pattern formed of 14 institutional works (see Table 3). After dismantling the pattern, we found two sub-pattern one that is sorted by institutional categories (creating, maintaining, disrupting, and cross category) and the other sorted by institutional pillars (regulative, normative, and cognitive). The discussion of the sub-patterns manifests a great focus on *creating work* that target *cognitive institutional* pillar. This implies that the primary objective of disrupters in early phases of innovation diffusion is to legitimize new institutions by affecting assumptions, schemas, and the perceptions of their audiences. Regulatory issues received the least attention from disrupters at this phase. This echoes the principle of Silicon Valley: "don't ask permission, ask forgiveness". The results show that the pattern of institutional work is stimulated by what we name *enabling collaborative practices*. As such, these practices do not constitute institutional work per se, but function as a major catalyst that is essential in this phase of innovation diffusion. Another novel finding pertains to a new institutional work that is named "Mobilizing Social Power" and falls under the creating category. This work is like advocacy work, but instead of using techniques of social suasion to mobilize political and regulatory support, this work aims at mobilizing social support.

Our study did not find any institutional work which was categorized under the maintaining category. There is a reason for this; Lawrence and Suddaby (2006) defined this category as exclusive to maintainers, while we were taking a disrupters' perspective. We nevertheless found that disrupters maintain certain elements of traditional institutions, such as using physical and two-dimensional communication channels and allowing access to major components of the metaverse via traditional devices. In other word, disruptors' maintenance is manifested in them utilising the prevailing institutions. As a result of this study, we found that disrupters are getting involved with all the types of institutional work, including maintaining. Finally, we found that there is some difference between big organization such Meta and other new, small organization or individuals. A significant difference can be found in the way in which education was conducted.

6.1 Research Implications

6.1.1 Theoretical contribution

In this study, we extend the S-D logic-based conceptualization of innovation diffusion by considering the pattern of institutional work used during this process. By conducting this research, we contribute to the empirical validation, and most importantly, the development of the market evolution model developed by Koskela-Huotari (2018). The contribution, however,

limited to the second phase of the model. By incorporating the form of institutional work, this paper further develops the market evolution model as it has identified a first version of institutional work pattern used in the second phase. Accordingly, this study depicts the bedrock of a series of future studies that aims to develop a standardized guide for institutional work carried out by market disrupters to diffuse their innovations. Moreover, our findings supported Berthod et al. (2019) and Koskela-Huotari et al. (2016), as it was evident that disrupters are performing all the forms of institutional work including maintain work. All in all, our findings contribute to the consolidation of S-D logic theory, following Vargo & Lush's call for empirical research. Finally, our findings contributed to expanding Lawrence and Suddaby (2006) work, by revealing a new institutional work. It is named "Mobilizing Social Power", belongs to creating category and focus on the normative pillar.

6.1.2 Practical implications

There are practical implications related to the metaverse context. First, the revealed pattern of institutional work indicates that disrupters tend to focus on some work more than others. As such, entrepreneurs or senior executives of incumbents would do well to consider which activities to focus their efforts and resources on. The value will be greater if the focus will be on the overlooked works that are critical to the diffusion of innovation. Conversely, the rooms for intervention may be exhausted for work of big bulk such as educating, and therefore no significant value will be added to the diffusion process.

Second, our findings demonstrate that collaboration plays a central role in innovation diffusion. Many of the participants of this research claim that the market is big and there is no fierce competition in this early phase. According to them, the pie is large enough to accommodate all participants. Therefore, new firms entering the metaverse ecosystem, should lean toward co-competition. Business leaders and managers should also propagate this culture internally, to improve and encourage the relationships between their staff and the staff of other actors.

Moreover, our findings reveal that roles and skillsets are being redefined. The majority of actors stated that creativity would be more important than technical ability. This could be an eyeopener for entrepreneur and managers to enrol their staff in training that evolve their skillset. Moreover, this guides them in their recruitment process and entail that they have to use techniques that capture the level of creativity among candidates.

As a final note, our findings may be helpful to investors and venture capitalists interested in supporting start-ups developing the metaverse. Knowing on which type of works the focus should be, will help them consolidate their screening/due diligence process and hence improve their decision making.

