**Achieving loyalty for sharing economy platforms:**

**An expectation-confirmation perspective**

**Abstract**

*Purpose:*This study explores how sharing platforms achieve platform loyalty through various operation management strategies.

*Design/methodology/approach:*A multiple case study method has been conducted in two Chinese sharing economy industries: ride- and bike-sharing. Data were collected through 30 semi-structured interviews with managers from four platform companies (DiDi, Uber China, OfO, and Mobike). Individual case studies were developed from the triangulation of all existing data. Concurrent with the development of these individual case studies was a cross-case analysis. Emerging patterns have been identified and compared to previous findings in the literature to build upon and modify the existing knowledge base and to formulate a series of propositions.

*Findings:*Platform asset characteristics and mergers and acquisitions affect supply network readiness and operational capacity, respectively, and this effect would consequently contribute to achieving platform loyalty through user satisfaction. Moreover, externality, as a moderator, may influence the strength of the relationship between satisfaction and platform loyalty.

*Practical implications:* Theproposed theoretical model provides an overarching framework for sharing platform companies to design and operate their businesses while carefully examining the situations, contexts and actions of users and other stakeholders and choosing an appropriate strategic mechanism to drive platform growth.

*Originality/value:*This study is one of the first to empirically explain how firms in a sharing economy sector could gain platform loyalty by adopting an expectation-confirmation theory perspective.

**Keywords:** Sharing economy, platform loyalty, expectation-confirmation theory, operational capacity

**Article Classification**: Research paper

1. **Introduction**

In recent years, the sharing economy (SE) has been a booming global phenomenon covering many sectors, such as transportation, accommodations and the labour market (Ta et al., 2018). To date, SE platforms, such as Uber and Airbnb, have achieved fast growth and market value owing to the ‘sharing’ business model. Undoubtedly, some SE platform companies have created significant economic, social and environmental success (Belk, 2014); however, a large proportion of them are struggling and face the gradual loss of their users, which will eventually lead to losing market share and even the failure of their business. SE platform companies have invested heavily in marketing to optimize user engagement and boost business growth. To increase user loyalty and retention, companies have taken actions to expand their loyalty programme, such as referral rewards and points for user-generated content. However, in a highly competitive environment, similar loyalty programmes can be quickly adopted by other competitors. Acquiring and retaining platform users can be a huge challenge. The main reasons for losing user loyalty can be as follows: (1) Platform companies cannot consistently implement the same level of platform loyalty scheme, e.g., the platform stops providing subsidies to users (e.g., Uber China). (2) Low operations management efficiency cannot match the platform’s rapid development, which causes substantial resource waste and low service quality (e.g., OfO). (3) Negative externalities occur because of purely pursuing profit-maximisation and neglecting environmental and social issues. Fundamentally, building customer loyalty is a critical, major endeavour for any SE company not only from a marketing perspective but also from a platform operations management perspective.

Research on customer loyalty has been conducted in consumer behaviour. Creating consistently positive emotional experiences, physical attribute-based satisfaction and perceived value of an experience has become the centre of loyalty research in the marketing discipline (Oliver 1999; Toufaily et al., 2013). Traditional e-commerce platforms mainly sell products to consumers, so more attention has been paid to increasing end customer satisfaction, which may lead to customer loyalty. Different from a traditional service supply chain, the essential condition for establishing an SE supply chain is to achieve the matchmaking of huge numbers of users participating in a platform. Additionally, the value of a platform for any user on one side depends on the number of users on the other side (Eisenmann et al., 2006). Therefore, SE platform companies need to develop capabilities to retain users from both supply and demand sides and achieve ultimate platform loyalty. Here, platform loyalty refers to the behavioural intention of users (i.e., repurchase intention) to reuse and prolong the product lifecycle on a platform (Hsu and Lin, 2016).

For example, in the ridesharing context, Uber provides matchmaking services to drivers and customers, while ridesharing services are offered by drivers to passengers. Consequently, it can be found that perceived poor performance, such as an unpleasant service experience, may deter users from re-purchasing products or services. Therefore, the SE platforms need to emphasize how to increase satisfaction from both the demand and supply sides, which can ultimately achieve user loyalty towards the platforms. Specifically, the SE platform’s operations management can determine the quality of the matchmaking service and decide the satisfaction level of the service supplier and customer with the platform.

Currently, most of the research on SE focuses on conceptually identifying the nature of platforms (Belk, 2014; Acquier et al., 2017), such as the institutionalization of the SE platform (Mair and Reischauer, 2017), two-sided SE markets (Kumar et al., 2018) and sustainable value cocreation for consumption and production (Ma et al., 2019). Many research perspectives still come from the marketing or international business field and seek to understand user loyalty from the consumer behaviour perspective. However, few studies have been conducted from the operations and supply chain management (OSCM) perspective, with some exceptions (e.g., Ta et al., 2019, Benjaafar and Hu, 2020). Nevertheless, research on how sharing platforms design their operations strategy to create platform user loyalty is largely lacking.

To address this theoretical gap, this study explores the following research question:

RQ. How do SE platform companies adjust their operations strategies to achieve platform loyalty?

