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**Social contagion of online and offline deviant behaviors
and its value outcomes:
The case of tourism ecosystems**

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Social contagion of online and offline deviant behaviors and its value outcomes: The case of tourism ecosystems

Abstract

Using tourism as an illustrative case, this conceptual article contributes to deviant behavior literature by considering the interrelationships between online and offline deviant behaviors and their contagion to other actors. Drawing from institutional theory, we argue an actor's behavior is deviant if others view it as violating the law, social norms, organizational policies, and/or disrupting functional experiences. We conceptualize, via propositions, how an actor's online (offline) deviant behavior may generate further actors' offline (online) deviant behaviors through social contagion and how such aggregated behaviors may cause behavioral adaptations among other actors. We contribute to value co-creation/co-destruction literature by considering the impact of deviant behaviors at an ecosystemic level. Contagious behaviors and further behavioral adaptations may cause value co-creation *and* value co-destruction, since actors may not share the same institutional arrangements affecting value perceptions. We provide a more nuanced, dynamic appraisal of value outcomes than the 'either/or' value co-creation/value co-destruction dichotomy.

Keywords: Value co-creation and value co-destruction; Online deviant behavior; Offline deviant behavior; Institutions; Social contagion; Ecosystems

Paper type: Conceptual paper

1. Introduction

Online and offline worlds are tightly intertwined (Sevitt and Samuel, 2013). The actors of an ecosystem (e.g. firms, consumers, public bodies) switch back and forth between online and offline settings in an increasingly seamless manner to perform value co-creation activities through service exchanges (Lemon and Verhoef, 2016; Sigala, 2016; Verhoef et al., 2007). Deviant behaviors (i.e. behaviors that are perceived as accidentally or intentionally violating the law, social norms, organizational policies, and/or disrupting others' functional experiences) are widespread in both settings and affect the value outcomes of at least some of the actors involved in the transaction (Fullerton and Punj, 1997; Harris and Daunt, 2011; Harris and Dumas, 2009; Sigala, 2017).

Considering the commonplace nature of seamless transitions between online and offline worlds and of interactions taking place concomitantly in online and offline settings, we investigate four topics. First, we explore the interrelationships between actors' online and offline deviant behaviors. Second, we study the propagation of these behaviors (i.e., the conditions under which deviant behaviors can be contagious). Third, we consider the reactions of actors at other levels (micro, meso, macro) of an ecosystem, studying the conditions under which contagious deviant behaviors can generate the behavioral adaptation (changes that aim to counteract a deviant behavior's consequences) of other actors at other levels. Fourth, we investigate the impact of these phenomena on value outcomes (i.e., how these dynamics may result in positive outcomes, namely value co-creation, and/or negative outcomes, namely value co-destruction, for some or all actors involved in the ecosystem). To illustrate the pertinence of these questions in tourism ecosystems, let us consider a tourist visiting Kuala-Lumpur, who expresses her disappointment with the response of a hotel's manager to her problem by posting an exaggeratedly negative comment on an online reviewing platform while packing a bathrobe and a bedroom lamp in her suitcase as 'retribution'. Meanwhile, the hotel manager, still seething from the emotion-charged interaction with the tourist, might deliberately delay calling for a taxi to the airport and suggest that the driver charge a higher fare. The hotel manager might also post an overly negative comment on the tourist

on a secret ‘blacklist’ system sanctioned by the hotel chain, used to warn associates for future service interactions with that tourist. While the services marketing literature has studied online deviant behaviors (e.g., Denegri-Knott, 2006; Harris and Dumas, 2009; Sigala, 2017) and offline deviant behaviors (e.g., Daunt and Harris, 2011; Fisk et al., 2010; Fullerton and Punj, 1997) separately, to the best of our knowledge, no study has explicitly tackled, conceptually or empirically, the interrelationships between online and offline deviant behaviors, even though research on non-deviant consumers on one hand (e.g., Sevitt and Samuel, 2013), and on deviance outside the service co-creation realm on the other hand (e.g., Hinduja and Patchin, 2007; Schoffstall and Cohen, 2011) suggests that deviance can spread between online and offline worlds. Studying mutual influences between online and offline deviant behaviors among actors seems theoretically and managerially important, and any consideration of the value outcomes of deviant behaviors at an ecosystemic level should concomitantly consider the behaviors’ propagation between offline and online settings. An illustration of such mutual influence is that negative value outcomes can occur for a country and its inhabitants when online crisis management by authorities facing temporary political contestation negatively influences tourists’ decisions to visit this country (Luo and Zhai, 2017), both actors considering the other’s behavior as deviant.

Various actors can adopt diverse behaviors that can be termed deviant (at least in some actors’ eyes). Furthermore, any actor’s behavior is also prone to social contagion (i.e., the diffusion of an idea, a practice or a structure through a social system, which occurs through social interactions within a network: Angst et al., 2010; Park et al., 2018; Scott, 2013), especially in view of the capacity of the internet to accelerate and amplify the propagation of ideas and behaviors. Hence, a question arises about the effect of a deviant behavior on other actors’ behavior. Returning to our earlier example, the Kuala-Lumpur taxi driver may try to take advantage of the tourist’s dissatisfaction with the hotel by suggesting a detour to check another hotel that the taxi driver is connected to for future visits, in the process lengthening the taxi ride. The tourist may share a photo of the bathrobe and the lamp in her suitcase with friends via social media, and those friends may adopt a similar deviant behavior during future holidays.

Deviant behaviors in any part of a tourism ecosystem can have negative value outcomes for the actor displaying the deviant behavior as well as the other actors within the ecosystem. Therefore, the question of the impact of deviant behaviors on value outcomes for different actors within the ecosystem arises. Returning to our example, because of the hotel manager's inflexibility and of the taxi driver's unscrupulous behavior, the tourist may draw a general, negative conclusion from her experience in Kuala-Lumpur and share that opinion online, resulting in negative value outcomes, or value co-destruction (Plé and Chumpitaz-Cáceres, 2010) at the local tourism ecosystem's level. Yet, there is a paucity of research on the impact on value outcomes of deviant behaviors by actors other than customers (Daunt and Harris, 2011), and beyond the dyadic, micro level (Fisk et al., 2010).

Accordingly, this conceptual paper aims to examine the interactions between the online and offline deviant behaviors of interacting actors within an ecosystem, their contagion potential and their value-related consequences at the overall ecosystemic level. To that end, the paper takes an institutional reading of deviance by showing that the deviance of a behavior is relative to the institutional arrangements within which other actors are assessing that behavior. It then draws from social contagion theory to clarify how deviant behavior propagates to other actors across offline and online settings, and shows how different characteristics of the internet, online information and online communication can amplify the social contagion of these behaviors. In the process, it examines how deviant behaviors inform value co-creation (VCC) and value co-destruction (VCD) because of the differential perceptions that actors have of their context's institutional arrangements when interacting with one another (Scott, 2013) and how in turn, actual or anticipated VCD outcomes can lead to further behavioral adaptations in a dynamic pattern. It advances five connected propositions that further our understanding of how online and offline deviant behaviors interrelate at the level of a single actor, how they propagate in an ecosystem, and about the nature and dynamics of their value outcomes across all levels of an ecosystem.

While our conceptualization applies to service interactions in general, we use the tourism industry as an illustrative case for several reasons. First, tourism experiences are prone to deviant behaviors in view of their 'liminal' character, when tourists may feel relieved from the obligation to behave as per the

expected norms and values of their usual environment by being anonymous in a different, unconnected environment (Shields, 1992; Uriely et al., 2011). Second, both online and offline dimensions are widely used by the different actors of tourism ecosystems, to communicate about offerings or experiences, connect different actors, carry out transactions, and deliver the actual tourist experience. Third, the online and offline dimensions of the tourism sector are both highly developed, the tourism industry being one of the largest employers in the world (World Travel & Tourism Council, 2017) and being organized around several groundbreaking online platforms such as Expedia, TripAdvisor or Airbnb. Fourth, tourism is also prone to social contagion phenomena, contagion being especially likely in instances of hedonic experiences (Park et al., 2018) and particularly powerful in experiential and affective information exchanges (Huang, 2010).