6.2 Limitations and future research opportunities

During this study, we focused on a single ecosystem (the Metaverse), which makes it difficult to generalize the findings. Therefore, we call for replicating this study in other service ecosystems that matches the condition of the one studied in this research – in the early stages of development. Doing so will strengthen the findings of this research. At some point in the future, a meta-analysis of these research can be used to develop an overall standardized guide for institutional work geared towards diffusing innovation.

We are uncertain whether the patterns of institutional work identified in our study will eventually lead to the success of disruptors, and if they do, we do not know to what extent. Therefore, we encourage future researchers to adopt a longitudinal study design within the context of the Metaverse. This examines where these patterns have led and provides a more in-depth understanding of the impact of such institutional work pattern.

This study focused mainly on the second phase as it indicates the commencement of innovation diffusion process. However, when market disruptors succeed in their battle in this phase, they continue their efforts in spreading further their desired institutions, which are then not anymore. Accordingly, future research can focus on the pattern of institutional effort that is carried out by disruptors in the third phase of the market evolution model, namely the resolution of incompatible value cocreation structures.

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Appendices

Appendix 1

The initial note upon adding an individual is as follows:

Hi, I'm a master's student at Gothenburg University. I'm conducting interviews as part of my research study to explore the institutional change brought by actors building the Metaverse. Capturing your thoughts and perspectives on the subject will be a valuable addition to my research. Thanks

Following the acceptance of the connection request, the following message is sent:

Hey [Name]

Thanks for accepting my connection request,

The research is conducted as a master thesis project for the University of Gothenburg, Sweden. It aims to investigate the collective disruptive institutional work that is happening at this phase of the evolution of such yet loose concept (The Metaverse). By institutional work we mean the work that aims to challenge rules, norms, practices, and even cognitive assumptions that represent the “status-quo”. For instance, how actors are endeavouring to break the old and legitimate the new "institutions" behind the so-called Metaverse. The participants are various decision-makers in pioneering disruptive companies that are co-building the Metaverse from different angles.

The paper will be published on the University’s website as well as on Diva (the Diva portal is a finding tool and an institutional repository for research publications and student theses written at 50 universities and research institutions.)

Capturing your thoughts and your experience on the subject would significantly enrich our research. The findings of my research could lead to a greater public understanding of the Metaverse phenomenon and the associated utilities and opportunities.

Please allow me to steal an hour of your time during the next ten days for a short interview. You can pick any time, and we'll make sure we adjust our schedule to fit it.

Thanks for your time and consideration!

Appendix 2: Interview Guide

Opening:

Your contribution to this study is greatly appreciated. Recently, the Metaverse has received considerable attention and substantial resources have been allocated to its development and diffusion. Within the scope of this research, we intend to investigate what are actors doing collectively to diffuse. Our discussion may cover the process of modifying rules, norms, values, beliefs, and even cognitive assumptions to facilitate the diffusion of knowledge

As a prelude to our interview, and in compliance with academic ethics, we would like to make sure that you are informed of how your data will be collected, analysed, and reported. As part of this process, we are also required to obtain your consent verbally regarding certain matters.

-Would you be comfortable with your interviews being recorded solely for transcription purposes? Neither the record nor the transcript is permitted to be published in this manner.

-Would you be willing to disclose your identity? This is limited to your name and position and excludes your contact information. Your name may be cited when presenting the finding and when in the table of participants.

-Are you authorized and willing to represent your company during this research?

Warm-up:

-Could you please introduce yourself?

-Could you please provide us with additional information regarding your business, particularly the part regarding "metaverse" (value proposition, vision, mission, etc.)?

To touch on institutional work

-We would be interested in knowing how you define the metaverse? What does it mean to you?

-How and why do you see your company as innovative?

-This novelty you propose, what does it require to reach the mass (what do we need to change)?

-What are the practices and strategies that you implement to advance this change?

-Please elaborate on the strategies you are doing inside and outside your organization, individually and collectively with other actors.

-How can you convince people to adopt the metaverse?