To explore continuance intention with respect to products or services, expectation-confirmation theory (ECT) was adopted in this study. ECT has been widely used to evaluate continuance usage, including consumer satisfaction and repurchase intentions (Bhattacherjee and Premkumar, 2004; Oliver and Burke, 1999). ECT argues that the perceived performance of a product or service customers obtained would have an impact on their confirmation of expectation in the post-purchase stage, which could affect their satisfaction and repurchase intention in return (Oliver, 1993). ECT offers an effective theoretic lens to explain how the platform improves its service quality to maintain users’ loyalty.

The rest of the paper is structured as follows. Section 2 shows the literature review on SE, customer loyalty and expectation-confirmation theory. Section 3 illustrates the case study research methodology and is followed by the case description of the four cases in section 4. Section 5 analyses the four cases in terms of similarities and differences. Section 6 discusses the case findings and proposes a theoretical framework and five sets of propositions. Finally, section 7 concludes the theoretical and practical contributions and acknowledges future research directions and research limitations.

1. **Literature Review**

*2.1. Sharing Economy*

The SE has been considered a highly controversial phenomenon because of its significant economic, social and environmental effects (Belk, 2014). The literature exploring the nature of SE can be broadly divided into two streams: collaborative consumption and the access-based economy. The first stream is represented by Belk (2014), who argues that the core idea of the SE is collaborative consumption, which is defined as an activity of gaining, giving or sharing services or products that is coordinated through online-based services (Botsman and Rogers, 2010). Specifically, the key features of collaborative consumption are that people are encouraged to share idle assets and that the right to use transfers instead of the actual ownership. The second stream is led by Bardhi and Eckhardt (2012), who claim that the nature of SE is to provide access to customers. Therefore, they described SE as a form of access economy that provides customers access to services or products without transferring ownership. Further extending Bardhi and Eckhardt’s (2012) work, Hamari et al. (2015) describe the SE as an online platform that allows peer-to-peer activities for obtaining, giving and sharing access to services and goods through information and communications technologies.

From the operations management perspective, SE platforms possess two notable characteristics that are related to OSCM from the literature. First, flexibility is provided by the SE platform to both the supply and demand sides. Flexibility describes the provision of flexible access, providing various resources that can be accessed on demand, and users can contribute in different roles during “sharing” (Sutherland et al., 2018). Joining an SE business gives users more accessible choices of working part-time as suppliers (e.g., drivers) (Dillahunt and Malone, 2015). Creating flexibility enables users to switch roles from leisure life to work at any time, facilitated by online sharing operations systems, indicating that users can easily and efficiently utilise their idle resources (time, goods, skills). For example, Uber drivers have the choices of either providing ridesharing to passengers in their idle time through logging onto the Uber app or choosing to be offline from the app and enjoy their personal life. In this way, the SE business cultivates a population of “working consumers and consuming producers” (Sutherland et al., 2018).

Matchmaking can be considered another key characteristic when SE platforms operate their business. SE platforms mediate transactions by matching the users from both the supply and demand sides (Mair and Reischauer, 2017). Equipped with a wide range of advanced technologies, such as big data and cloud computing (Kenney and Zysman, 2016), the SE platform constantly optimises the matchmaking process through algorithmic or digitally supported filtering, evaluation, and searching. Taking advantage of the services provided by the platform users is no longer restricted by space or time. Therefore, as one of the primary benefits of the SE platform, automated matching lowers transaction costs and removes the need for institutional bureaucratic overhead (Carroll and Bellotti, 2015b).

2.2. Research on loyalty in the sharing economy

The concept of loyalty is central to organisational study but is mainly concentrated in marketing (Toufaily et al., 2013). It is widely recognized that loyalty can be categorised into two types: attitudinal and behavioural loyalty (Jacoby and Kyner 1973; Aaker 1991; Oliver 1999). Attitudinal loyalty refers to customers’ overall attachment, which is created by different perceptions they obtain from a product, service and organisation (Fornier, 1994). Behavioural loyalty is defined as the frequency and possibility of purchasing the product or service (Yi and Jeon, 2003). Achieving loyalty can help companies increase customers’ expectations, reduce market costs and achieve the continuance of customer visits. It has been discovered that user satisfaction with the product or service has been regarded as the main step in creating user loyalty (Zeithaml et al., 1996; Oliver, 1999). Jen et al. (2011) highlight the positive relationship between satisfaction and loyalty and propose the satisfaction-loyalty theory to further explore the causes of loyalty in a specific service context, which is shown in Figure 1. Satisfaction-loyalty theory shows that both perceived quality and satisfaction have a positive impact on loyalty, while satisfaction is considered a key factor in mediating the impact of service quality on loyalty (Fu et al., 2018).

[Here Insert Figure 1 Please]

The concept of loyalty is also an essential element to the success of platform companies, and some scholars have conducted research on loyalty in an SE context. Adopting planned behaviour and prospect theory, Mao and Lyu (2017) investigate customers’ repurchase intention for Airbnb and find that unique experience expectation, electronic word-of-mouth (eWOM), familiarity, and perceived value have a positive effect on customers’ repurchase intention. Simultaneously, eWOM also has a positive impact on repurchase intention both directly and indirectly through subjective norms. Møhlmann (2015) finds that the user’s self-benefit can determine the relationship between satisfaction and the likelihood of choosing a sharing option in car2go (a car-sharing brand of Mercedes-Benz) and Airbnb. Kim and Kim (2020) investigates the mechanism behind user loyalty to Airbnb and explores how different types of benefits, including direct monetary savings, hedonic benefits (i.e., exploration and entertainment) and symbolic benefits (i.e., recognition and social benefits), affect user decision-making.

