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**Market shaping dynamics: Interplay of actor engagement and institutional work**

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## **Market shaping dynamics: Interplay of actor engagement and institutional work**

### **Abstract**

**Purpose:** Combining institutional work and actor engagement (AE) literature, this paper aims to elucidate how the collective action of market shaping occurs through the interplay between market shapers' institutional work and engagement of other market actors. While markets are shaped by actors' purposive actions, and recent literature notes the need to also mobilize AE, the underlying process remains nebulous.

**Design/methodology/approach:** This paper is conceptual but supported by an illustrative case study: Winding Tree. This blockchain-based, decentralized travel marketplace shapes a market by decoupling existing resource linkages, creating new ones, and stabilizing others through a dynamic, iterative process between the market shaper's institutional work and others' AE.

**Findings:** The paper develops a dynamic, iterative framework of market shaping through increased resource density, revealing the interplay between seven types of market shapers' institutional work distilled from the literature and changes in other market actors' engagement dispositions, behaviors and the diffusion of AE through the market.

**Originality/value:** This research contributes to the emergent market shaping and market innovation literature by illustrating how the engagement of market actors is a fundamental means of market shaping. Specifically, it advances understanding of how market shapers' institutional work leads to new resource linkages and higher resource density in emergent market systems through AE. The resultant framework offers an original, critical foundation for future market shaping research.

**Keywords:** Market shaping, actor engagement, institutional work, complex market systems, resource density, blockchain marketplace

**Paper type:** Conceptual paper

## **Introduction**

As firms face increasingly fundamental shifts in their environment, many are proactively shaping markets in practice to fashion contexts where they can flourish. Meanwhile, based on the foundation of performativity theories in the economics and sociology literatures (Aspers, 2007), the marketing academy recognizes that markets are malleable, emergent and dynamic systems, thus supplying theory on how firms can initiate changes to shape markets and create value in their favor (Nenonen *et al.*, 2014). This understanding of markets as systems that can be formed and re-formed underpins the growing body of research on market shaping, considered as focal actors' purposive actions to facilitate the "emergence and institutionalization of resource linkages that improve resource density and, hence, value creation in a market" (Storbacka, 2019, p. 8).

Recent research elucidates the relevance of institutions for market shaping, as these provide the "rules of the game" for markets and hence guide interactions between market actors (Baker *et al.*, 2018). Indeed, institutions are the foundation for resource integration and value creation (Vargo and Lusch, 2016; Wieland *et al.*, 2016). Institutions can be changed (Battilana and D'Aunno, 2009) by deliberate actions, as framed in the literature on institutional work (Lawrence and Suddaby, 2006). But market shapers cannot change the market or its rules unaided; they must engage other market actors to join them in aligning behaviors according to the envisaged new rules of the game, thus effectively helping realize those rules. Take Airbnb. This giant of the sharing economy could not have shaped the hotel industry without engaged private hosts who rented out their homes. Nor could Shopify have shaped a growing e-commerce marketplace – with more than a million merchants and counting – without the engagement of thousands of freelancers, digital marketing agencies and other trusted experts forming and developing this marketplace.

This paper follows a call by Storbacka (2019) and argues that for market shaping to develop requires understanding the important role of actor engagement (AE) in reinforcing and driving institutional change, fueled by purposive actions of the market shaper. As that article states, market systems, being complex, neither obey linear cause-effect relationships, nor revolve around one center of control. Instead, they follow a combinatorial logic of shaping and forming through the market shapers' deliberate actions paired with the engagement of other market actors who align with and build on these actions. Yet this dynamic interplay between market shapers' institutional work and the engagement of other market actors has received little attention in the institutional work and market shaping literature. Most institutional work studies have focused on changes at an organizational micro-level (Baker *et al.*, 2018). Only very recently have Baker and Nenonen (2020) broadened the understanding of institutional work, which typically still considers the actions of one focal actor, to what they call "market work" undertaken by collective actors. Complementing this insight, the purpose of this paper is to elucidate how such collective action of *market shaping occurs through the interplay between the market shaper's institutional work and the engagement of other market actors*. This is a conceptual paper. It contributes to the emergent market shaping and market innovation literature by *developing a dynamic framework for market shaping, which accounts for the complexity of market systems*. It sheds light on the dynamic, iterative process of market shapers' deliberate efforts to influence institutional change and the engagement of other market actors, as the interplay between the two crucially intensifies resource density in the market system. A case study illustrates the paper's conceptual development: the new blockchain-based, decentralized travel marketplace, Winding Tree.

The article first discusses the complexity of market systems and the role of actors, institutions and resource linkages in such complex systems. Secondly, it reviews the developments in the institutional work literature and distills seven types of institutional work

of special relevance to a broader system-level conception. In the third of the sections below, the AE literature is reviewed, highlighting the convergence of AE toward a more process-oriented and systemic understanding. To build the dynamic framework, the fourth section borrows from these reviews and systematically combines market shapers' institutional work with the process of engaging other market actors, illustrated by examples from the Winding Tree case. The paper culminates in a discussion of implications, both a research agenda and implications for managers, entrepreneurs and public policy makers followed by a brief conclusion.

### **Market shaping: Conceptualizing actors, institutions and resource linkages**

Markets are viewed in this paper as socially-constructed phenomena consisting of actors and institutions (Araujo, 2007; Gosling *et al.*, 2017; Mele *et al.*, 2014; Storbacka and Nenonen, 2011). More specifically, institutions guide how resources are integrated, how value creation is perceived and how representational views on markets are formed (Edvardsson *et al.*, 2011; Vargo, *et al.*, 2015; Vargo and Lusch, 2016; Wieland *et al.*, 2016). Aligning with Wieland *et al.* (2016), this paper regards institutions as humanly devised meanings, norms, and rules that both enable and constrain the behavior of social and market actors and make social life and economic action predictable and meaningful (North, 1990; Scott, 2014).

Baker *et al.* (2018) show that marketing scholars have only latterly addressed links between markets and institutional arrangements (i.e. multiple, interrelated institutions, which interact and overlap, Vargo and Lusch, 2016). They point to a recent but growing stream of marketing research using neo-institutional theory to explore market change and market innovation based on institutional change (e.g. Mele *et al.*, 2014; Storbacka and Nenonen, 2015). This research stream provides a grasp of markets as systems, where various actors, not only producers and users, drive market innovation (Möller and Rajala, 2007). Indeed, market

systems do not obey linear cause-effect relationships, nor do they have one center of control (Storbacka, 2019). Instead, they follow a combinatorial logic of shaping and forming through market shapers' deliberate actions on the one hand, paired on the other with engagement of other market actors who align with and build on these actions. For example, in cryptocurrency markets such as Bitcoin or Ethereum an initial team of developers constituting the market shapers create the blockchain, with thousands of developers going on to use the code by aligning their engagement to further shape the market.

Truly comprehending these market system complexities requires understanding them at different levels, while acknowledging these levels are arbitrary and relative to a market actor's viewpoint: (see Vargo and Lusch, 2016). All levels – micro (i.e. individual actors such as customers and suppliers), meso (e.g. legislators, industries) and macro (e.g. society) – of market systems (Battilana and D'Aunno, 2009) comprise institutional arrangements. These overlapping and potentially competing arrangements supply the structures for reconfiguring resource linkages (i.e. decoupling, creation and stabilizing), and thus for heightening resource densities (Storbacka, 2019; Vargo *et al.*, 2015).