We contribute to literature on deviant behaviors by unpacking the links between online and offline deviant behaviors at the level of a single actor and by conceptualizing the social contagiousness of deviant behaviors and its amplification across online and offline settings and between actors within the same level of an ecosystem. We then suggest that deviant behavior contagion at one level of the ecosystem may prompt behavioral adaptations of other actors at other levels. Further, we provide a more holistic explanation of how the complex relationship between offline and online deviant behaviors may result in VCD as well as VCC. We contribute to the value co-creation and co-destruction literature in two ways. First, using institutional theory and social contagion theory, we enrich the conceptualization of VCD, showing that it may arise from divergent institutional readings of other actors' behaviors, which can spread across online and offline settings, in turn causing further behavioral adaptations across the ecosystem in a dynamic way. Second, we show that deviant behaviors can have value co-creating as well as value co-destructive outcomes within different parts of an ecosystem, depending on the perceptions that actors have of the institutional arrangements governing their interactions. In the process, we question the over-simplistic "either/or" co-creation vs. co-destruction dichotomy, and provide a more nuanced and dynamic appraisal of value outcomes at the ecosystemic level.

2. An institutional reading of deviance

The concept of deviant behavior has been studied in several disciplines and under multiple labels (Barnes and Taksa, 2012). In the sole marketing literature, deviant behavior has been called, for instance, bad behavior (Denegri-Knott, 2006), misbehavior (Ang and Koslow, 2012; Daunt and Harris, 2011; Fullerton and Punj, 1993, 1997; Harris and Dumas, 2009), aberrant behavior (Fullerton and Punj, 1993, 1997), dysfunctional behavior (Daunt and Harris, 2012; Harris and Reynolds, 2003), cheating or opportunistic behavior (Wirtz and Kum, 2004; Wirtz and McColl-Kennedy, 2010), or deviant behavior (Harris and Daunt, 2011). However, irrespective of the labels used, previous research refers to deviant behavior as a violation of norms that may result in the disruption of functional experiences (Ang and Koslow, 2012). Drawing from Sigala (2017), the current paper thus defines deviant behavior as any individual or organizational actor's behavior that would be seen as accidentally or intentionally violating social norms, organizational policies, the law and/or disrupting their own or others' (e.g. employees, firms, other customers, etc.) functional experiences. Such behavior may occur offline (Fullerton and Punj, 1993, 1997) or online (Freestone and Mitchell, 2004; Sigala, 2017, 2018).

The above definition emphasizes the role of institutions in assessing a behavior's deviance. Behind behaviors that 'violate social norms, organizational policies, or the law', we recognize Scott's (2013) normative ("social norms"), cultural-cognitive ("organizational policies"), and regulative ("law") pillars of institutions. According to institutional theory (DiMaggio and Powell, 1983; Scott, 2013), those pillars guide and constrain actors' behaviors by providing them with some rules to the social game (North, 1990) through: sets of values and norms (normative pillar); sets of common beliefs and shared logics (cultural-cognitive pillar); and sets of rules, laws and sanctions (regulative pillar).

Hence, institutions and their "institutional arrangements" (i.e. "sets of interrelated institutions": Vargo and Lusch, 2016, p. 11) can influence the perception that actors have of other actors' behaviors (Greenwood et al., 2011; Scott, 2013). In contexts where different institutional arrangements co-exist, a behavior can be perceived as deviant by some actors and non-deviant by others, because of differences of

interpretation of institutional arrangements among actors, leading to divergence on what constitutes acceptable behavior (Ang and Koslow, 2012; Fullerton and Punj, 1997). For instance, taking a hotel bathrobe home is, for some people, “a legitimate perk of their stay [while] many other individuals consider such behavior morally wrong” (Fisk et al., 2010, p. 422). Thus, actors might be connected to others who do not share the same institutional arrangements, giving way to the possibility that an actor’s ‘normal’ behavior is seen as deviant by other actors.

An institutional reading of deviance therefore challenges the common representation of ecosystems as systems in which interconnected actors exchange services and are “connected by shared institutional arrangements” (Vargo and Lusch, 2016, p. 11) that facilitate the co-ordination of the actors and of their activities. This perspective of shared institutional arrangements reflects a positive bias (Echeverri and Skålén, 2011; Plé, 2017; Plé and Chumpitaz-Cáceres, 2010): even when external institutions (e.g. laws or social norms) should guide or constrain the behavior of all members of an ecosystem, different members may understand or apply these institutions differently (Scott, 2013). We identify four main reasons that may cause service ecosystems to follow divergent institutional arrangements: dissimilar objectives; cultural differences; evolution over time, and differential perceptions across offline and online settings. We discuss these in more detail next.

First, members of the same ecosystem can have different social norms or organizational policies regarding certain behaviors because they have dissimilar objectives. For instance, tourism ecosystems can connect the residents of a neighborhood and tourists; residents may resent tourists who stay up late drinking and being loud and consider their behavior as deviant within the context of their quiet neighborhood. Second, members of the same ecosystem can have different social norms or organizational policies because they come from or operate in various countries or cultures (Akaka et al., 2013). Since institutions are culture-dependent (Akaka et al., 2013; Neale and Fullerton, 2010), actors may have a different perception of deviant behavior. For instance, Airbnb, which follows a non-discrimination policy corresponding to the social norms and expectations of its major markets, does not verify the marital status of tourists renting its accommodations. Yet, in a country like Morocco it is illegal to rent rooms to

unmarried couples; property owners are liable to fines if they do (Moss, 2015). Hence, Airbnb's behavior can be viewed as deviant by Moroccan authorities, and property owners in Morocco who report an unmarried tourist couple to the local authorities can be viewed by those tourists as displaying a deviant behavior. A third possible reason of the existence of divergent institutions among actors of an ecosystem lies in that the ecosystem's institutions can evolve over time so that a behavior that was initially considered deviant progressively becomes the new standard accepted by society and *vice-versa* (Posner, 1997; Powers and Vogel, 1980). This evolution usually happens through the actions of some actors of the ecosystems, who may challenge the 'dominant logic' that exists at a given time in the ecosystem, a phenomenon that Vargo and Lusch (2016) call "de-institutionalization and reinstitutionalization" (p. 20). For instance, low-cost airlines initially challenged traditional carriers' organizational policies such as bundled flight offers that included food, baggage allowances and other costs, resulting in high prices for customers. By implementing new organizational policies that were aligned with their low-cost business model, low-cost airlines progressively managed to impose new norms within the overall ecosystem, to the extent that a behavior such as charging for onboard food that was initially considered as deviant became, over time, perceived as normal. Fourth, and importantly for our purposes, the same actors of an ecosystem may follow different institutional arrangements between online and offline settings: a behavior might be perceived deviant offline, while non-deviant online: the same people who usually condemn in-store theft of a Blu-Ray film tend to forgive the similar online behavior of film piracy (Chatzidakis and Mitussis, 2007).

Thus, taking an institutional reading of deviance, we advance the following proposition:

Proposition 1: Service ecosystems may connect actors who follow divergent institutional arrangements because: they may have dissimilar objectives; they may have cultural differences; institutions may evolve over time; and they may have divergent perceptions of the institutions across offline and online settings.

Finally, let us note that our definition of deviant behavior extends earlier conceptualizations that assumed intentionality in deviant behaviors (Barnes and Taksa, 2012; Fullerton and Punj, 1993, 1997). An institutional reading of deviant behaviors implies that they may also be accidental, stemming from a lack of knowledge or understanding of local norms or organizational policies, or an incapacity to apply them (Huang, 2010; Neale and Fullerton, 2010).

Having conceptualized deviance from an institutional theory perspective, we now turn to how deviance can spread between offline and online settings in the case of a single actor, before considering in a later section how deviance can spread within an ecosystem.