These studies have provided valuable insights and enriched the knowledge of customer loyalty in an SE context; however, there are two main limitations. First, most studies on SE are mainly conducted in car-sharing (Uber) and accommodation-sharing (Airbnb) contexts, limiting our understanding of the complete picture of SE. The research area thus should be expanded to other SE contexts (Mao and Lyu, 2017), such as bike-sharing and skill-sharing. Second, studies on customer loyalty in SE mainly focus on exploring antecedents of customer behaviour (i.e., loyalty or satisfaction), such as consumer perceived value and personal characteristics from a marketing perspective. How platforms achieve customer satisfaction through optimized operations management is largely missing from the platform loyalty research.

2.3. Expectation-confirmation theory (ECT)

The underlying principle of ECT stipulates that first, customers have expectations towards the products or service before they purchase; second, customers have a performance perception of this product or service after purchase, and then they form an evaluation of their performance perception based on prior expectations, resulting in a confirmation or disconfirmation of their expectations (Oliver, 1999). Finally, the results could affect customer satisfaction, which is considered an essential step for achieving loyalty towards the company.

ECT is widely used in marketing and information system research to examine customer behaviour. For example, Kim et al. (2009) propose a three-stage process model including pre-purchase, purchase and post-purchase to explore customer behaviour in the e-commerce context. It is found that customer trust, perceived risk and perceived benefits of e-commerce are positively related to the willingness to purchase, which leads to customer expectations in the pre-purchase stage. Trust has a long-term impact on customer loyalty via satisfaction in the post-purchase period. Some scholars turn their focus towards the roles of market activity and information technology in creating customer loyalty. Specifically, the interactive marketspace, such as the fashion market, enables customers to build higher order expectations and customer satisfaction (Patten et al., 2020). ECT is changing traditional shopping experiences, and consumers’ expectations are becoming more difficult to predict and manage because there are many channels to multifaceted digital devices that can generate value perceptions (Ozuem et al., 2017; Patten et al., 2020). Moreover, in service research, customer loyalty is often associated with service quality, which is operationalized as a gap between the expectation of the service and the perceived service (Carr, 2007; Parasuraman et al., 1988). Parasuraman et al. (1988) identify four gaps in the relationship between customers and firms (consumer expectation vs. management perception, management perception vs. service quality specifications, service quality specifications vs. service delivery, and service delivery vs. external communications) and investigate the impact of these gaps on non-customers’ service quality perceptions.

To further explore platform users’ (i.e., service supplier and end customer) ex-post behaviour in the SE context, ECT is used as the theoretical lens in this study. It is essential for platforms to know users’ perceived performance before and after using sharing services, based on their expectations prior to the use of this service and on their satisfaction after using the sharing service. ETC provides a framework for us to understand the user’s perception of how the specific sharing service meets their demand and how to maintain platform loyalty.

1. **Research Methodology**

A multiple case study method is adopted in this study to investigate how SE platform companies adjust their operations strategies to achieve platform loyalty. The case study method is appropriate when the research phenomenon is complex, especially when the boundaries between the emerging social phenomenon and the current context have not been clearly defined (Hartley, 2004). Edmondson and McManus (2007) suggest that this method can be considered a ‘methodological fit’ when exploring a ‘how’ question and where the primary concern of such study is to build theories (Meredith, 1998; Yin, 1989), often leading to calls for further research on the issue (Bastl et al., 2019). We aim to build a theory to explain the mechanism of gaining platform loyalty based on expectation-confirmation theory. As such, it meets what Merton (1968, 9) proposed as “theoretical steppingstones of the middle distance” or “mid-range theory.” In this study, we apply the strategy of theory-building through theory elaboration (Fisher and Aguinis, 2017; Ketokivi, 2006).

*3.1. Case Sample*

SE platform companies operating in China were chosen as the unit of analysis for the study, as China has the most rapidly developing and dynamic SE businesses worldwide (Ma et al., 2018). The trading volume of the Chinese SE amounted to approximately CNY 4.92 trillion (USD 0.72 trillion) in 2017, an increase of 47.2% over the previous years (SIC, 2018). Moreover, the rapid development of Chinese express online payment methods, e.g., Alipay and WeChat pay, has accelerated the development of China’s SE. Since the SE is heavily influenced by capital (Parente et al., 2018), substantial capital investment from venture capital and industrial capital in China makes this setting ideal for research on the SE.