Heightened resource density is critical to effective market shaping (Storbacka, 2019). Resource density depends on the “availability and combination of resources that can be integrated in a particular context by the market actors” (Normann, 2001, p. 27) and thus how far an actor can access or mobilize resources at a particular time and in a particular space (Storbacka and Nenonen, 2011). Increasing resource density is an important driver for value creation in market systems, since market actors can draw from and mobilize a broader variety of accessible resources and integrate these resources with their own. The sharing economy, for example, one of the most significant market innovations of the last decade, adheres closely to the idea of increasing resource densities between two or more sides of the market, thereby creating value for all actors in the market system.

Storbacka (2019) argues that undertaking purposive efforts to increase resource density, in other words market shaping, requires grasping the dynamic interplay of the market shaper's deliberate effort (referred to in the institutional literature as institutional work; Lawrence *et al.*, 2009) and the engagement of other market actors. The remainder of this paper will discuss theoretically the dynamics of AE and institutional work for market shaping, beginning with the latter, and illustrate where appropriate with the case of Winding Tree.

### **Market shapers' institutional work**

Institutional work draws on various streams of sociology and institutional theory, including social practice theory (Bourdieu, 1990; Schatzki *et al.*, 2001) and structuration theory (Giddens, 1984). Defined as “the purposive actions of individuals and organizations aimed at creating, maintaining and disrupting institutions” (Lawrence and Suddaby, 2006, p.215), institutional work recognizes the agency of focal actors to affect change in markets intentionally, strategically and creatively (Raviola and Norbäck, 2013). Like the best-laid plans of mice and men though actors' creative and knowledgeable work , can go awry: in this case it may interact with existing social and technological structures in unintended and unexpected ways, so may or may not achieve its desired ends (Lawrence and Suddaby, 2006). However, intentionality goes to the heart of institutional work (Raviola and Norbäck, 2013) – for, true to the word “work”, institutional work inherently involves “actors engaged in a purposeful effort to manipulate the institutional context they operate in” (Phillips and Lawrence, 2012, p. 224).

While most institutional work studies have focused on changes that occur at the organizational micro-level, changes can occur at any institutional level, including the market itself (Baker *et al.*, 2018). Institutional work provides a conceptualization for both institutional change and institutional maintenance (Baker *et al.*, 2020). Inspired by institutional work, Baker and Nenonen (2020) recently coined the concept of market work – the purposeful effort by

market shapers to perform and transform markets. Those authors broaden the understanding of institutional work studies, which typically consider the actions of one focal actor, to this newly defined market work undertaken by collective actors. They thereby contribute to understanding how complex market systems are shaped.

The present paper's review of the institutional work literature uncovered seven types of institutional work with relevance for changing institutional arrangements on a market level: (1) *undermining* the current market leader; (2) *framing (new) meaning* by developing a new ideology and values; (3) *governing and guiding* activities through the creation of new rules and structures; (4) *creating and diffusing* knowledge within the market system; (5) *building legitimacy* to win the support of market actors; (6) *empowering and negotiating* with the network; and (7) *reinforcing the network* to maintain and grow the new market system. A synthesis of the literature can be found in Table 1, building on Baker *et al.* (2020). Now, current literature concurs that institutional work variously concerns the categories of creation, change/disruption and maintenance of institutions and institutional arrangements on various system levels (Baker *et al.*, 2020). However, there is no one definitive list of generic institutional work types (Nenonen *et al.*, 2018) – types of institutional work vary depending on the context and level of analysis. Nor does this catalogue of seven types claim to be definitive. However, the seven can nevertheless usefully be delineated and then grouped under those three broad categories.



**Table 1. Institutional work relevant for market shaping**

Institutional outcomes on market level	Market shapers' institutional work	References
Change/disruption	Undermining Questioning current market leaders	e.g. Lawrence and Suddaby (2006), Micelotta and Washington (2013); similarly, Baker and Nenonen (2020) refer to <i>demonizing</i>
	Framing meaning Developing a new ideology and values	e.g. Helfen and Sydow (2013), Jones and Massa (2013)
Creation	Governing and guiding Creating new rules and systems for doing things	e.g. Lawrence and Suddaby (2006); Lawrence <i>et al.</i> (2013)
	Creating and diffusing knowledge Piloting and experimenting within the market system	e.g. Laukkanen and Patala (2014); similarly, Lawrence and Suddaby (2006) refer to <i>educating</i>
Maintenance	Building legitimacy Ongoing effort to win the support of diverse network partners	e.g. Baker and Nenonen (2020), Zietsma and Lawrence (2010)
	Empowering and negotiating Balancing the complex interplay of negotiating with and empowering market actors to overcome institutional resistance	e.g. Helfen and Sydow (2013); similarly Baker and Nenonen (2020); similarly too, Lawrence and Suddaby (2006) refer to <i>ensuring adherence</i> in this context
	Reinforcing the network Ongoing efforts to maintain and grow the new market system	e.g. Micelotta and Washington (2013); similarly, Lawrence and Suddaby (2006) refer to <i>reproducing</i> existing norms and belief systems

### Market actors' engagement

The concept of engagement captures today's ever-more collaborative and interactive marketplaces, where boundaries between individual customers and organizations blur. Initial conceptualizations of *customer engagement* considered the dyadic interaction between customers and the firm and they defined engagement as the activities customers undertake beyond their traditional roles as buyers and users of market offerings (Jaakkola and Alexander, 2014; van Doorn *et al.*, 2010). While some conceptual approaches concentrated specifically on engagement behaviors, such as customer referrals (e.g. van Doorn *et al.*, 2010), a common

standard emerged recognizing customer engagement as a multidimensional construct with cognitive, affective and behavioral facets (Brodie *et al.*, 2011).

In recent years, the conceptual domain of engagement research has widened by considering roles that more diverse sets of actors such as employees, citizens, and organizations play in engaging within their networks (Alexander *et al.*, 2018; Jaakkola *et al.*, 2019; Storbacka *et al.*, 2016). This “actor-to-actor” perspective on engagement not only acknowledges interactions among multiple actors beyond the dyad, but also reflects the reciprocal, social, and collective nature of engagement (Alexander *et al.*, 2018; Brodie *et al.*, 2019; Kleinaltenkamp *et al.*, 2019). In line with this work, AE is well defined as “a dynamic and iterative process that reflects actors’ dispositions to invest resources in their interactions with other connected actors in a service system” (Brodie *et al.*, 2019, p. 2). Adopting and applying this definition, the present authors agree that AE develops within broader institutional structures and note the interplay between the micro, meso, and macro system levels identified in earlier research (Alexander *et al.*, 2018).

It is the interconnected nature of engagement that is of interest when thinking about the role of AE in market shaping. Engagement manifests through AE behaviors, whereby market actors influence each other’s dispositions and behaviors (Alexander *et al.*, 2018). Engagement behaviors hence systematically contribute to the creation, decoupling and stabilizing of resource linkages and thereby increase resource density and value creation in the market (Jaakkola and Alexander, 2014). For example, when Airbnb guests write reviews of a certain host, in a display of engagement behavior, they integrate their knowledge and experience and other resources and create new resource linkages for the host’s next would-be guests. By engaging in this process, existing guests intensify resource density both on the travel platform and in the market system.