3. The interrelatedness between a single actor's online and offline deviant behaviors

An increasing body of research shows how entangled the online and offline 'normal' (i.e. non-deviant) behaviors and experiences of a single actor – individual or organizational – are (Sevitt and Samuel, 2013), and how they may generate or influence each other interactively, especially in the tourism industry. For instance, individuals' prior destination experiences influence their future online information search behavior (Lehto et al., 2006). Conversely, online behaviors may impact offline behaviors, such as when customers' intention to participate in online firm-hosted travel communities likely increases their use of the firm's services and intention to recommend it (Casaló et al., 2010). These elements suggest that an actor's online behavior may have offline consequences for him/herself, and *vice-versa*. What applies to non-deviant behaviors presumably also applies to deviant behaviors: an actor's online (offline) deviant behavior might further generate his/her own offline (online) deviant behavior.

Yet, marketing literature on deviant behaviors has not addressed this important question; previous works have examined offline (Daunt and Harris, 2011; Fullerton and Punj, 1993, 1997) and online (Denegri-Knott, 2006; Harris and Dumas, 2009; Sigala, 2017) deviant behaviors separately, considering their consequences only in the same (offline or online) setting. To the best of our knowledge, no study in the marketing literature has explicitly investigated the potential reciprocal interrelationships between a single actor's offline and online deviant behaviors. We argue that an actor's online (offline) deviant

behavior might further generate his/her own offline (online) deviant behavior, relying on findings in sociological research that show that an actor's behaviors in online and offline settings are interrelated. For instance, Schoffstall and Cohen (2011) found that an individual with lower levels of offline social competence tends to display higher levels of cyber aggressiveness. In addition, we deem that this reciprocal influence between online (offline) deviant behavior and offline (online) deviant behavior is likely to occur and vary in its intensity within a set of at least two boundary conditions, namely: 1. the characteristics of the (individual or organizational) actor adopting a deviant behavior and 2. the context in which those behaviors occur. First, the characteristics of the actors (e.g., age, gender, self-esteem, risk aversion) have been showed to generate or inhibit actors' deviant behaviors (Fisk et al., 2010; Wirtz and Kum, 2004). We thus suggest that they may also increase or reduce the odds that an actor's online (offline) deviant behavior would trigger that actor's offline (online) deviant behavior. Second, the context ("the set of facts or circumstances that surround a situation or event, such that they can be broadly appreciated": Plé, 2016, p. 154) in which deviant behaviors occur may be another boundary condition of this mutual triggering. Given that "context [...] frames exchange, service, and the potentiality of resources from the unique perspective of each actor" (Chandler and Vargo, 2011, p. 45), it is likely that actors behave differently depending on their circumstances, or the advantages that they may get from a situation. In other words, context may influence when and why an actor's offline (online) deviant behavior may trigger this same actor's online (offline) deviant behavior.

Hence our second proposition:

Proposition 2a: The online deviant behavior of an (individual or organizational) actor may trigger an offline deviant behavior by that same actor. Reciprocally, the offline deviant behavior of an (individual or organizational) actor may trigger an online deviant behavior by that same actor.

Proposition 2b: The triggering of deviant behavior from online to offline or from offline to online settings and its intensity are subject to possible boundary conditions, namely the

actor's personal characteristics and/or the context in which online (or offline) deviant behaviors may take place (including the benefits that the actor may get from triggering online/offline deviant behaviors).

To illustrate Proposition 2, let us consider the case of a group of young tourists who go to a hotel and party all night in and outside their hotel room. While adopting this offline deviant behavior (i.e. no respect of the hotel rules), they also take selfies and videos, and post them on social media to show off. Such an online self-representation has been shown to represent a deviant behavior that aims to provide a better image and generate envy in others (Taylor et al., 2016), to the extent that “the tourists’ journeys and experiences [can be] lived in order to be photographed within the eyes and scrutiny of others” (Sigala, 2017, p. 3). In other words, the young tourists’ offline deviant behavior can be regarded as the trigger of their behaving badly online, potentially reinforced by their age (we may doubt that elderly people would behave the same way) and the context they are in (holidays in a great place that they use to show off on social networks).

4. Social contagion between online and offline deviant behaviors in ecosystems

In the last section, our analysis of the mutual interrelationships between online and offline deviant behaviors was limited to a single actor. It is now necessary to extend the analysis to the level of an ecosystem that connects actors together. Yet, extant research appears too limited to provide an explanation of how online and offline deviant behaviors may spread to other actors and across the online/offline settings within an ecosystem. Our review of the literature has yielded three gaps that limit conceptual progress, as follows. First, similarly to the case of a single actor, literature that considers ecosystems scrutinizes online and offline deviant behaviors separately. Second, these studies have primarily studied *customers’* online (e.g., Chatzidakis and Mitussis, 2007; Daunt and Harris, 2011; Sigala, 2017; Tripp and Grégoire, 2011; Tuzovic, 2010) or offline (Dootson et al., 2016; Echeverri et al., 2012; Fisk et al., 2010; Fullerton and Punj, 1993, 1997; Harris and Reynolds, 2004; Wirtz and Kum, 2004) deviant behaviors and their potential consequences. The deviant behaviors of other actors such as firms or employees have

received less attention, although those actors do misbehave too: employees may adopt sabotage behaviors that negatively influence service experiences (Harris and Ogbonna, 2002, 2006); hotels may post online deceptive, fraudulent evaluations of their competitors to ‘steal’ their customers (Luca and Zervas, 2016; Mayzlin et al., 2014).

Third, studies on online or offline deviant behavior share the common limitation of generally focusing on dyadic interactions, mainly customer–employee, or customer–company interactions (Fisk et al., 2010). Research exploring interactions involving further actors is lacking; yet it is all the more important since actors increasingly evolve in ecosystems where their interactions may occur within or across three “levels of interactions and institutions” (Akaka and Vargo, 2015, p. 456): micro, meso and macro levels (Lusch and Vargo, 2014; Vargo and Lusch, 2016). According to Vargo and Lusch (2016, p. 17), the micro level includes “individual and dyadic structures and activities” (e.g., tourists, residents, hotels, tourism employees); the meso level integrates “midrange structures and activities” (e.g., online platforms, tour operators, flight comparators) and the macro level consists of “broader societal structures and activities” (e.g., local and national authorities). Those levels are nested: the micro-level is embedded in the meso level, which is itself embedded in the macro-level (Koskela-Huotari et al., 2016). Yet, relatively little is known about the nature and dynamics of the relationships between actors’ behaviors within or across the levels of ecosystems (Koskela-Huotari et al., 2016). Thus, contributing to a better understanding of this mutual influence between online and offline deviant behaviors among the actors of an ecosystem would also benefit knowledge on ecosystems.

4.1. Social contagion and reversed contagion

To overcome the limitations of extant research, we turn to the concept of social contagion¹ and its mirroring concept, reversed contagion, to explain how different actors’ deviant behaviors may mutually influence one another across the online and offline settings of an ecosystem. Originating from the medical concept of contagion, social contagion refers to the diffusion and adoption of knowledge, emotions,

¹ We are grateful to the two reviewers who suggested social contagion as a fertile avenue for the further development of our paper.

beliefs, attitudes and/or behaviors of actors (individuals, groups or organizations) among other actors who are exposed to and influenced by the knowledge, emotions, beliefs, attitudes and behaviors of the former² (Bowden et al., 2017; Huang, 2010; Kramer et al., 2014; Park et al., 2018; Rapp et al., 2013; Schaefers et al., 2016; Shi et al., 2008; Van den Bulte and Lilien, 2001). Social contagion may occur intentionally or accidentally on both influencer and influenced sides: influencers may/may not intend to influence others and propagate their own behavior; influenced people may adopt those behaviors voluntarily or unconsciously (Angst et al., 2010; Huang, 2010).