This study adopts a theoretical sampling approach, which focuses on exemplars of SE platform companies (Eisenhardt, 1989), with China as the research setting (Wu and Jia, 2018). In total, eight SE platform companies from six SE industries, including ride, bike, package, mobile power, machinery and financial sharing industries, were initially considered for data collection. A cover letter introducing the purposes of the study was sent to company executives, and seven agreed to participate in the study. Three of seven companies were dropped after pilot interviews with CEOs of platform companies from package-, mobile power- and machinery-sharing industries for various reasons, such as small business scale, immature operations procedures, and unwillingness to provide full access. Finally, four companies, two from ridesharing (DiDi and Uber China) and two bike-sharing industries (OfO and Mobike), were qualified and chosen as the case companies

The ridesharing and bike-sharing industries are considered the two most typical SE industries in China due to their business scale and development stage (Ma et al., 2019). According to 36kr (2017), the volume of on-demand sharing transportation (ridesharing plus bike-sharing) has claimed 67% of the overall volume worldwide. More importantly, the selected case companies are the largest players in the ride- and car-sharing industries. The maximum daily order volume of DiDi (ridesharing) and OfO (bike-sharing), which are the top two SE industries, has already broken through 25 million (SIC, 2018).

The two ridesharing cases represent asset light characteristics; the two bike-sharing cases represent asset heavy characteristics. The construct of platform asset characteristics is one of the key construct in this study and all SE industries can be categorised in one of the two, i.e., asset light or asset heavy.

*3.2. Data Collection*

Semi-structured interviews in this study were adopted as the primary data source. Eisenhardt and Graebner (2007) suggest that interviewing is an effective method to collect empirical data that interviewees tacitly store in their minds, especially when the phenomenon is complex and has not been clearly defined. To reduce respondent bias, multiple interviewees from different management levels, including senior managers, functional managers and operating staff, were interviewed, providing multiple perspectives. They were responsible for platform strategy, operations, and technology and marketing in each SE platform company. A strength of this study is that these four representative SE platform companies gave us full access. In total, 30 interviews were conducted (DiDi: 6; Uber China: 8; Mobike: 9; and OfO: 7; see Table 1). The eight managers were ex-employees of Uber China and worked for another ridesharing platform when the interviews were conducted. An interview protocol was developed to guide data collection (see Appendix 1).

[Here Insert Table 1 Please]

Three rounds of data collection were performed between September 2018 and April 2019: The first round of data collected focused on the senior executives of the case companies, aiming at understanding companies’ daily operations practices; the second round of data collection explored the various constructs based on the developed interview protocol and questions. Finally, the third round of data collection was carried out to obtain information missed in the previous rounds. Further data and information were also collected through telephone calls and emails after these three rounds.

All the interviews were conducted face-to-face in Chinese Mandarin and were digitally recorded and transcribed. Given the respondent diversity, the interview questions were slightly changed for different interviewees to gain insightful information in the related industries. Moreover, the data were saved in a professional database (Miles and Huberman, 1994). Relevant archival data were also collected and used from company websites, news, internal reports and technical publications to the extent possible. Such multiple sources of data were used in triangulation (Eisenhardt, 1989; Hinings, 1997; Sekaran and Bougie, 2016), which enabled the study to not only enrich the data and provide context for the research but also obtain further understanding of the SE platform.

*3.3. Data Analysis*

Both inductive and deductive methods are intimately adopted in analysing the data. The strategy or logic that is used to describe the interplay of induction and deduction is called retroduction (Harrison, 2002). It can be seen that retroductive research involves the cyclical and iterative progression of logical reasoning; moving back and forth between the empirical data, literature and theoretical framework through constant theorising with the aim of developing more refined analytic categories (Miles and Huberman, 1994).

This study analysed data following this logic. Within-case and cross-case analyses were carried out accordingly, and coded data were double checked to guarantee consistency. Within-case analysis was conducted in two steps. First, first-order coding, the basic information of each company and the evolution of sharing practices, were analysed. Then, special attention was paid to sharing economy initiatives, including platform development, service supply development, and production and service quality. Any changes in operational practices and different stakeholders in the sharing economy context were highlighted.

Gioia et al.’s (2013) approach has been employed in our coding and data analysis to guide concept development and theory articulation. By comparing the common patterns in SE operations, we unveil new themes and constructs (Section 5), which could further achieve theorisation by identifying and establishing relationships among these constructs (Section 6).

To clarify the coding process, we turn to the DiDi case. We first identified and categorised DiDi’s supply network with its stakeholders and its operations initiative in the sharing economy context. During the coding and data reduction stage, we found that DiDi serves its users from both the supply and demand sides. We also noticed that the government plays an important role in the development of sharing economy platforms. This observation became part of the first-order code concept. Then, we determined second-order themes through cross-case analysis (section 5), which finally enabled us to aggregate dimensions and propose an empirical model. Detailed information about the steps used for data analysis is presented in Figure 2.

[Here Insert Figure 2 Please]

All the research was validated based on Yin’s (2008) four reliability approaches, as shown in Appendix 2. To ensure reliability, a research protocol was applied to help complete the research design and provide constructive information for research. A case study database was then developed, including recordings, transcripts, field notes, company documents, academic case studies, new coverage and field photos. To strengthen construct validity, the research protocol was grounded in the literature. Multiple sources of evidence, including semi-structured interviews, various forms of secondary data and observations and a combination of primary and secondary data, were used to triangulate the information collected. Finally, one senior manager of each of the four platform companies reviewed the draft case analysis and model, and feedback was given. Internal validity was ensured by structured data coding and analysis. By using multiple cases, external validity could be increased.