Researchers also note ways engagement is related to institutional arrangements and observe that institutional arrangements both affect, and are affected by, actors' engagement behaviors (Verleye *et al.*, 2014). This means that engagement dispositions are at once shaped by the behaviors of various other actors and shape institutional arrangements (Brodie *et al.*, 2019). For example, in an organizational context (Sharma and Conduit, 2016), clients are invited to participate in strategic design workshops and hence demonstrate co-development engagement behavior (Jaakkola and Alexander, 2014). This behavior shapes institutional arrangements in the form of the organization's strategy and culture, fostering further engagement behavior.

“Zooming out” beyond a micro-level reveals the broader institutional structures that govern engagement (Alexander *et al.*, 2018; Brodie *et al.*, 2019; Kleinaltenkamp *et al.*, 2019). As all actors – customers, customer communities, partners, suppliers, policymakers, and so forth – are embedded in institutional arrangements, all actions by any market actor take place within a larger socio-cultural frame (Baker *et al.*, 2020; Edvardsson *et al.*, 2014). For example, extant engagement research reveals how engagement in online brand communities affects the valence of customer interactions with a brand, besides stimulating community development among customers (Bowden *et al.*, 2017). When an actor engages with a brand community, their disposition regarding what is acceptable and “good” recalibrates to the beliefs and values shared in the community; but, at the same time, that actor also both reinforces and changes such community norms through engagement behaviors (Alexander *et al.*, 2018).

As engagement behaviors (such as augmenting and co-developing offerings or mobilizing and influencing other actors: Jaakkola and Alexander, 2014) facilitate contagion among actors in market systems, new shared sets of rules, knowledge about how to behave, and sets of norms (i.e. new institutional arrangements) form and stabilize (Alexander *et al.*, 2018). The impact of these new institutional arrangements grows with how connected each

actor is to a specific reference group (Brodie *et al.*, 2019; Kleinaltenkamp *et al.*, 2019). Thus, while institutional work initiates the creation, changing or maintenance of institutional arrangements, AE can be viewed as the process that reinforces, diffuses or potentially challenges the institutional work of the market shaper. Consequently, the interplay between the market shaper's institutional work and the AE of other market actors leads to the decoupling, creation and stabilizing of resource linkages in market systems.

While there is evidence of firms purposely, and strategically, initiating and influencing engagement either through engagement marketing (Harmeling *et al.*, 2017), engagement platforms (Breidbach and Brodie, 2017) or through firm-initiated brand community engagement (Brodie *et al.*, 2013), little is known about how engagement can be stimulated, and subsequently unfolds, on a broader market level. Hence, the remainder of this paper makes a first attempt to fuse the process of AE with the market shapers' institutional work and show in a dynamic framework how this combination can lead to the increase in resource density and consequently, market shaping. The case of a blockchain-based, decentralized travel marketplace –Winding Tree – serves to exemplify the paper's conceptual development.

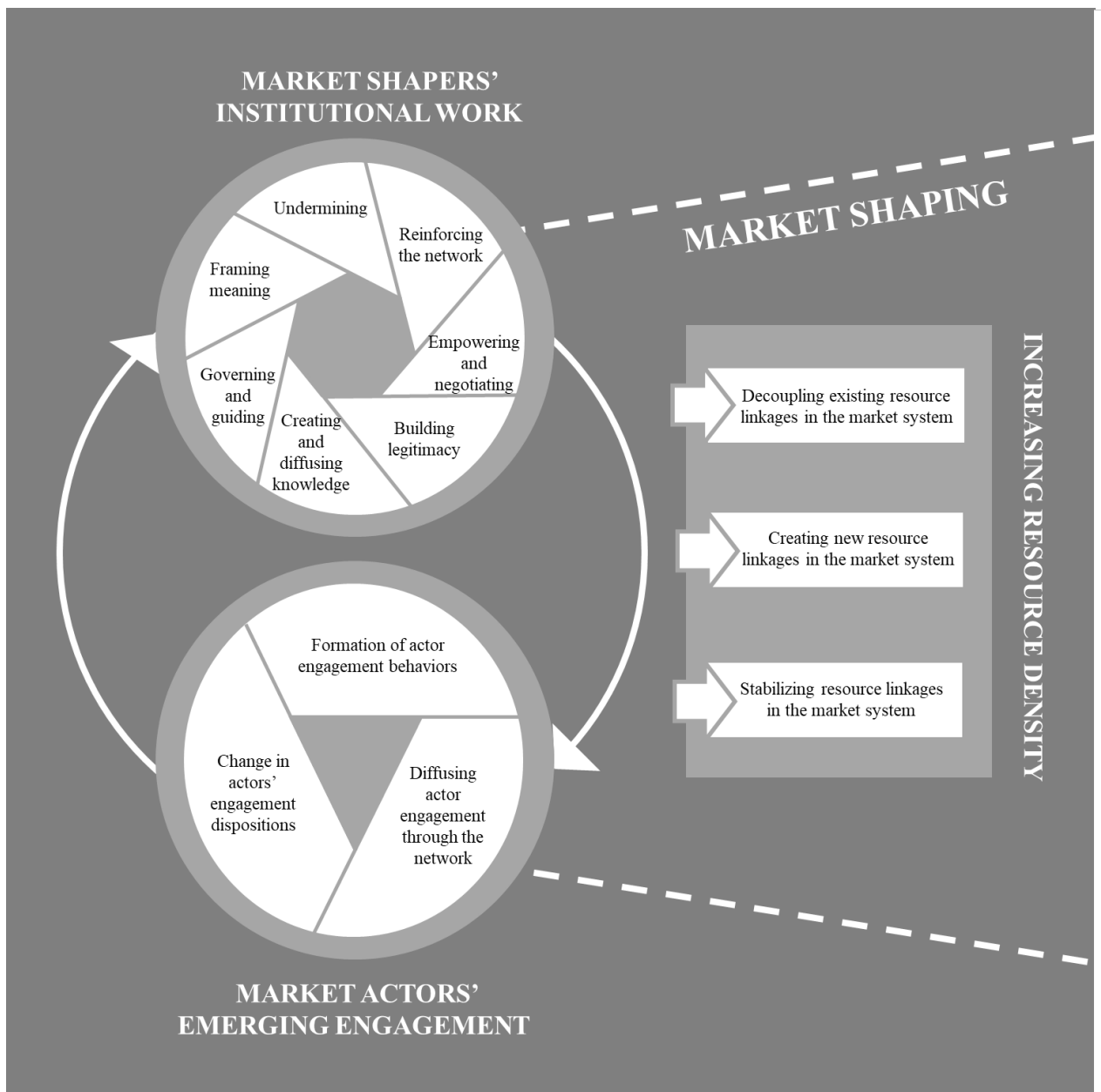
### **Interplay of market shapers' institutional work and market actors' engagement**

The above sections establish that changes in resource configurations leading to increasing resource densities create value in, and shape, market systems. Thus, arguably, the decoupling, creation and stabilizing of resource linkages fundamentally constitute market shaping. Figure 1 illustrates the iterative and dynamic interplay between market shapers' institutional work and the engagement of market actors; an interplay that leads to reconfiguring resource linkages and so to heightened resource density. Identified here, for illustrative purposes, are discrete connections between dimensions of institutional work, AE and increasing resource density in the market. However, it is important to reiterate, that this dynamic interplay may unfold in

multiple ways through multiple feedback loops between market shapers and other engaged market actors, and that during the engagement process those engaged actors may themselves at some point become market shapers.