The literature identifies two forms of social contagion: by cohesion or by structural equivalence (Burt, 1987; Hinz et al., 2014). Social contagion by cohesion occurs among physically proximate actors/groups of actors (even though recent works suggest that remote, online interaction works too – Ferrara and Yang, 2015; Kramer et al., 2014) who share the same understanding of institutions and institutional arrangements and have frequent and empathetic interactions with each other (Bowler et al., 2011; Burt, 1987; Hinz et al., 2014; Scott, 2013; Shi et al., 2008). Social contagion by structural equivalence occurs when actors/groups of actors occupy similar structural positions in a network (Bowler et al., 2011; Burt, 1987) and feel in competition with one another: “structurally equivalent [actors] tend toward similarity because they are connected in similar ways to others with whom they compare themselves” (Bowler et al., 2011, p. 9). Hence, according to social contagion theory, an actor exposed to the deviant behavior of another socially or physically proximate actor, or of an actor who has a similar structural position, will tend to adopt a similar deviant behavior.

Exposure to deviant behaviors may also lead to what recent research on customer misbehavior in access-based services calls ‘reversed contagion’ (Schaefers et al., 2016): when customers with a strong communal identity observe the proofs of deviant behavior on appliances supporting a service (e.g. a dirty vehicle which previous users have not cleaned up), they reverse the contagious effect, displaying “responsible behavior by removing the remains of previous customers’ misbehavior” (Schaefers et al.,

² For ease of reading and considering our focus on deviant behavior, we will from now on substitute ‘knowledge, emotions, beliefs, attitudes and behaviors’ with ‘behavior’ or ‘deviant behavior’.

2016, p. 14). Even when physically proximate or structurally equivalent in the ecosystem, those actors reflect divergent institutional arrangements, perceiving each other's behavior as deviant and reacting with an opposite behavior. To this extent, reversed social contagion may be viewed as resistance to deviant behavior by actors who do not share the same institutional arrangements.

Social contagion, or reversed contagion, can occur when actors change their behavior after interacting with another actor or group, due to one of four "causal mechanisms" (Van den Bulte and Lilien, 2001, p. 1410) of social contagion: information transfer, normative pressures, competitive concern, and performance network effect. While these causes have been applied to either strictly offline or strictly online settings, we suggest that they may also explain how online deviant behavior may cause offline deviant behavior and *vice-versa*, as developed in Table 1.

TABLE 1 ABOUT HERE

Because of the characteristics of social contagion, we argue that it mainly occurs within a given level (micro, meso or macro) of an ecosystem: actors are more likely to be socially or geographically proximate, and to have similar structural positions within a level than across levels of an ecosystem (Lusch and Vargo, 2014). The same logic would apply to reversed contagion, which operates similarly to social contagion, except for the existence of divergent institutional arrangements among actors.

Altogether, those theoretical developments lead to our third proposition:

Proposition 3a: Because of information transfer, normative pressures, competitive concern and/or performance network effect, an actor's online (offline) deviant behavior may spread to the offline (online) behavior of at least one other actor or group of actors within the same level (micro, meso or macro) of an ecosystem through social contagion.

Proposition 3b: Because of information transfer, normative pressures, competitive concern and/or performance network effect, an actor's online (offline) deviant behavior may generate in return an offline (online) resistant behavior of at least one other actor or group of actors within the same level (micro, meso or macro) of an ecosystem through reversed contagion.

4.2. Potential amplifiers of online-to-offline social contagion

Considering the above potential causes of social contagion, we argue that five factors may potentially amplify the social contagion, or reversed social contagion, of an actor's online deviant behavior to other actors' offline deviant behavior. By 'amplify', we mean that those factors may help online deviant behavior generate offline deviant behavior much faster and at a larger scale than offline deviant behavior would have. Two of those factors refer to the internet's characteristics, namely its scope and the (relative) anonymity that it provides; two others refer to the characteristics of online information, namely its reproducibility and its longevity; the last one refers to the ease of online communication among actors (Bilgicer et al., 2015; Chatzidakis and Mitussis, 2007; Freestone and Mitchell, 2004; Harris and Dumas, 2009; Johnson, 1997). Any of the five abovementioned factors can work independently of one another or be compounded for stronger effect.

Table 2 shows and exemplifies how each of the five factors identified above can impact deviant behavior. Succinctly: the internet's scope allows people who adopt deviant behaviors to have a broader influence online than offline (Chatzidakis and Mitussis, 2007); the anonymity afforded by the internet reinforces misbehavior contagion (Schaefer et al., 2016) by supporting actors' disinhibited and opportunist behaviors (Denegri-Knott, 2006; Suler, 2004) when they feel less constrained by the social norms and regulations that they are committed to in the offline world (Suler, 2004); reproducibility makes deviant behaviors observable by a larger number of actors online than offline when the content reporting these behaviors is reproduced from website to website and favors the speed of information's diffusion; the longevity of online information means information on deviant behaviors may survive much longer online than offline because it can be easily reproduced by other people on other websites; ease of communication means that knowledge of deviant behaviors can be spread instantly, to a broad audience.

TABLE 2 AROUND HERE

By spreading awareness of deviant behaviors, the above five elements of the online setting can amplify the offline contagion of online behaviors. As per the principles of social contagion discussed

earlier, this contagion can take the form of similarly deviant behaviors spreading among actors, or (in the case of reversed contagion) dissimilar behaviors adopted to resist the deviance. However, behaviors adopted by an actor to resist the deviant behavior of an initial actor may be viewed by the initial actor as deviant themselves, when they do not have the same institutional reading of deviance.

Hence, we postulate the following proposition:

Proposition 4: By spreading awareness of deviant behaviors, the scope of the internet, the anonymity it enables, the reproducibility and longevity of online information, and/or the ease of online communication can amplify, within a level of the ecosystem, the offline contagion (when the deviance spreads) or reversed contagion (when the deviance is resisted) of deviant behaviors.

To illustrate proposition 4, let us consider the case of British claims management companies that advertise online towards British customers, asserting that their holidays in Spain can be refunded if they claim food poisoning during their stay. Those companies, such as SickHoliday.com, adopt an online deviant behavior by encouraging, on their website, holidaymakers to make a fraudulent claim against the hotel that they visited. Such companies could not exist without the amplification properties of the internet and online information enabling tourists' deviant behaviors in lodging fake claims to spread online through the internet's scope, the reproducibility of information, and ease of communication. The effects of these amplifiers at the level of the ecosystem have been both contagious effects, via the emergence of further similar claim management companies, and reversed contagious effects: some Spanish hoteliers retaliated by adopting a resistant offline behavior, by refusing to sell stays to British customers (Collinson et al., 2017). This resistant offline behavior can be viewed by British tourists as deviant when it is read as discriminating on the basis of nationality.

5. Value outcomes of social contagion between online and offline deviant behavior in an ecosystem: going beyond the value co-creation vs. value co-destruction dichotomy

Whether they happen online or offline, deviant behaviors generate value outcomes for the actors who adopt them or for other actors with whom they interact (Daunt and Harris, 2017; Harris and Reynolds,

2003; Kashif and Zarkada, 2015). Understanding the nature of these value outcomes and their underlying dynamics in an ecosystem first necessitates an investigation of the concept of value.

5.1. An oversimplistic dichotomy between value co-creation and value co-destruction?

Value can be defined as the improvement of an actor's well-being that results from a co-creation process characterized by contextualized resource-integrating interactions between individual and/or organizational actors within an ecosystem (Akaka et al., 2013; Vargo and Lusch, 2008; Vargo and Lusch, 2016; Vargo et al., 2008). This definition implies that value can only be co-created through direct (e.g. actor-to-actor) or indirect (e.g. via appliances such as goods or services) interactions between actors in an ecosystem (Vargo and Lusch, 2008), whether in an online, offline or mixed setting. Those interactions are both facilitated and constrained by institutional arrangements that accordingly shape them and their value outcomes (Akaka et al., 2015). Thus, depending on their understanding of those institutional arrangements, what an actor considers as valuable may not be so for another actor (Akaka et al., 2015), making value uniquely and phenomenologically determined by the beneficiary (Vargo and Lusch, 2008; Vargo and Lusch, 2016). A consequence of this phenomenological dimension of value is that in an ecosystem, different actors might positively or negatively assess the same resource-integration process and its value outcomes (Sigala, 2018). In other words, value may be not just co-created, and thus may not just result in an improvement of an actor's well-being: it may also be co-destroyed, resulting in the decrease of at least one of the interacting actors' well-being (Echeverri and Skålén, 2011; Plé and Chumpitaz-Cáceres, 2010; Smith, 2013).