The two field researchers/co-authors carried out coding and case analysis manually for all the four cases, in order to ensure inter-coder reliability (Duriau, Reger, & Pfarrer, 2007). The independently coded data were compared to ensure consistency. The two researchers discussed and resolved disagreements, clarifying or redefining some constructs. At the end of the process the two researchers reached the consensus on all constructs.

1. **Within-case analysis**

4.1. DiDi

Founded in 2012, DiDi is the largest ridesharing platform company and is also regarded as one of most representative SE platform companies in China (Forbes, 2018). Since 2012, DiDi has cumulatively experienced at least 10 rounds of financing, gathering more than 10 billion U.S. dollars from various capital organisations, including Tencent and Softbank. After two successful mergers and acquisitions, DiDi expanded its car-sharing service to more than 400 Chinese cities with 550 million users and 30 million registered drivers in fewer than five years. It has dominated the Chinese ridesharing market. The company's value of assessment is approximately $60 billion (Ifeng, 2019). DiDi connects and provides matchmaking services to two main actors, namely, drivers and passengers. Drivers also link with customers because the ride service is provided directly by drivers to customers.

4.2. Uber China

Uber China is a branch set up by Uber Global in China in 2013. Uber China launched its first programme, which is called Uber Black in Shanghai, in 2014, followed by projects such as Uber X in 2014 or People’s Uber in 2015. As one of the most popular SE platform companies in China, Uber China obtained two rounds of financing from different capital organisations, such as Baidu and Softbank, which helped Uber China obtain approximately 2 billion U.S. dollars (CYZone, 2019c). Before being acquired by DiDi in 2016, the final assessed value of Uber China was approximately 6 billion U.S. dollars, and more than 60 Chinese cities are served by Uber China. The entry strategy of Uber China into each city was called the elite team. Specifically, Uber China only employed three people, including one general manager, one operations manager and one marketing manager, to operate the ridesharing business in one city in China at its early stage. In this way, Uber not only minimised the cost of opening the new market but also quickly responded to their users. Uber China links drivers with passengers, and customers are also connected with drivers. Before being acquired by DiDi in 2016. Uber China did not have a local technical team in China. All technical issues related to IT needed to be resolved by the Uber Global technical team in the U.S.

* 1. Mobike

Mobike, founded in 2015, is one of largest bike-sharing platform companies in China. The Mobike has obtained approximately seven rounds of financing from venture capital companies since 2015, such as Panda capital and Meituan. It is reported that the market value for Mobike was approximately 4 billion U.S. dollars in 2017 (CYZone, 2019a). After unsuccessfully merging with OfO, Mobike was eventually acquired by Meituan, which was one of the largest e-commerce platform companies in China in 2018. The supply chain structure of Mobike is as follows: Mobike links with bike manufacturers and components manufacturers in the upstream and customers in the downstream. The reason why there is no interaction between bike manufacturers and customers is because bike manufacturers are only responsible for manufacturing the products (bikes) for Mobike to meet its requirements.

* 1. OfO

OfO, founded in 2014, is the first company who brought the idea of bike-sharing to a mass audience in China. Bike-sharing was initially started in Chinese universities, and then OfO expanded its market from universities to citywide spaces after obtaining the first round of financing in 2015. As the first SE platform whose daily orders broke through 30 million in China, OfO created a milestone in the Chinese ridesharing industry in China in 2017. That same year, the market value for OfO was estimated to reach 5 billion U.S. dollars after seven rounds of financing from different capital organisations, such as DiDi (industry fund) and GSR ventures (venture capital) (CYZone, 2019b). The OfO’s supply chain structure consists of OfO as the intermediary between bike manufacturers and customers. However, due to the low technical level of OfO’s bikes, OfO does not link with component manufacturers such as smart lock manufacturers.

**5. Cross-Case Analysis**

*5.1. Platform asset characteristics and mergers and acquisitions*

There are two types of platforms according to different asset characteristics: asset-light and asset-heavy platforms. The asset-light platform (i.e., DiDi and Uber China) characteristics are operationalised as the efforts or investment by the SE platform, which does not own fixed and tangible assets but rather provides pure services to service suppliers and customers. Table 2 provides information regarding the different asset characteristics of the four SE platform companies from two main SE industries.

In the bike-sharing industry, platform companies, such as Mobike and OfO, tend to display asset-heavy characteristics. Compared to the asset-light platform strategy, those who are heavy-asset orientated tend to provide both online and offline services (managing offline fixed assets) to customers (Li et al., 2019). The asset-heavy platform characteristics in this study are operationalised as the efforts or investment in providing both online and offline services.

 [Here Insert Table 2 Please]

The mergers and acquisitions (M&A) (See Table 2) strategy is considered a key factor for platform companies to extend their business in the SE context (Ma et al., 2019) and is operationalised as transactions in which the ownership of an SE platform is transferred or consolidated with other entities (Teerikangas and Very, 2006). For example, OfO and Mobike tried to merge and achieve a monopoly in bike-sharing. Eventually, this attempt failed.