-Are you participating, directly or indirectly, in any practice or negotiation that would increase the legitimation of your innovation (for example, negotiation with the government to legalize a particular aspect)? If so, why, and how?

- Throughout the process of developing the metaverse, what are the adjustments that a firm (disrupter - metaverse promoter) needs to make internally, and externally in its approach to dealing with other actors in their respective market.

-Can you elaborate on any change in identity (Role, skillset)

-What are the most important skills and competencies to develop in the upcoming phase?

In closing:

-Could you please convey a message to sceptics?

-Is there anything else you would like to discuss or a

Appendix 3: CASET

Evaluation criteria	Explanation of measure	Anchoring Statements	Score (0/1)
<i>Theoretical foundation</i>	Was a clear explanation given of why the case method was the most appropriate method to adopt?	0 = "No": no explicit argument was given for why the case method was adopted in the research. 1 = "Yes": there was an explicit argument for why the case method was adopted in the research.	1
<i>Pilot study</i>	Was there a pilot study preceding the main study?	0 = "No": there was no pilot study. 1 = "Yes": a pilot study was conducted before the main study.	0
<i>Theoretical sampling</i>	Was an explanation provided of which case(s) were chosen and why?	0 = "No": no explicit argument was given about how the case(s) was / were selected. 1 = "Yes": case(s) were selected for theoretical purposes, example ranges from a discussion on why case(s) were chosen to a discussion on the selection of polar extremes where cases exhibited extremely high or extremely low value on the constructs of interest.	1
<i>Triangulation</i>	Was the research based on multiple sources of data?	0 = "No": the research was based on only one source of data 1 = "Yes": the research was based on more than one source of data	1
<i>Review and validation of evidence</i>	Was the evidence reviewed and validated by external parties?	0 = "No": the evidence was not reviewed and validated. The article did not explicitly state if the evidence is reviewed and validated. 1 = "Yes": the evidence was reviewed and validated by the interviewee and/or the company (e.g. through data feedback-sessions), or by fellow researchers not part of the primary data collection.	1
<i>Transparency of data collection</i>	Was it made clear how the data collection process was conducted?	0 = "No": the data collection process was not clear and transparent because there was not sufficient information about the origin and the contents of the data collected (in terms of areas, topics, themes or constructs), which would allow replication. 1 = "Yes": the data collection process was clear and transparent because interview themes, questions and/or research instruments such as research protocols specifying data collection circumstances were reported, which would allow replication.	1
<i>Inter-coder agreement</i>	Were the data coded by multiple investigators?	0 = "No": the data were not coded by multiple investigators working independently, or there was no information about how inter-coder agreement was achieved. 1 = "Yes": the data were coded by multiple investigators working independently, and there was an explanation about how an acceptable inter-coder agreement was achieved.	1
<i>Case presentation</i>	Were findings and empirical evidence presented in a way that made it clear how the author(s) reach their conclusions?	0 = "No" - The way in which the author(s) reached their conclusions based on the case data was neither clear nor documented. Their focus was on "telling the story" and not "showing the evidence", and any quotes used were selected to support the authors' conclusions. 1 = "Yes" - The article was explicit and clear in demonstrating how the empirical data were used to arrive at the conclusions, providing a clear "trail of evidence" (through the use of approaches such as tables, data displays, coding schemes and other visual aids).	1
<i>Case interpretation</i>	Did the case analysis move beyond description and conceptual ordering?	0 = "No" - The results from the case analysis were mostly descriptive and/or simply consisted of condensing data into patterns and concepts. 1 = "Yes" - The interpretation moved beyond description and conceptual ordering, to the generation of meaning and of the conceptual significance of the case facts. This was achieved by, for example, developing a conceptual framework or model from the case(s), formulating propositions to be tested by future research, and/or systematically discussing results in relation to existing literature.	1
<i>Reflecting on validity and reliability</i>	Was there a discussion about the quality of the research?	0 = "No": there was no explicit discussion about the quality of the research. 1 = "Yes": there was an explicit discussion reflecting on the quality of the research (either in the section on research design stage or in the consideration of limitations), which covered one or more dimensions of validity and reliability, showing that authors were aware of the need to ensure rigor.	1
Overall quality score (out of 10)			9