Value co-destruction is tightly linked to an institutional interpretation of a behavior's deviance since it may occur "if there are discrepancies between the [actors] with regard to expectations of appropriate behavior" (Plé and Chumpitaz-Cáceres, 2010, p. 432). Also, as is the case for deviant behavior, these discrepancies may be accidental or intentional, resulting in accidental or intentional value co-destruction (Plé and Chumpitaz-Cáceres, 2010; Kashif and Zarkada, 2015). There is an implied suggestion in the literature of an "either/or" dichotomy opposing value co-creation (VCC) and value co-destruction (VCD)

that posits that VCD results from deviant behaviors whereas VCC results from non-deviant behaviors. Yet, deviant behaviors may have beneficial outcomes as they may be a source of innovation, resulting in value co-creation (Koskela-Huotari et al., 2016), or merely reduce the likelihood or intensity of value co-creation for the interacting actors (Akaka et al., 2013). In addition, while scant research theoretically suggests (Plé and Chumpitaz-Cáceres, 2010) or empirically shows (Chowdhury et al., 2016; Echeverri and Skålen, 2011) the co-existence of VCC and VCD, the dynamics that lead to this co-existence is unknown especially in an ecosystem setting (Sigala, 2018). Hence, we argue that such an ‘either/or’ dichotomy may be too simplistic, especially when studying deviant behaviors and their (reversed) contagion in an ecosystem across online and offline settings and the nature and dynamics of their value outcomes.

5.2. The impact of deviant behaviors’ social contagion on the nature and dynamics of value outcomes in an ecosystem

In the phenomenon investigated by this paper, namely the interactions between the online and offline deviant behaviors of a variety of interacting actors within an ecosystem and their contagion in the ecosystem, exploring the nature and dynamics of value outcomes requires successive levels of analysis: the level of a single actor; within one level of the ecosystem; and finally across levels of the ecosystem. We first develop our argument theoretically, then illustrate it with a worked example (Table 3).

At the level of a single actor, intentionally adopting an online or offline deviant behavior should entail a positive outcome (VCC) for that particular actor, since actors usually adopt such a behavior to benefit from it (Fullerton and Punj, 1993, 1997) even if it is risky (e.g., intentionally breaking the law may eventually result in VCD). This would actually be co-creation or co-destruction since in S-D logic, value can only be *co-created* or *co-destroyed* through direct (e.g. actor-to-actor) or indirect (e.g. via appliances such as goods or services) interactions between actors in an ecosystem (Vargo and Lusch, 2008, Plé and Chumpitaz, 2010). For similar reasons, an actor intentionally triggering an online (offline) deviant behavior following an offline (online) deviant behavior expects to get VCC – even though unexpected VCD may occur too, for instance if the online deviant behavior generates violent criticisms online.

Conversely, accidental adoption of a deviant behavior may result in a negative outcome (e.g., accidentally not respecting the law) or in a positive outcome (e.g., not being caught when accidentally not respecting the law).

Within a level (micro, meso or macro) of an ecosystem, we have suggested that social contagion of deviant behaviors may explain how an actor's online (offline) deviant behavior may spread to the offline (online) behavior of at least one other actor or group of actors. This contagion of a deviant behavior is due to contaminated actors expecting to benefit from it through three of the causal mechanisms of social contagion that provide them with advantages (see Table 1), namely: normative pressure, competitive concern and performance network effect (Van den Bulte and Lilien, 2001). In other words, social contagion should result in VCC for those contaminated actors. In turn, confirmation of VCC is likely to accelerate social contagion as other actors within the same level would notice actual benefits from adopting deviant behaviors. Concomitantly though, such behaviors and their contagion negatively influence other actors' value outcomes. As a consequence, social contagion of deviant behaviors results in VCD for those other actors who suffer from the contagion. Nevertheless, some of them may mirror this deviant behavior by adopting a resistant behavior (reversed contagion) to fight against those negative outcomes and eventually benefit from VCC – while potentially generating VCD for the first, deviant actors who may lose the initial advantage of their deviance.

Finally, we consider value outcomes across the levels of an ecosystem, since actors are connected with each other not only within, but also across levels of an ecosystem (Koskela-Huotari et al., 2016). The question arises as to whether, and if so how, deviant behaviors and their social contagion within a level may impact the value outcomes of actors belonging to another level. Since actors may influence each other's behaviors across levels (Ben Letaifa et al., 2016), we answer this question positively and deem that this influence occurs because the other levels' actors notice or anticipate a change in their value outcomes. As explained earlier, an actor A's deviant behavior is likely to result in VCD for another actor B. This actual or anticipated VCD may prompt B to adapt his/her/its behavior over time to counter those negative consequences (so as to limit VCD) or to benefit from VCC. Yet, a single actor's deviant behavior may not

be enough to prompt the behavioral adaptation of an actor at another level of an ecosystem (Ben Letaifa et al., 2016). However, by enabling the aggregation of atomistic, individual actors' deviant behaviors, social contagion changes the power relationships among interconnected actors across levels. Because of social contagion, a deviant behavior spreads within an ecosystem's level and provides contagious and contaminated actors with more leverage to benefit from VCC to the detriment of the value outcomes of other levels' actors. Put otherwise, social contagion of deviant behavior within one level is likely to increase the actual or potential VCD for actors in other levels of the ecosystem. Such actual or potential VCD would most likely provoke behavioral adaptations among the affected actors, who would react to counter those negative value outcomes. Those behavioral adaptations should not be confused, however, with reversed contagion, as they are changes that aim to counteract a deviant behavior's consequences (to that extent, actors do not adopt a behavior diametrically opposed to this deviant behavior as they would do in the case of reversed contagion). Moreover, there may also be situations where deviant behaviors from actors in one level of an ecosystem may positively, not negatively, affect the value outcomes of actors in other levels because those actors would take advantage from these deviant behaviors. For instance, when an employee's adoption of a deviant behavior by bending her company's procedures results in VCC for the customers, VCC for her because of an improvement of her relationships with customers, and VCC for the company because of higher customer satisfaction (Leo and Russell-Bennett, 2014).

Table 3 provides a worked example of how the contagion and reversed contagion of deviant behaviors can spread among actors within the micro, meso and macro levels of an ecosystem. It also considers their diverse value outcomes for different actors within and across the ecosystem's levels, using recent events in Barcelona as an example (similar analyses could apply to other tourism ecosystems). The table, which shows how the real-life example illustrates our conceptualization, also shows how online and offline deviant behaviors feed off each other interactively, affecting the nature and dynamics of the different actors' value outcomes.

TABLE 3 ABOUT HERE

These theoretical developments, alongside the Barcelona illustration, eventually reveal a delicate and complex interplay of balances and imbalances between VCC and VCD. Both may co-exist at the same time, although not necessarily for the same actors nor at the same level of the ecosystem. Moreover, VCC and VCD are not static but instead evolve over time, for a single actor as well as among several actors. Both the nature (VCC or VCD) and evolution of those value outcomes depend on social contagion. Hence, we draw our fifth proposition:

Proposition 5: In an ecosystem:

P5a: The nature of value outcomes for individuals or groups of actors can be either value co-creation (VCC) or value co-destruction (VCD); they may be accidental or intentional.

P5b: While VCC and VCD may co-exist for different actors within and across levels of the ecosystem, the nature of the value outcomes (VCC or VCD) among actors is likely to evolve over time.

P5c: The nature and the evolution of the actors' value outcomes (VCC or VCD) may result from (reversed) social contagion of the actors' deviant behaviors across online and offline settings and from further actors' resulting behavioral adaptations.