To unpack this complex dynamic framework, the next three sections respectively detail how decoupling existing resource linkages, creating new ones and stabilizing others can shape market systems based on the interplay of the market shaper's institutional work paired with other market actors' engagement. Tables 2, 3 and 4 accompanying these sections respectively compile key illustrative quotes from the Winding Tree website and other publicly available information support the theoretical argument.

**Figure 1.** *Dynamic framework for market shaping: Interplay of market shapers' institutional work and market actors' engagement*



*Illustrative case: Winding Tree (windingtree.com)*

The Winding Tree, a decentralized blockchain-based marketplace for the travel industry, makes an ideal context for demonstrating the dynamics of market shaping as they relate to the interplay of AE and institutional work. The Winding Tree is the first public blockchain-based, open-source marketplace for travel services, and aims to make travel cheaper for consumers and more profitable for suppliers such as airlines, hotels, and tour operators and for sellers (travel agencies). It consists of sets of smart contracts developed on the blockchain Ethereum. Holders of Lif coins, the marketplace's cryptocurrency, can participate in further developing those contracts. Suppliers like hotels get to put information about their availability and price in the blockchain (database), where travel agencies can easily discover it then buy that inventory and pay for it instantly, again with Lif. All interactions are designed to operate without human intervention. A detailed map of Winding Tree's milestones to shape their blockchain-based marketplace, along with other pertinent information and sources for mentions below, can be found in Appendix A.

*Decoupling existing resource linkages in the market system*

Market shapers often start with the goal of shifting the balance of institutional (and market) power (Micelotta and Washington, 2013). The Winding Tree case makes plain how established resource linkages in the travel marketplace were disrupted to shift the balance in market power. This decoupling effect is illustrated by quotes in Table 2. With their whitepaper and various blog entries, Winding Tree argued that the travel industry is dominated by a handful of powerful platforms, such as Booking.com and Expedia. Hence, the argument ran, Winding Tree would cut out middle men in the travel market, with the decentralized network purposively *undermining* current market leaders (Micelotta and Washington, 2013).

Further, by questioning the existing structure, pricing, and revenue system of the travel industry, Winding Tree (re)frames the meaning of established resource linkages, namely with the existing travel platforms. *Framing (and reframing) meaning* are core institutional work efforts, extensively researched (e.g. Helfen and Sydow, 2013; Jones and Massa, 2013). Undermining the market leaders and reframing the meaning and value system of the travel industry have changed the engagement dispositions of dozens of airlines and hotel brands; they decided to join forces to weaken existing structures and “retake” the industry (a word ringing with democratic appeal), using a public blockchain technology, open source and decentralized structures. This *change in actors’ engagement dispositions* leads to the *decoupling of existing resource linkages in the market system* such as between hotels and platform providers like Booking.com, which opens up potential for disruptive market innovation and greater resource density.

**Table 2.** *Decoupling existing resource linkages in market system*

<b>Market shapers’ institutional work</b>	<b>Market actors’ engagement</b>	<b>Effect on increasing resource density in the market system</b>
<p><b>Undermining</b> Questioning current market leaders</p> <p><i>“In a decentralized travel distribution system, for example, there is no room for rent-seeking intermediaries, therefore the wealth they are currently hoarding will be distributed to the rest of the network, making travel cheaper for travelers and more profitable for travel companies.” (Izmaylov, 2017)</i></p> <p><b>Framing meaning</b> Developing a new ideology and values</p> <p><i>“only open collaborations not for money but for innovations can make real fundamental changes in the world” (Jain, 2019)</i></p>	<p><b>Change in actors’ engagement dispositions</b></p> <p><i>“Dozens of airlines and hotel brands are joining forces to retake their industry with blockchain.” (Munro, 2019)</i></p>	<p><b>Decoupling existing resource linkages in market system</b></p> <p><i>“Today, booking an international flight involves a multi-currency transaction which can span a handful of countries for a simple flight [...] A single booking can involve more than five currency trades for a simple flight if third-party insurance or a car rental is added to a booking at checkout. Winding Tree solves this problem by using blockchain technology to remove extensive currency conversion from the travel booking process”. (Izmaylov et al., 2017, p.7)</i></p>



### *Creating new resource linkages in the market system*

Creating new linkages to make resources denser in the market system is arguably the central driving force for any market shaper's efforts (Nenonen *et al.*, 2019; Storbacka, 2019). New resource linkages are built on the connections of actors in the market system and how these actors engage with one another, regardless whether the connections involve formal (e.g. hierarchical or contractual) or informal (non- or low-hierarchical) ties. All actors in the market system depend on and benefit from the resource integration that accompanies AE behaviors (Alexander *et al.*, 2018; Brodie *et al.*, 2019). However, for AE behaviors to form takes a certain degree of coordination or governance. The Winding Tree case highlights the market shaper's role in facilitating the formation of AE behaviors, again as illustrated by quotes in Table 3.

The decentralized infrastructure and new cryptocurrency developed by Winding Tree offer fresh ways of *governing and guiding actors* in their actions in the market system (Lawrence and Suddaby, 2006; Lawrence *et al.*, 2013). For example, through the initial coin offering (ICO) of Lif tokens, a "crowd" of ordinary people was invited to engage with Winding Tree by funding the decentralized network and thereby becoming "token holders" (i.e. shareholders). Winding Tree, iteratively, was responsible for *creating and diffusing knowledge* about the blockchain and how the blockchain functions in the network (Laukkanen and Patala, 2014) and thereby created explicit procedures, which allowed the *formation of actor engagement behaviors*. For example, Winding Tree initiated experiential events, such as hackathons – a design-sprint event for software developers to collaborate intensively on software projects – to host blockchain developers from major airlines and hotel chains to try out and further develop this decentralized form of the technology.

The Winding Tree hackathon brought together major airlines, developers, and startups to collaborate on shared solutions for the first time. The participants built a joint language and vocabulary by openly exchanging expertise, giving feedback, and refining each other's hacks

with fresh perspectives, communicating freely in the spirit of open innovation. Efforts like this not only created new resource linkages in the market system that *increased resource density* between various market actors but also established Winding Tree as the platform in the travel industry. Etihad airlines, for example, the flag carrier of United Arab Emirates, frankly declared their desire to disrupt traditionally siloed and dominated travel markets by experimenting with other airlines on the back of Winding Tree's support.

By letting travel agencies, airlines and hotels engage, Winding Tree as a platform *builds legitimacy* in the new market system, another core effort discussed in the institutional work literature (Zietsma and Lawrence, 2010). Winding Tree won the support of central players in the travel industry early in the process and experimented together with these companies to advance new institutional arrangements, notably its blockchain technology and the decentralized marketplace. The Winding Tree platform created engagement touchpoints for software developers, startups, evangelists, suppliers and sellers of travel services – and an open source environment for AE behaviors to form. While Winding Tree means different things to different actors, what is unambiguous is that the engagement platform provided by Winding Tree as a market shaper facilitates these new meanings (i.e. the development of new shared institutional arrangements) (Storbacka *et al.*, 2016).

*Creating new resource linkages in the market system* thus flows from the formation of new or modified engagement behaviors between market actors. These engagement behaviors are coordinated through the market shaper (e.g. developer platform, hackathon), and aligned through new institutional arrangements (e.g. co-working agreements between competitors).