Specifically, investors once strongly suggested that OfO should merge with Mobike in 2017, but it ultimately did not happen. OfO has been overcompeting with Mobike since 2015. In early 2017, one of OfO’s investors agreed on a term sheet (i.e., a nonbinding agreement setting forth the basic terms and conditions under which an investment will be made) with the founder of OfO, Mr. Wei Dai, that OfO would be given 2 billion USD if the daily order volume exceeded 30 million bike-sharing orders. To achieve this goal, OfO decided to keep purchasing bikes from bike manufacturers and deploying bikes into cities, even using their emergency funds. OfO eventually achieved the goal in November 2017. However, OfO was then told that the current senior management team would lose their dominant rights in the new company after it would merge with Mobike. The OfO founder did not want the company to be controlled by the investors; thus, Wei Dai ultimately used his ‘one vote veto’ right to vote down the proposition to merge with Mobike (every major investor in OfO can vote down a deal), which caused OfO to lose the chance to merge with Mobike. In other words, OfO did not achieve goal congruence with its investors. More importantly, the capital chain ruptured at that time due to the overuse of emergency funds, leading to the near bankruptcy of OfO in 2018.

In contrast, DiDi maintains a positive relationship with its capital stakeholders and stably occupies its leading position in the ridesharing industry. Table 2 illustrates DiDi’s M&A process. To integrate its resources and avoid overcompetition, DiDi first merged in 2015 with Kuaidi, which is another ridesharing platform company in China founded in 2012. Later, in 2016, DiDi acquired Uber China to further expand its market share and advance its technology in search, rating and matching algorithms.

*5.2. Supply network readiness, government policy and operational capacity*

This study identifies that supply network readiness is a key construct for SE platforms and is operationalised as the degree of maturity of supply networks in terms of the two dimensions of network connectedness (i.e., frequency of interactions; Hartmann and Herb, 2015) and comprehensiveness of stakeholder types (i.e., varieties of stakeholders; Parente et al., 2018).

Table 3 shows that DiDi and Uber China have been maintaining supply network readiness in the ridesharing industry. DiDi connects drivers and passengers by providing matchmaking services, and drivers deliver the ride service to customers. DiDi also brings car-leasing companies into the supply network, which can provide car-leasing services to drivers who have a driver’s license but do not have a car. Later, to provide more value-added services to customers (i.e., drivers), DiDi began to develop the automotive after-market and attracted related stakeholders onto the platform such as car-washing stores, gas stations and even repair facilities. DiDi believes that the more varieties of services provided to customers, the more interactions will occur between the platform and users. Thus, DiDi’s supply network connectedness would be enhanced, forming a high level of supply network readiness.

However, in the bike-sharing industry, due to the unsuccessful M&A attempt by OfO and Mobike, resources from the two companies cannot be integrated effectively. Mobike and OfO have been maintaining basic supply network readiness since their establishments, in which platform companies interact with two disconnected actors, bike manufacturers and customers. Since neither OfO nor Mobike have enough capabilities to attract new stakeholders to join in their network, fewer interactions occur in the bike-sharing supply network. Consequently, network connectedness gradually decreases, forming a low level of supply network readiness with less network connectedness and fewer varieties of stakeholders.

[Here Insert Table 3 Please]

The government is an indispensable part of the development of SE platform companies (Parente et al., 2018). Government policy is operationalised as the government allocating quotas in relation to the operational capacity of SE platform companies. The issues of passenger safety in ridesharing and ‘bike graves’ in the bike-sharing industry attracted government attention and triggered its involvement. In the ridesharing industry (see Table 3), to minimize safety concerns, DiDi banned all cars without local license plates. Moreover, in large cities, such as Beijing and Shanghai, drivers without local resident permits are not allowed to register as drivers with DiDi .

Another government policy, which requested private car owners to change their car registration type from private to commercial if they wanted to work in the car sharing industry, has put off drivers’ intention to collaborate with DiDi, because commercial cars are required to be scrapped. Affected by these government policies, DiDi loses a substantial number of private drivers who cannot meet policy requirements. indicating a significant drop of its operational capacity. Operational capacity is defined as the volume of assets that an SE platform can operate to provide products or services to customers (Wu et al., 2010).

Similarly, the news of bike graves due to an oversupply of bikes to the cites has forcibly and demonstrably hit the bike-sharing industry. As a result, many shared bikes were dumped randomly on streets, causing the bike graves (Tencent News, 2018). Bike graves have been criticized for having a negative effect on city management and the local environment. Therefore, strict quotas of bikes that each bike sharing company can deploy have been set by the local government. If the actual quantity of the bikes of one company surpasses its quota, the company will be fined and forbidden to continuing to operate in that city. Therefore, such a policy has put a cap on SE companies’ operational capacity.

5.3. User satisfaction and platform loyalty

Supply chain management for SEs attempts to emphasize the efficiencies in the service production and delivery process, while there is a large incentive to analyse and understand the overall demand for markets within the firm’s current and potential production capacity. The adoption of these two perspectives, by focusing on the internal aspects of the organization and overseeing customers may lead to premium service quality. According to Fu et al. (2018), customer satisfaction is deemed to be the leading criterion for determining the service quality delivered to customers.