6. Discussion and conclusions

6.1. Theoretical implications

This conceptual paper investigates the interactions between online and offline deviant behaviors, using the tourism industry as an illustrative case. By taking an institutional reading of deviance, it argues that a behavior can be perceived as deviant when it is at odds with the institutional arrangements under which the exchange is taking place. Deviance, therefore, can happen if an actor is unaware of or refuses to follow the institutional arrangements of the exchange and behaves in a manner that is at odds with them, or if another actor interprets that actor's behavior as deviant as per their understanding of the institutional arrangements (Ang and Koslow, 2012; Fullerton and Punj, 1997). Drawing from that perspective, the

paper explores the contagion of online and offline deviant behaviors in an ecosystem, and the resulting value outcomes of this contagion. In the process, it formulates five different and interrelated propositions that, taken together, provide a comprehensive understanding of online and offline deviant behaviors' interactions by explaining: 1. how they occur at a single actor's level; 2. how they occur in an ecosystem, both within and across the three (micro, meso and macro) levels of the ecosystem and 3. the nature and dynamics of their value outcomes for interrelated actors in an ecosystem.

This paper contributes to the literature on deviant behaviors (Ang and Koslow, 2012; Daunt and Harris, 2012; Fisk et al., 2010; Harris and Ogbonna, 2002) in several ways. It is, to our knowledge, the first to unpack the links between online and offline deviant behaviors. It does so first at a single actor's level; it then relies on the concept of social contagion (Huang, 2010; Park et al., 2018; Rapp et al., 2013; Schaefer et al., 2016; Van den Bulte and Lilien, 2001), and its counterpart, reversed contagion (Schaefer et al., 2016), to explain how an actors' offline deviant behavior may contaminate other actors' online deviant behaviors within the same level of an ecosystem, and *vice-versa*. It also identifies five potential amplifiers (the scope and anonymity of the internet, the reproducibility and longevity of online information and the ease of online communication) that would reinforce social contagion and reversed contagion from an actor's online deviant behavior to other actors' offline deviant behavior. Finally, it suggests that (reversed) social contagion of deviant behaviors among actors within one level of an ecosystem may provoke further behavioral adaptations of actors at other levels of the ecosystem. Those results highlight the importance of studying deviant behaviors across both online and offline settings, in an integrated manner.

This paper also contributes to the literature on value co-creation (Akaka and Vargo, 2015; Vargo and Lusch, 2008; Vargo and Lusch, 2016; Vargo et al., 2008) and value co-destruction (Echeverri and Skålén, 2011; Plé, 2017; Plé and Chumpitaz-Cáceres, 2010; Smith, 2013). Addressing calls for further research on ecosystemic rather than dyadic dynamics (e.g., Chowdhury et al., 2016; Fisk et al., 2010), it reveals that deviant behaviors can have value co-creating as well as value co-destructive outcomes for different actors of an ecosystem, depending on the perceptions that actors have of the institutional

arrangements governing their interactions. Moreover, those outcomes may evolve over time. Thus, there is a delicate and subtle evolutionary balance between VCC and VCD among the interacting actors of an ecosystem. This balance and its evolution depend, first, on the level of social contagion and reversed contagion within a level of the ecosystem; second, on the value outcomes that result from this contagion and reversed contagion within each level; and third, on the influence that social contagion (and/or reversed contagion) within a level may have on the value outcomes of actors at other levels, causing the latter to adapt their behavior in order to limit or counter these negative outcomes. It thus invites scholars to go beyond an “either/or” VCC-VCD dichotomy, when considering value outcomes of deviant behaviors and their contagion at the level of the entire ecosystem, and instead adopt a more nuanced and fine-grained approach.

6.2. Managerial implications

Managerially, this study suggests that actors in a tourism ecosystem need to take a broad, ecosystemic perspective on the detection and mitigation of deviance. Several implications arise for managers in the tourism industry and policy makers involved with tourism issues. First, we contend that online and offline deviant behaviors feed off each other, therefore mechanisms to detect and manage deviance across online and offline settings and avoid or limit the odds of VCD are important. For instance, the guest-facing staff of individual properties across the world could work alongside staff at the head-office of a hotel chain who are monitoring social media activity. The task force could identify new patterns of deviant behaviors carried over from offline-to-online and *vice-versa*. An early understanding of new online deviant behaviors may be shared with all properties; similarly, staff at a property who become suspicious of a new form of deviant behavior may tap into the collective knowledge of the task force and if required, adopt a common approach regarding these behaviors. Hence, just as online and offline deviant behaviors feed off each other, online and offline strategies to combat them need to feed off each other.

A second implication stems from the point that behaviors may be interpreted as deviant because of different institutional arrangements. The tourism sector, which relies on the integration of varied resources

across a myriad touchpoints, is particularly vulnerable to divergent institutional readings of deviance. The recording and monitoring of VCD incidents that can be attributed to different institutional interpretations of deviance may help managers identify patterns, which they could address through better upstream communication. For instance, a tour operator may discover that some tourists, in a particular destination, express online dissatisfaction with the variability of the sights covered on the city tour, and that such accidental deviance on the part of the tour guide operation is due to the unpredictability of traffic and road closures in the center of a city. They may wish to manage the tourists' expectations by communicating about the variability of the city tours, perhaps even adding an element of 'surprise' in how the tours are described, indicating that the guide may select different routes depending on access and the particular interest of sights or venues on a given day, and invite tourists to share their particular discoveries along their tour online.

A third managerial implication derives from the fact that value is phenomenologically assessed by each actor in the context of a particular exchange (Akaka et al., 2013; Chandler and Vargo, 2011). Considering the many actors involved in tourism ecosystems, and their international and multicultural traits, the phenomenological character of value assessments is important from both public policy and managerial perspectives. By acknowledging the contextual framing of value assessments, public policy makers and managers might mitigate systematic perceptions of deviance among particular actors. The greater proximity between tourists and residents facilitated by online platforms such as Airbnb or HomeAway may lead some residents to perceive that typical service providers (e.g., bars, fast-food outlets) encourage deviant behaviors by tourists (because residents and tourists have incongruent objectives), which could trigger deviant behaviors by residents toward tourists. The need for public policy makers to manage the institutional context (i.e. the rules, norms and/or beliefs) of their location/destination in order to integrate the different actors' expectations has been evidenced in the recent moves by the authorities of such cities as Barcelona, as examined in Table 3.

Fourth, the spread of deviant behaviors via social contagion can greatly affect the reputation of some towns, such as those that become known as ‘boozy’ or stag/hen party towns (Cosslett, 2017; D’Alton, 2014), suggesting the need for behavioral adaptation from these towns. The public policy makers and powerful business actors involved would gain from early consultation and interaction with some of the actors (e.g., online platforms) that are facilitating these phenomena, as well as from work on futures scenarios (Benckendorff, 2007) in order to guide current, important decisions that will affect their area’s quality of life and future reputation.

6.3. Avenues for future research

Several limitations to this study, which represent as many avenues for further research, must be acknowledged. First, this is a conceptual paper, whose main argument and propositions require empirical support. Second, the conceptualization may be further developed to be more comprehensive, fine-grained and realistic in at least three ways: 1. by integrating personal attributes (e.g. gender, social origin, education, etc.), previous research having shown that they may play a role in deviant behaviors (Daunt and Harris, 2011; Fisk et al., 2010); 2. by integrating non-deviant behaviors in the model; and 3. by taking into account other ecosystems that exist alongside the focal ecosystem, and considering their interaction with the focal ecosystem, in situations when they intersect. Such a porosity between ecosystems may occur, for instance, when actors of a different ecosystem enter a tourism ecosystem as ‘parasites’ by integrating its resources in a deviant manner, as when sex workers rent out holiday cottages and operate them as pop-up brothels (Morris, 2017). Such issues can lead to further questions regarding the definition of members of an ecosystem. Can an ecosystem have temporary members (i.e., tourists)? Are the boundaries of an ecosystem determined by time, geography (location), etc.?