**Table 3. Creating new resource linkages in market system**

<b>Market shapers’ institutional work</b>	<b>Market actors’ engagement</b>	<b>Effect on increasing resource density in the market system</b>
<p><b>Governing and guiding</b> Creating new rules and systems for doing things</p> <p>Winding Tree develops completely new infrastructures and exchange mechanisms for hotels, airlines, tour organizers and travel agencies to connect, “supported by the organizations and individuals that will use them. Therefore we [The Winding Tree] will raise money via a token sale as opposed to funding from traditional investors” (Laval, 2017)</p> <p><b>Creating and diffusing knowledge</b> Piloting and experimenting within the market system</p> <p>“The Winding Tree Hackathon is your platform to experiment with what the future of travel tech will look like. It’s the time and the place to question how things have been done in the past and to look for fundamentally better ways” (Berezovska, 2018)</p> <p><b>Building legitimacy</b> Ongoing effort to win the support of diverse network partners</p> <p>Winding Tree established partnerships with leading players in the travel industry, such as Lufthansa, Swiss, Air New Zealand, Eurowings and Nordic Choice Hotels.</p> <p>Further, Winding Tree got significant financial support from a crowd of early adopters through the initial coin offering (ICO).</p>	<p><b>Formation of actor engagement behaviors</b></p> <p>“Winding Tree’s platform is open source, which means any entity can deploy the technology and get access to the infrastructure.” (Dyson, 2019)</p> <p>“Winding Tree is obviously our distribution (platform) and that’s an opportunity for us to disrupt a traditionally siloed market dominated by major distribution systems,” Tristan Thomas, Etihad’s director of digital and innovation” (Chavez-Dreyfuss (2019)</p>	<p><b>Creation of new resource linkages in market system</b></p> <p>“Winding Tree, fundamentally, enables the conditions for the perfect competition of travel suppliers and provide[s] perfect information to buyers. This will impact current market players and create new businesses built on top of the Winding Tree platform.” (Izmaylov et al., 2017, p.7)</p> <p>“The problem with the travel space is that it’s not a very attractive place for developers. It’s a lot of old school systems,” Anderson continued. “This exciting \$7 trillion industry that was previously uninteresting and unappealing to anybody in the tech space is now opening up for developers because it’s becoming an open and innovative environment... that is already appealing to developers – being able to enter the travel space, which wasn’t possible before.” (Munro, 2019)</p>

### *Stabilizing resource linkages in the market system*

An institutional work perspective on market shaping promotes viewing market change processes from multiple system levels, across micro, meso and macro levels of aggregation (Wieland *et al.*, 2017). Switching foci between micro (i.e. individual market actors), meso (e.g. industries and industry regulators), and macro levels (e.g. society) can help one understand the complexities of market systems, consisting as they do of adaptive and dynamic institutional change processes. The Winding Tree case illustrates this complexity. On a micro level, for example, by decoupling established resource linkages from established travel platforms, Winding Tree changes the engagement dispositions of individual hotels and travel agencies. Still at the micro-level, activities like the hackathons form AE behaviors amongst software developers and other actors. On a meso-level, Winding Tree encourages AE *diffusion* by setting new industry standards. Based on these, competitors agree to co-develop new solutions. Finally, on a macro-level Winding Tree's efforts to establish and legitimize blockchain technology spur international governments, airports and airlines to engage in a broader, societal institutional change by further developing blockchain technology and decentralized governance for the future of tourism.

Recent research on institutional work emphasizes the holistic view of institutional processes and the complex interplay between institutional change, creation and maintenance to overcome institutional resilience (Lawrence *et al.*, 2013). The latter poses a crucial challenge for market shapers. Among others, Helfen and Sydow (2013) suggest that balancing the complex interplay between *empowering and negotiating* with market actors on various system levels is critical to attacking existing path dependencies and institutional resilience. While market shapers can no more change institutional arrangements alone than can any other sole actors, they can engage allies by communicating their visions for new ways of integrating resources and value creation practices in the market system (Vargo *et al.*, 2020). Winding Tree

relies on shared understandings of enrolled and engaged allies in order to perform institutional work. For example, it constantly empowers not only blockchain developers and potential holders of Lif tokens, but also the wider public to actively engage in the technological blockchain development and the evolution of decentralized market systems. This advances all market actors' tacit and explicit skills and know-how on engaging in the new marketplace.

Micelotta and Washington (2013) stress the importance of *reinforcing the network* and capture both efforts: *change and maintenance* of institutions. On this note, through their TED talks and podcasts, the founders of Winding Tree respond to unsolved issues about their blockchain technology. By themselves reflecting critically on the technology and its current development stage they evince openness and thus somewhat paradoxically breed trust and credibility, which are integral to *diffusing actor engagement through the network*. Because he trusts Winding Tree, Christian Lunden, Director of Future Business at Nordic Choice Hotels, is emphatic that the hotel group is looking forward to continuing to educate the industry about the importance of incorporating blockchain technology into the space. Such ongoing efforts of reinforcing, negotiating and empowering market actors' engagement are central to increasing resource density on all levels of the market system, as illustrated by the quotes in Table 4.

**Table 4. Stabilizing resource linkages in the market system**

<b>Market shapers’ institutional work</b>	<b>Market actors’ engagement</b>	<b>Effect on increasing resource density in the market system</b>
<p><b>Empowering and negotiating</b> Balancing the complex interplay of negotiating with and empowering market actors to overcome institutional resistance</p>	<p><b>Diffusing actor engagement through the network</b></p>	<p><b>Stabilizing resource linkages in the market system</b></p>
<p>Winding Tree constantly empowers blockchain developers, potential shareholders of Lif tokens, but also the wider public to actively engage in the technological blockchain development</p>	<p><i>“Meanwhile, international governments, airline companies, and airports are starting to adopt blockchain technology”</i> (Tokenpost, 2019)</p>	<p><i>“Suppliers will have the option to set a default referral commission if they wish to do so. If a referral fee is set, any individual who refers a customer to the supplier will automatically receive the referral amount set by [the] hotel. Hotels can also set up individual referral rates for different entities if they wish to do so. Winding Tree will be deployed on the Ethereum blockchain and may be deployed on several other blockchains in the future, which guarantees 100% uptime.”</i> (Izmaylov et al., 2017, p.5)</p>
<p><b>Reinforcing the network</b> Ongoing efforts to maintain and grow the new market system</p> <p>Winding Tree constantly works on improving the platform and the platform-based market place. <i>“About 100 companies have already signed up to build applications on Winding Tree, and those companies will receive guidance and participate in troubleshooting for the platform.”</i> (Deluna, 2018)</p>	<p><i>“We’re really excited to be the first hotel to jump onto the blockchain bandwagon, showing real customer use of decentralized technology,” says Christian Lunden, Director of Future Business at Nordic Choice Hotels. “The ability to make reservations on a public blockchain is a huge achievement, and we’re looking forward to continuing to educating the industry about the importance of incorporating blockchain technology into the space.”</i> (Ledger Insights, 2019)</p>	

**Theoretical implications and areas for further research**

Taking the perspective that markets are socially constructed by interacting market actors, this paper contributes to the emerging stream of literature on market shaping and market innovation. The article conceptualizes the dynamic interplay between market shapers’ deliberate efforts to manipulate their institutional context on the one hand, and the engagement of other market actors in this process on the other as the interplay between the two crucially intensifies resource density. Doing so yields a correspondingly dynamic, iterative framework for market shaping.