In the SE context, user satisfaction in this study refers to the level of satisfaction from both the service supplier and customer sides towards the service they obtained (Mao and Lyu, 2017), while platform loyalty is arguably the consequence of user satisfaction. It is a [unique](https://en.wiktionary.org/wiki/unique) attribute of an SE platform that makes its products and/or services [indispensable](https://en.wiktionary.org/wiki/indisposable) and [valuable](https://en.wiktionary.org/wiki/valuable) to its owners (Laczko et al., 2019). Platform loyalty can be measured by the number of daily active users and monthly active users, i.e., the larger the number, the stickier the platform is, to increase platform loyalty (see Table 4).

There are two ways to achieve user satisfaction. On the one hand, to satisfy supply users, DiDi collaborates with various stakeholders to provide extra value-added services (i.e., car leasing offices, gasoline stations and repair factories) to the drivers in its network. The more comprehensive services DiDi provides to drivers, the more choice and convenience drivers can obtain. The extra value DiDi creates may surpass drivers’ initial expectations, in turn generating positive confirmation in their expectations, which leads to satisfactory results. For example, DiDi can offer flexible choices for drivers to use either their own cars or cars rented from DiDi to meet their individual needs. On the other hand, DiDi has put effort into increasing operational capacity by contracting more idle personal cars and idle cars for lease, which enables passengers to not only have more available choices but also efficiently obtain access to the service at any time and place. Simultaneously, passengers’ expectations of DiDi can be met due to the high level of responsiveness of DiDi.

[Here Insert Table 4 Please]

However, customer loyalty toward bike-sharing platform companies is different situation (see Table 4). The fundamental issue is that bike-sharing companies, such as Mobike or OfO, cannot provide diversified services to customers and occasionally cannot provide enough qualified shared bikes (i.e., due to broken bikes) to their customers. The three main reasons for this phenomenon are as follows: (1) Numerous bikes have been damaged deliberately or discarded in places far away from the city centre, which significantly reduces bike availability. (2) these two companies compete by over-purchasing a great number of bikes to expand their market shares. However, neither of them has enough capabilities to better manage these resources, leading to low operational efficiency. The quality of services cannot be guaranteed to match customers’ expectations. (3) These two companies failed to merge with each other. Neither of them has enough resources to attract extra value-added service providers to join its network. Thus, the value created for customers is largely restricted.

Owing to these three main reasons, customer expectations cannot be fully met through the platform’s operation, leading to a low level of customer satisfaction. More importantly, for OfO or Mobike, the traditional approach to maintain user satisfaction is to continually provide subsidies to customers. If the platform is not capable of providing sustainable financial subsidies as customers expect, customers will not continuously enjoy the benefits brought by low prices and high quality bike-sharing services. The negative confirmation of expectations may reduce customers’ intention to reuse the platform service.

5.4. *Externalities Created by Platforms in the Sharing Economy*

Externality is another key construct identified from the case and is operationalised as the cost or benefit that affects a party who did not choose to incur that cost (i.e., negative externality) or receive that benefit (positive externality) (Ding et al., 2019; Zhang et al., 2019). Social and environmental aspects of externality are particularly salient in this study. DiDi and Uber China achieve positive externalities (Table 5). After their M&A in 2016, DiDi integrated the resources of local car-leasing companies and therefore significantly increased the number of drivers. The increased operational capacity makes it possible to fully meet passengers’ requirements for ridesharing services, especially during rush hours. DiDi also improved its matchmaking efficiency for drivers and customers alike by acquiring Uber China’s knowledge resources. Taking advantage of Uber’s advanced technology, such as algorithms, DiDi significantly improved its matchmaking efficiency and service delivery accuracy for its customers.

[Here Insert Table 5 Please]

Passenger safety had become a negative externality before DiDi implemented new safety protection measures (e.g., adding an emergency contact number). For example, the driver is the one who directly provides ride services to customers. There were incidents of murder and sexual assault of passengers by DiDi’s drivers, causing a public relations crisis for the company (Tencent News, 2018). This safety concern may create a negative impact when passengers make purchase decisions on DiDi, or they may consider using other ridesharing platforms instead.

In the bike-sharing industry, positive or negative externalities can also be created. For instance, when people choose to ride the last mile rather than drive cars, one of the most important positive externalities of bike sharing is alleviating local traffic congestion and simultaneously reducing air pollution (i.e., diminishing CO2 emissions). Moreover, Ma et al. (2018) argue that bike-sharing could be considered a type of flexible public transportation. Bike-sharing services can be used anytime and anywhere, but traditional public transports cannot, especially in places without taxis or buses.

However, some negative social externalities can also exist. For example, to occupy more market share, all bike-sharing platform companies bought numerous bikes and deployed them on every single street in the city to use for free. The real demand for sharing bikes was significantly less than supply (the actual quantity of deployed bikes in cities). Such irrational competition in the early stage of the bike-sharing industry led to high operational costs and low capability to manage the bikes. Many shared bikes were discarded randomly on pavements or other public spaces, significantly blocking pedestrian paths. Many bikes have ended up in bike graves in cities because of the carelessness of users or lack of maintenance. This has created significant resource waste and environmental problems. All the operationalised definitions of the constructs identified and discussed in this cross-case section are provided in Table 6.

[Here Insert Table 6 Please]

**6. Discussion**

In this section, we mainly discuss the findings, which are the relationships between the constructs, and compare those findings with existing literature. To answer the research questions, the present study proposes a theoretical framework in Figure 3 and develops five sets of propositions based on within- and cross-case analyses building on ECT.