Third, when considering the value outcomes of contagious deviant behaviors, we pointed to the impact of the power that aggregated deviant actors can acquire in relation to actors of another level of an ecosystem, leading the latter to adapt their behavior to counter the effect of aggregated deviance on their value outcomes. For instance, the aggregated deviant behaviors of tourists (micro level) can lead to the

adaptation of a city's behavior (macro level) in the way of new regulations, to counter the city's likely VCD. Further research needs to consider more systematically the potential and impact of such power imbalances between the different levels of ecosystems. In particular, can social contagion at a higher (i.e., macro or meso) level of an ecosystem cause similar power imbalances and influence actors at a lower (i.e., meso or micro) level of the ecosystem to adapt their behavior accordingly?

Fourth, further research is needed, concerning role ambiguity in an ecosystem and how actors may resolve the ambiguity. One case is when a single actor endorses two different roles, with contradictory potential value outcomes. For example, an AirBnB employee may both enable the growth of tourist frequentation of her city, while as a local resident, resent those tourists, adopting a deviant behavior towards them outside of work.

Finally, methodologically, the influence played by the institutional arrangements in perceptions of deviance, resource integration and value outcomes, would make the case-study methodology particularly insightful (Plé, 2016), allowing for in-depth investigations of the complex interrelationships between institutional arrangements, behaviors and value outcomes.

In conclusion, this paper has investigated the interrelationships between online and offline deviant behaviors, their contagion to other actors, and their value co-creation and value co-destruction outcomes across all levels of an ecosystem. Via the development of five interconnected propositions and using tourism as an illustrative case, we have shown how deviance, which can be accidental or intentional, is a matter of institutional arrangements, and how it can propagate between the offline and online settings through social contagion, in turn prompting further actors to adapt their behaviors. Through a systematic consideration of the value outcomes of online and offline deviance at the level of a single actor, at one level of an ecosystem and across the ecosystem, we showed that there is likely to be a co-existence of value co-creation and value co-destruction, thus providing a more nuanced and more fine-grained understanding of value outcomes than the 'either/or' VCC or VCD dichotomy. We also allude to the

dynamic aspect of the VCC/VCD balances and imbalances over time, reflecting the truly ecosystemic nature of the behaviors of interacting actors and their value outcomes.

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Table 1: The four causes of social contagion and their application to online ⇔ offline deviant behaviors (reversed) contagion

Cause of (reversed) contagion	Definition and description	Illustration of online ⇔ offline deviant behavior contagion
Information transfer between actors	<p>Actors can transfer information to one another through offline (e.g., Iyengar et al., 2011) or online word-of-mouth (e.g., Bowden et al., 2017; Ring et al., 2016).</p> <p>Actors may acquire information by observing others' behaviors directly (Angst et al., 2010; Gino et al., 2009; Rapp et al., 2013).</p> <p>Actors may “not observ[e] someone who engages in the behavior but [solely observe] the outcome of prior usage” (Schaefers et al., 2016, p. 3).</p>	<p>Information transfer may cause online-to-offline deviant behavior contagion when someone anonymously shows off on social networks by posting a picture of the damages he/she inflicted to a bike from a share-bike service (e.g. Gobe.Bike) after a forbidden usage of the bike, inspiring others to have even more extreme forbidden usages. On the opposite, it may lead to reversed contagion, with new users fixing the damages from prior deviant behavior (Schaefers et al., 2016).</p>
Normative pressure	<p>Occur when actors experience a pressure to conform to the behaviors of other actors whose approval they value (Scott, 2013; Van den Bulte and Lilien, 2001).</p>	<p>Normative pressures may cause tourists misbehaving at a particular location to post photos of their misbehavior online and obtain ‘likes’ on social networks from people whose opinion matters to them. A case of reversed contagion would be to criticize the misbehavior that appears on these photos, in order to counter it and stop its contagion.</p>
Competitive concern	<p>Occurs when actors feel that competitors have acquired knowledge or adopted behaviors from which they get a competitive advantage. In this situation, the latecomer actor feels pressure to act in the same way to avoid being overtaken by the competitor (Van den Bulte and Lilien, 2001).</p>	<p>Competitive concern can cause a hotel that finds out that a competitor uses review farms to increase the amount and valence of reviews about its property, to adopt a similar behavior so as not to be left behind. Competitive concern may conversely cause reversed contagion if the hotel decides that moving in an opposite direction is best for keeping a competitive</p>

advantage.

Performance network effect

Occurs when the benefits of adopting a behavior increases with the number of previous adoptions (Van den Bulte and Lilien, 2001).



A (negative) consequence of performance network effect can be the exponential increase of tourists in a certain location driven by having seen many others on social media enjoying themselves in that location. In turn, this may generate reversed contagion (people stop the adoption of the same behavior, i.e., stop visiting this location because it becomes too crowded).

Table 2: Potential amplifiers of online-to-offline social contagion

Amplifier	Definition and description	Impact on deviant behavior	Illustration
Internet's scope	“The combination of access factors (including the number of individuals reached, speed and availability to individuals) that distinguish the internet from other media” (Chatzidakis and Mitussis, 2007, p. 311)	Allows people who adopt deviant behaviors to have a broader influence online than offline (Chatzidakis and Mitussis, 2007).	Negative online word-of-mouth about a poor restaurant experience can instantaneously reach many more people than its offline equivalent (Ring et al., 2016).
Internet's (relative) anonymity	“The ability of individuals to communicate without identity, using pseudonyms and taking on different personas” (Chatzidakis and Mitussis, 2007, p. 311)	Reinforces misbehavior contagion (Schaefer et al., 2016), because online anonymity supports actors' disinhibited and opportunist behaviors (Denegri-Knott, 2006; Suler, 2004) as they tend to feel less constrained by the social norms and regulations that they feel committed to in the offline world (Suler, 2004). They may even consider some offline reprehensible activities (e.g. posting deceptive reviews or adopting cheating behaviors) to be more acceptable, or even ‘normal’, online (Luca and Zervas, 2016; Sigala, 2017).	A tourist who was refused an upgrade in a resort may decide to post several overly negative, anonymous reviews on several platforms, providing fake information about the resort as a form of retaliation.
Reproducibility of information	“The ability of users to reproduce information online without loss of value” (Chatzidakis and Mitussis, 2007, p. 311)	Deviant behaviors are observable by a larger number of actors online than offline when the content reporting these behaviors is reproduced from website to website. Reproducibility also favors the speed of information's diffusion.	A fake report on a multinational hotel group that would illegally destroy precious natural resources to build a new resort may spread quickly and reach a large number of people all over the world, who may then insult the firm's employees in face-to-face exchanges.
Longevity of	The ability of information to	While online information may be easily	In 2009, Andi Sherman endured a

information	remain accessible online over time	removed from its original source, it may survive much longer online than offline because it can be easily reproduced by other people on other websites. Therefore, online information relative to deviant behaviors might still be accessible several years after the deviant behavior has actually occurred.	terrible hotel stay, bought from Thomson, in Tunisia. His complaints to the company being unanswered, he created a blog to relate his misfortune and Thomson' lack of consideration. Quickly, the blog returned first on Google when searching keywords "Thomson trips" or "trip to Tunisia" (e.g., Daily Mail, 2009). Thomson eventually reacted, apologized and overcompensated for his customer's trouble. Yet, more than three years later, Google still returned Shaman's blog as the fourth result to a "Thomson trip" query (Plé and Lecocq, 2015); in 2018, articles on his misfortune are still available online.
Ease of communication	The ability of a medium to enable rich exchanges of content between individuals	The rise of social media and other rich electronic communication means such as Snapchat, WhatsApp, Skype, etc. "should accentuate social contagion effects because they facilitate interaction between customers" (Bilgicer et al., 2015, p. 267). Conversely, it may also enable people to generate more globally reversed contagious effects. Whereas offline deviant behaviors could only be communicated slowly to a small number of actors, social media can spread knowledge of deviant behaviors instantly, to a broad audience.	Some unsavory 'stag/hen night' behaviors have become typical across cities as a result of these deviant behaviors being easily broadcast online.