Specifically, by building on the recognition of markets as dynamic systems that can be formed and re-formed (Nenonen *et al.*, 2014; Nenonen *et al.* 2019), the authors conceptualize AE as a key way for markets to evolve and change, supported by institutional work (Baker *et al.*, 2020). The conceptualization, and the illustration of it through the Winding Tree case, turn on appreciating the engagement processes of versatile market actors: In concert with other actors, market shapers create, decouple and stabilize resource linkages in market systems. As these new resource linkages evolve they make access to resources denser and thus markets can be shaped. This paper complements Baker and Nenonen's (2020) recent case study on market work. That study broadens the understanding of institutional work from the typical spotlight on the actions of one focal actor, to, as it were, a more "floodlit" stage of market work undertaken by collective actors, and thus sheds light on the emergent and iterative process of engaging them.

The dynamic framework distilled above from the literature review reveals seven types of institutional work of particular import to influencing institutional arrangements in market systems. To recap, the seven are: undermining current market leaders, (re)framing meaning, governing and guiding collective action of market actors, creating and diffusing knowledge, building legitimacy in the market, empowering and negotiating with the network, and reinforcing the network. Arguably, an institutional view of markets emphasizes ongoing adjustments and reconciliation processes of the market shaper's institutional work and the engagement of other market actors. Note that not only firms, but all market actors may, at some point during the process of engagement, become market shapers. The illustrative case used here, the Winding Tree decentralized travel marketplace, epitomizes the interplay between institutional work by the market shaper – namely the Winding Tree founders, who industriously produced whitepapers, blogs, a hackathon and so on – and the fruits of that labour in the other actors they induced to engage in creating, decoupling and stabilizing resource linkages.

Together they made the market system more resource-dense. To the current understanding of AE in networks (Brodie *et al.*, 2019) these insights add a more nuanced view of stimulating other market actors to engage on all levels of the market system.

These contributions now offer a foundation for extensive future research opportunities. Four main potential research areas emerge in the sections below, which should be read with Table 5. In particular, they invite research that 1) further elaborates on institutional work and how to operationalize it in market systems, 2) the multi-level perspective of AE and how to model dynamic engagement processes, 3) the influence of engagement on increasing resource density and more general, 4) actor-to-actor approaches to market shaping.

#### *Research Area 1: Exploring and testing institutional work to shape markets*

Developing a broader systemic and dynamic perspective on market formation requires new frameworks, classifications, and measurement tools. Research in market shaping is embryonic, and discussion on institutional work for market shaping only just beginning. The seven types of institutional work to facilitate market shaping via AE lay a foundation for research to conceptually extend and empirically examine the greater conceptual framework proposed here. However, the seven types do not claim to be exhaustive. Analysis in other market shaping contexts may turn up fresh types of institutional work and there remains an opportunity to empirically examine and test these categories and their effect on market shaping.

Furthermore, existing institutional work studies mainly concentrate on changes at an organizational micro-level (Baker *et al.*, 2018). The present paper suggests that institutional work can foster AE on any market system level, be it micro, meso or macro. Hence, scholars may want to explore alternative research frameworks that expand the perspective from validating markets to shaping markets (Nenonen *et al.*, 2018) as well as to account for institutional change on various system levels.



### *Research Area 2: Exploring market shaping through AE on multiple levels of market systems*

A multi-level perspective of market shaping is not only the overture to a new discussion about measurement frameworks; it also requires alternative ways to conceptualize and explore the dynamic and iterative process of AE in market systems. Responding to Brodie *et al.*'s (2019) call for further investigating the dynamic and iterative process of AE on a system level, this article has conceptualized and illustrated that market shapers need to engage allies on many system levels, including for instance other companies, communities, and governments, to collectively drive market change. For example, the founders of Winding Tree received substantial support from a broad sweep of market actors numbering among them hotels, airlines, developers, the wider public, and governments, because they intentionally brought diverse and influential groups like thought-leading bloggers and developers into the tent with events like a hackathon, TED talks and keynote speeches to name a few. These broad-based and multi-level efforts at performing institutional work assume special importance when strong forces oppose new market practices and new technology like Winding Tree's blockchain technology.

Systematically oscillating one's focus on AE between the micro, meso and macro level can help both scholars and practitioners discern the complexities of disrupting, creating and maintaining institutions. There is potential for further investigating how AE diffuses across system levels and how market shapers engage and "recruit" other actors and new market shapers, to collectively drive market change and market innovation.

### *Research Area 3: Exploring increasing resource densities in markets*

Extending the work on market shaping by Nenonen *et al.* (2019) and Storbacka (2019), the dynamic framework above offers a nuanced view on creating new resource linkages. In particular, it proposes three ways of increasing resource density in the market: creating new

resource linkages; decoupling existing resource linkages, for example, by undermining existing partnerships with the market leader; and stabilizing resource linkages to create trust and credibility in the market system. In future, significant contributions could be made in advancing knowledge about the interplay between decoupling, creating, and stabilizing resource linkages in market systems. Furthermore, the potential conflicts and barriers in the way of creating new linkages make intriguing avenues for further research. More generally, the process of increasing resource density and value creation in market systems deserves reflection and exploration.

#### *Research Area 4: Developing an actor-to-actor approach to market shaping*

Finally, as the conceptual understanding of market shaping grows by considering institutional work and AE together, it must draw from a wider array of theories that underpin an actor-to-actor perspective and systemic thinking. These include neo-institutional theory, institutional work, and service-dominant logic. Scholars could very fruitfully continue using systemic theoretical frameworks to better comprehend AE and networks in market shaping. Such frameworks might include practice theory (Bourdieu, 1990), complexity theory (Anderson, 1999), systemic design theories (Buchanan, 1992; Sevaldson, 2017; Windahl *et al.*, 2020), structuration theory (Giddens, 1984), and entrepreneurial theories (Sarasvathy, 2001). This paper has argued that the market shaper undertakes institutional work and induces other actors to engage. It stresses that not only focal firms can be market shapers; indeed, every actor who engages is partially responsible for the market being shaped. Consequently, future research should elaborate on the role of other actors including customers, activists, citizens, social collectives, governments, and others in shaping markets. Table 5 summarizes relevant research questions of the four research areas.

*Table 5: Future Research Agenda*

<b>Research Areas:</b>	<b>Research Questions:</b>
<b>Research Area 1: Exploring and testing institutional work to shape markets</b>	<ul style="list-style-type: none"> <li>▪ What additional types of institutional work can be found in other contexts of market shaping?</li> <li>▪ How can the impact of different institutional work efforts on market shaping be operationalized and tested?</li> <li>▪ How can measurement frameworks be integrated and broadened to benchmark for market shaping (as opposed to market validation)?</li> <li>▪ How can these frameworks be designed to account for institutional change on various levels of the market system?</li> </ul>
<b>Research Area 2: Exploring market shaping through AE on multiple levels of market systems</b>	<ul style="list-style-type: none"> <li>▪ How does AE diffuse across system levels? And how can this contagion of engagement be coordinated and funneled towards market shaping?</li> <li>▪ What degree of formality (i.e. contracts, industry standards, defined processes, etc.) best supports diffusing AE?</li> <li>▪ How can market shapers engage and “recruit” new market shapers, i.e. allies, such as other companies, communities, and the government to collectively drive market change?</li> </ul>
<b>Research Area 3: Exploring increasing resource density in market systems</b>	<ul style="list-style-type: none"> <li>▪ When do resource linkages have to be decoupled, created or stabilized in order to increase resource density? And what is the right timing for it?</li> <li>▪ What are the conflicts and barriers when creating new resource linkages?</li> <li>▪ When do resource linkages become useful for market shaping?</li> </ul>
<b>Research Area 4: Developing an actor-to-actor approach to market shaping</b>	<ul style="list-style-type: none"> <li>▪ How do other actors, including customers, activists, citizens, communities, governments, etc. shape markets?</li> <li>▪ If all actors engage in institutional work to shape markets, what does the dynamic interplay of these actors look like? When do engaged actors become market shapers?</li> <li>▪ How can theoretical frameworks, including practice theory, service-dominant logic, complexity theory, design theories, structuration theory, sociology of technology and entrepreneurial theories further inform an actor-to-actor perspective in market shaping?</li> </ul>