Table 3: Social (and reversed) contagion, behavioral adaptation and value outcomes of online and offline deviant behaviors in the Barcelona tourism ecosystem

Events' descriptions	Theoretical underpinnings
<p>Starting point:</p> <ul style="list-style-type: none"> ▪ Development of online rental platforms (e.g., Airbnb, HomeAway) that benefit from the absence of a clear regulation of their business. ▪ Homeowners can make money from their real-estate property. ▪ Tourists who could not afford/find a hotel, or prefer to avoid hotels, find suitable accommodation. 	<p>No deviant behavior at this point, as behaviors occur within given institutional arrangements (absence of clear regulation).</p> <p>Meso-level actors of the tourism ecosystem (Airbnb and HomeAway can be viewed as meso-level actors because their platform nature aggregates the offer of a multitude of micro-level actors) benefit from a regulation failure by macro-level actors (e.g. national or regional states). Micro-level actors (homeowners, tourists) benefit from this situation.</p> <p>Apparent value co-creation for those actors from different levels. Does not mean value co-creation at the ecosystem level, because of potential value co-destruction for the regular hotels that suffer from this situation.</p>
	
<ul style="list-style-type: none"> ▪ Some tourists who have experienced this new mode of accommodation in Barcelona have partied all night for several days. ▪ These behaviors are troublesome for residents, who complained directly to the tourists, asking for calm – in vain. 	<p>Offline deviant behavior by micro-level actors (tourists).</p> <p>Resource-integration interactions between micro-level actors (e.g. homeowner who rents his property to tourists; tourists who spend their money, time, energy to benefit from their rental), and between those micro-level with a meso-level actor (rental platforms that allow the exchange) result in value co-creation for those actors involved in the exchange.</p> <p>Concurrently and conversely, interactions between other micro-level actors (residents and noisy hosts) have resulted in value co-destruction for a category of actors (residents).</p>
	

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- During and after their trip, those tourists show off by posting pictures and videos of “funny” scenes in Barcelona (e.g., eating and bathing in fountains; daily and nightly disorderly behaviors in the streets) on their social media accounts.
 - These reach many people among their contacts or unknown people.



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- The pictures and videos are seen by many people who like them, comment them and share them with other people (contacts or unknown people). They also ask questions to the travelers for more details about their trip. They want to live similar, even more intense traveling experiences.
 - Some consider that it is “the” place to go. Collecting information on Barcelona and the places visited by those earlier travelers, they visit and adopt even worse behaviors.
 - Online, more people aiming to have fun tourism experiences in “hot” places express their desire for the same destination.
 - Some show off to generate envy by posting pictures of them at the airport before leaving for Barcelona.
 - The online buzz makes the destination even more attractive for tourists looking for the same kind of experience.
 - The platforms and the local authorities benefit via higher revenues from tourist activities.
 - Residents experience a negative impact on their everyday life (day and night noise, traffic jams, etc.).



The **offline deviant behavior** (eating and bathing in the fountain, drunken and noisy behaviors, etc.) of those **micro-level actors** (tourists) triggers their own **online deviant behavior** (which is not the online reflection of their offline deviant behavior, but an **actual online deviant behavior** as they intend to show off – Sigala, 2017).

Micro-level actors’ (earlier tourists) **online deviant behavior** generates **offline deviant behavior** of other **micro-level actors** (new tourists) through **social contagion**.

The **causal mechanisms of social contagion** at stake are: **information transfer** (electronic word-of-mouth; observation); **competitive concern** (new tourists want to do even “better and more” than the previous ones); **normative pressure** (go to Barcelona to conform to friends’ behaviors) and **performance network effect** (increasing number of people who go there).

Social contagion within the micro-level is amplified by the **scope** of the internet (many more people who live in different countries are reached in comparison to people who would have just seen the tourists’ behavior directly in the city); the **reproducibility of online information** (pictures and videos posted by the initial tourists are shared across the social networks, by anyone); the **ease of communication** (possibility of sharing experiences with others easily, showing them pictures and videos, asking and answering questions).

Value is co-created for **micro-level actors** (tourists), **meso-level actors** (platforms) and **macro-level actors** (local authorities), while it is concurrently **co-destroyed** for other **micro-level actors** (residents because of a deviant use of their and the city’s resources by tourists).

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- The growing demand in Barcelona leads to unregulated (at times illegal) conversion of long-term rental to short-term holiday accommodation, or (normally forbidden) sublease of flats.
 - Airbnb, HomeAway and similar platforms benefit and grow.
 - Landlords make more money.
 - The well-being of residents is affected when they are driven away from the city or have to pay higher rents. More tourists generate traffic-jams, price increases in shops and other issues for residents.
 - Tourists' troublesome behaviors proliferate, exasperate the city's residents, cause the emergence of Twitter hashtags (e.g., #tourismkillsthecity, #turismofobia), involving pictures or videos of tourists behaving badly, accompanied by insults and demands for restrictive action by authorities.
 - Articles published online about turismofobia have generated numerous insulting messages towards tourists (e.g., "*I prefer to welcome refugees who need us to **drunken Europeans who come to take advantage of our crisis, a matter of dignity and patriotic pride***"; "*This is not a problem of mass tourism, is a **problem of wild tourism of young wild people of the Nordic Europe that come to our country to get drunk, walk half-naked in the streets and do the asshole***" – emphasis ours).
 - Exasperated residents start posting online contents and demonstrating against the lack of reaction of local authorities, threatening their reelection.



To benefit from the increasing demand, **micro-level actors** adopt an **online deviant behavior** (by proposing on online platforms accommodations that should not be used for that).

Micro-level actors' (tourists) **offline deviant behavior** (noisy and disrespectful) **generates other micro-level actors'** (residents) **resistant online behaviors** by **reversed social contagion** (tourists assimilate this resistance to a deviant behavior because they do not see it with the same institutional lenses – tourists and residents **do not share the same institutional arrangements**).

Causal mechanisms of this reversed social contagion are **information transfer** (word-of-mouth, direct and indirect observation of the tourists' behaviors) and **reversed performance networks effects** (the growing number of tourists entails detrimental effects on living in the city). This **reversed social contagion is favored and amplified by** the internet's **scope** (possibility to rally many more people online, such as people confronted to similar issues in other cities) and **anonymity** that Internet enables (possibility to anonymously insult tourists), the **reproducibility of online information** (possibility to copy-paste the same message on multiple places, and circulation of the information to rally more people), the longevity of online information (even several months later, the information is still easily available online, which nurtures the protest) and the **ease of communication** (easier to exchange and convince other people to join the movement, but also easier to insult tourists).

Finally, **value is co-created** for **micro-level actors** (tourists; people who rent their properties on the online platforms) and **meso-level actors** (platforms), but **concomitantly co-destroyed** for other **micro-level actors** (residents). Yet, the emergence of the turismofobia protest may change this situation. And there is a **risk of value co-destruction** for **macro-level actors** (local authorities) whose reelection is menaced.

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- Following online reactions and offline reactions in the city, local authorities move to improve the residents' well-being, while remaining attractive for respectful tourists. They change the regulation and taxation of the platforms' business and different tourism activities (e.g., forbid use of Segways because of accidents); they increase inspections to detect fraudulent rentals.

The strong emergence of micro-level actors' (residents) **online deviant behaviors** (#turismofobia and insults) due to initial **offline deviant behaviors** of other **micro-level actors** (tourists) generates the reaction of **macro-level actors'** (local authorities).

This reaction comprises changes in the existing **institutional arrangements** (new regulation, new tax, increased controls). In the eyes of **meso-level** actors such as the platforms, this is a **offline deviant behavior**.

This situation entails **value co-creation** for some **micro-level actors** (residents who were victims of the situation) and **macro-level actors** (local authorities who show action and get additional taxes), but **value co-destruction** for other **micro-level actors** (tourists and locals who used the platforms to rent their property) and for **meso-level actors** (platforms).

Sources: Burgen (2017); Campoamor (2017); Colau (2014); Dodgshun (2018); Milano (2017) Ordiz (2017); Yanke (2017)