## **Practical implications**

This study provides new insights for managers, entrepreneurs and policymakers aiming to shape markets, including those involved in radical and deep-tech innovations, where, problematically, existing engagement behaviors of market actors must yield before new technologies can be adopted. Rather than taking markets for granted, the article has argued that markets can be shaped through the purposive actions of entrepreneurs and innovators (Gosling *et al.*, 2017; Nenonen *et al.*, 2019; Mele *et al.*, 2014), if these purposive actions suitably alter other market actors' engagement dispositions and behaviors. Major consequences flow for the normative tools and methods used to evaluate market potential. Thus, practitioners need to modify how they evaluate markets to more deeply comprehend iterative and dynamic processes that foster engagement, rather than purely assessing existing market potential.

Further, accepting that markets are shaped suggests that markets and AE are in a constant state of flux. While institutional work can help channel this flux (Lawrence and Suddaby, 2006), it cannot be "managed". Thus, strategies for operating successfully in evolving markets have to be highly dynamic and agile. They must allow for feedback between market actors' engagement and market shapers' actions. Finally, the proposed analytical catalogue of seven institutional work types takes on practical application as a portfolio and equips would-be market-shaping practitioners with tangible and actionable insights into how to enact institutional change by undermining existing structures, by knowledge creation and diffusion, and by developing networks and building legitimacy in their market systems.

## **Conclusion**

Contemporary business environments, digital economies, sharing economies and present and potential future blockchain economies have intensified the need to reconceptualize our view of markets and how they form and re-form. This conceptual paper has introduced a dynamic

market shaping framework building on the interplay of market actors' institutional work and AE: how such deliberate efforts of the market shaper trigger engagement processes of other market actors to collectively drive market change. This framework draws from, and extends, recent works that describe markets as malleable, emergent and dynamic (Baker *et al.*, 2018; Gosling *et al.*, 2017; Nenonen *et al.*, 2019). The holistic framework here underlines that institutional work and AE are fundamental means to decouple existing resource linkages, create new ones, and stabilize others and thereby increase resource density and value creation in market systems.

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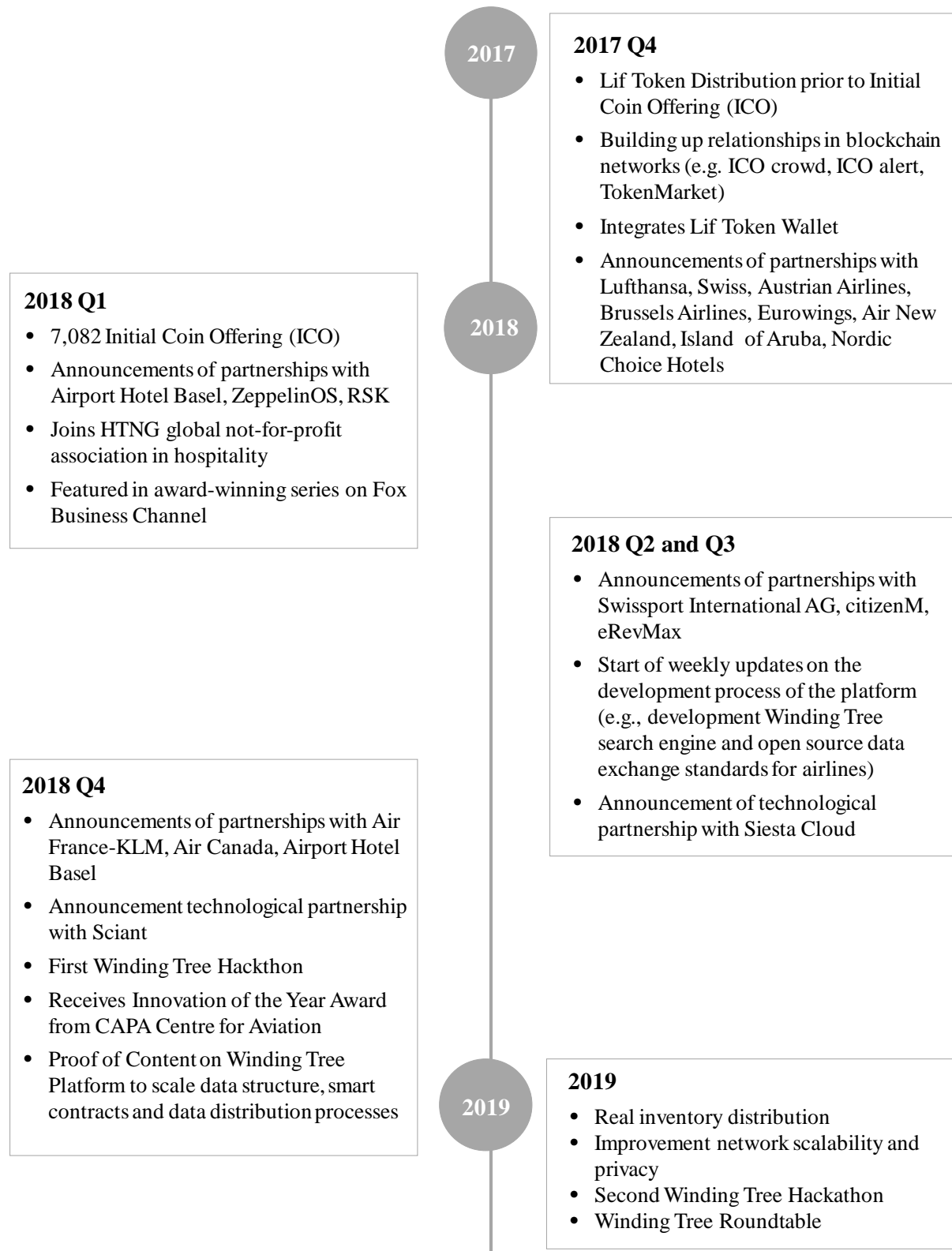
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## Appendix A

### Winding Tree milestones



### **Winding Tree partnerships and activities:**

- **Lufthansa** agrees to participate in the pre-sale of Winding Tree's cryptocurrency [Lif](#)
- **Air New Zealand** collaborates to improve booking and pre-booking operations and invests in ICO
- Island of **Aruba** collaborates to connect tourists directly with local travel suppliers
- **Nordic Choice Hotels** (Stockholm) participates in the pre-sale of Winding Tree's cryptocurrency [Lif](#) and tests open-source blockchain distribution platform
- Collaboration with **Jaxx Wallet** to integrate the [Lif](#) token wallet
- Winding Tree joins **Hospitality Technology Next Generation (HTNG)** not-for-profit organization
- Collaboration with **Airport Hotel Basel, citizenM Boutique hotels, Airport Hotel Basel** in order to integrate blockchain technology into hospitality system
- Winding Tree collaborates with **ZeppelinOS**, an open framework of smart contracts and **RSK**, an open-source smart contract platform powered by the **Bitcoin network**
- Collaboration with **Swissport International AG**, the global leader in airport ground services and air cargo handling
- Collaboration with the travel and hotel distribution systems **eRevMax** and **Siesta Cloud**
- Collaboration with **Air Canada** and **Air France-KLM** to give blockchain-savvy users the ability to access airline content directly from the source
- Technological partnership with **Sciant**, a software outsourcing provider that focuses on travel technology
- Winding Tree hackathon in Prague bringing together all airlines, hotels, industry experts, travel startups and blockchain enthusiasts to further develop the blockchain

### **Winding Tree social media:**

- Facebook (7096 Followers)
- Twitter (5091 Readers)
- Telegram (2348 Members) and Official Winding Tree Chat
- Blog Winding Tree at Medium Community platform <https://blog.windingtree.com> (1.7k Followers)
- Reddit (932 Subscribers)
- Youtube (531 Subscribers)
- GitHub (largest software developer community): regular posts

### **Winding Tree online publications / press releases / podcasts / TED talks:**

- Winding Tree website <https://windingtree.com>
- Winding Tree white paper [https://cryptorating.eu/whitepapers/Winding-Tree/WT\\_OP\\_ENG.pdf](https://cryptorating.eu/whitepapers/Winding-Tree/WT_OP_ENG.pdf)
- [Skift](https://skift.com/2017/08/07/channel-shock-the-future-of-travel-distribution/?utm_content=buffer1f4a&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer) (largest industry intelligence platform in travel industry) [https://skift.com/2017/08/07/channel-shock-the-future-of-travel-distribution/?utm\\_content=buffer1f4a&utm\\_medium=social&utm\\_source=twitter.com&utm\\_campaign=buffer](https://skift.com/2017/08/07/channel-shock-the-future-of-travel-distribution/?utm_content=buffer1f4a&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer)
- [TNW](https://thenextweb.com/money/2017/09/08/1075124/?utm_content=buffer16bae&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer) media [https://thenextweb.com/money/2017/09/08/1075124/?utm\\_content=buffer16bae&utm\\_medium=social&utm\\_source=twitter.com&utm\\_campaign=buffer](https://thenextweb.com/money/2017/09/08/1075124/?utm_content=buffer16bae&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer)
- [Blockchain News](https://www.the-blockchain.com/2017/09/08/blockchain-travel-manuel-araoz-joins-winding-trees-efforts-decentralize-travel-industry/?utm_content=buffer780c8&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer) [https://www.the-blockchain.com/2017/09/08/blockchain-travel-manuel-araoz-joins-winding-trees-efforts-decentralize-travel-industry/?utm\\_content=buffer780c8&utm\\_medium=social&utm\\_source=twitter.com&utm\\_campaign=buffer](https://www.the-blockchain.com/2017/09/08/blockchain-travel-manuel-araoz-joins-winding-trees-efforts-decentralize-travel-industry/?utm_content=buffer780c8&utm_medium=social&utm_source=twitter.com&utm_campaign=buffer)
- *Forbes* <https://www.forbes.com/sites/francistapon/2018/02/12/what-winding-trees-ico-and-its-blockchain-based-technology-mean-to-the-travel-industry/#30139ac344dc>
- *Financial Times* <https://www.ft.com/content/06bb9a76-c7b7-11e8-ba8f-ee390057b8c9>
- [PhocusWire](https://www.phocuswire.com/Air-France-KLM-takes-the-Winding-Tree-road) <https://www.phocuswire.com/Air-France-KLM-takes-the-Winding-Tree-road>

- <https://www.finder.com.au/inside-the-blockchain-coup-at-the-heart-of-the-travel-industry>
- [Travel Pulse https://www.travelpulse.com/news/travel-technology/tiny-start-up-seeks-to-reinvent-travel-distribution.html?utm\\_content=60880083&utm\\_medium=social&utm\\_source=twitter](https://www.travelpulse.com/news/travel-technology/tiny-start-up-seeks-to-reinvent-travel-distribution.html?utm_content=60880083&utm_medium=social&utm_source=twitter)
- <https://www.finder.com.au/inside-the-blockchain-coup-at-the-heart-of-the-travel-industry>
- <https://uk.reuters.com/article/us-blockchain-airlines-etihad/emirates-etihad-partners-with-swiss-blockchain-platform-winding-tree-idUKKCN1UY2A9>
- <https://www.ccn.com/future-flight-air-new-zealand-experimenting-ethereum-blockchain/>
- [Future Tech Podcast https://www.futuretechpodcast.com/podcasts/pedro-anderson-coo-of-winding-tree-a-decentralized-open-source-blockchain-platform-for-the-travel-industry/](https://www.futuretechpodcast.com/podcasts/pedro-anderson-coo-of-winding-tree-a-decentralized-open-source-blockchain-platform-for-the-travel-industry/)
- <https://www.ledgerinsights.com/winding-tree-air-france-air-canada-public-blockchain-hotel-booking/>
- <https://buyingbusinesstravel.com/news/winding-tree-completes-blockchain-hotel-booking/>
- <https://tokenpost.com/Etihad-Airways-to-integrate-Winding-Trees-blockchain-platform-2968>
- <https://tokenpost.com/Etihad-Airways-to-integrate-Winding-Trees-blockchain-platform-2968>
- Live sessions <https://www.youtube.com/watch?v=bcRbpFjn07A>
- TED Talks and Public Tech Talks (TEDxTUBerlin, Phocuswright Europe 2018, Amsterdam)  
<https://www.youtube.com/watch?v=rg2CXiK7Jw4>  
<https://www.youtube.com/watch?v=35Q-yX7Z4jM>
- Fox TV Channel <http://www.prweb.com/releases/2018/03/prweb15336928.htm>
- Winding Tree Hackathon <https://blog.windingtree.com/hacktravel-hackathon-recap-feacb65cc47d>
- Workshops on blockchain distribution <https://blog.windingtree.com/2018-q2-roundup-18ca0cef7603>

## **Winding Tree conferences and events:**

In 2018 the Winding Tree team participated in or gave 40+ talks on decentralized distribution at major technology events, including:

- London Blockchain Week (London, UK)
- TNABC, The North American Bitcoin Conference
- HOTCO, Hotel Investment Conference (Budapest, Hungary)
- Hamburg Aviation Conference (Hamburg, Germany)
- Bitcoin Super Conference (Irving, Texas, US)
- ITB Berlin (Berlin, Germany)
- SXSW & Crypto Summit (Austin, TX, US)
- HT NEXT (San Diego, CA, US)
- EyeForTravel (San Francisco, CA, US)
- Blockchain for Travel (Mallorca, Spain)
- OffDevcon (Prague, Czech Republic)
- Future Blockchain Summit (Dubai, UAE)
- Phocuswright Europe (Amsterdam, Netherlands)
- Onyx Future Source (Dallas, TX, US)
- CAPA Airline Leader Summit (Dublin, Ireland)
- Travel Disruption Summit (New York, US)
- Blockchain For Travel (Mallorca, Spain)
- TEDxTUBerlin (Berlin, Germany)
- EyeForTravel Europe Show (London, UK)
- Travel Tech Con 2018 (San Francisco, CA, US)
- Pycon CZ (Prague, Czech Republic)
- HEDNA Europe (Lisbon, Portugal)
- EMERCE eTravel (Amsterdam, Netherlands)
- Travel Tech Con 2018 (San Francisco, CA, US)