[Insert Figure 3 here]

In this theoretical model, we find that operational capacity and supply network readiness can be regarded as two antecedents to increase user satisfaction from both the service supply and customer sides. Moreover, we argue that the externalities created by the SE platforms positively moderate the relationship between user satisfaction and platform loyalty, all of which contribute to the ETC and platform loyalty literature.

*6.1. Relationship between platform asset characteristics and outcomes*

The ridesharing industry is the most typical industry in the SE context (Kumar et al., 2018). In this industry, the main role of DiDi or Uber China is to provide the matchmaking service to both service suppliers (drivers) and customers (passengers) through technological advances in search, rating and matching algorithms that allow drivers to provide ride services to passengers directly (May et al., 2017; Botsman and Rogers, 2010). SE firms DiDi and Uber China have asset-light platform characteristics. In the bike-sharing industry, OfO and Mobike need to not only offer mobility-based services to customers but also invest significant efforts in offline operations management. These companies simply purchase bikes from bike manufacturers and retain the ownership of these bikes. Thus, OfO or Mobike have asset-heavy platform characteristics. To quickly take market share, all platforms have experienced a period of exaggerated growth, during which the platforms expanded their own business regardless of cost considerations. Both asset-light and asset-heavy platforms increase their operational capacity by recruiting more drivers as service suppliers or deploying more bikes on the street. In this way, more operational flexibility is created. Consistent with this discussion, the study offers the following propositions:

*P1a: A proactive asset-light platform tends to recruit more service suppliers to increase its operational capacity.*

*P1b: A proactive asset-heavy platform tends to buy and deploy more assets (*e.g*., bikes) to increase its operational capacity.*

Service platforms, such as DiDi or Uber, that have asset-light platform characteristics can focus on effectively providing matchmaking services to both drivers and passengers. Then, DiDi began to provide more comprehensive value-added services to the customers (drivers), as indicated in section 5.2. DiDi believes that the more services are provided by related stakeholders to customers, the more interactions will occur between them; thus, more mutual value can be delivered. This enhances the platform’s network connectedness with all stakeholders and may engage more stakeholders in the network.

Platforms that have asset-heavy platform characteristics (e.g., Mobike and OfO) may concentrate on both online service and offline OM, as indicated in section 5.3. However, neither OfO nor Mobike have attracted more related stakeholders into their network due to a lack of funds as a result of overcompetition (Section 5.1). Thus, compared with companies with asset-light platform characteristics, OfO and Mobike can only provide a simple bike-sharing service to customers. Limited value-added stakeholders or service providers are involved in their supply network, and fewer interactions occur among actors. Consequently, the level of network connectedness is low in the bike-sharing supply network. Following from this discussion, the study offers the following propositions:

*P1c: The asset-light platform* characteristics *enable the platform to evolve towards a comprehensive supply network that involves multiple external stakeholders serving suppliers and customers and improves network readiness.*

*P1d: The asset-heavy platform* characteristics *enable platforms to evolve towards a simple supply network in which network readiness tends to remain unchanged or change much less (compared to asset-light platforms) in terms of the number of stakeholders and network readiness.*

6.2. *Relationship between M&A and outcomes*

Thanks to the M&A strategy indicated in section 5.1, DiDi integrated the resources owned by two separate platform companies; thus, the overall quantity of cars increased. Consequently, the overall operational capacity of DiDi increased. Moreover, by carrying out M&A, DiDi was later able to develop resources or be alliance with other stakeholders to provide more value-added services to its users. DiDi developed the automotive after-market and invited related stakeholders into the platform, as detailed in section 5.2. Additionally, due to the push of the M&A strategy, DiDi was able to increase its network connectedness and comprehensiveness of stakeholders to a large extent. For those platform companies that have asset-heavy platform characteristics, e.g., Mobike and OfO, M&A did not occur. The study offers the following propositions:

*P2a: M&A has a positive relationship with the operational capacity of platforms that have asset-light platform characteristics.*

*P2b: M&A has a positive relationship with the supply network readiness of platforms that have asset-light platform characteristics*

*6.3. Antecedents of user satisfaction and its outcome*

In this study, we argue that operational capacity and supply network readiness can be considered the two antecedents to achieve user satisfaction. Prior to discussing this viewpoint, the role of government policy should also be considered in this study. The government started regulating the SE market to make sure the market could stably develop. In the ridesharing industry, three strict regulations enacted by the government that affected DiDi are explained in section 5.2; consequently, an increasing number of private car owners stopped using DiDi as a source of income, which led to a decline in the supply of drivers. Thus, these three strict regulations significantly led to an insufficiency of car supply and operational capacity. In the bike-sharing industry, companies such as OfO and Mobike are required to strictly comply with bike quotas (Lan et al., 2017), as indicated in section 5.2. Consequently, the bike-sharing service coverage in cities has been negatively influenced, which directly affects operational capacity. Following from the above discussion, the study offers the following proposition:

*P3a: Compliance with government regulations (*i.e*., allocating quota) has a negative effect on the operational capacity of SE platform firms.*

Platform companies, regardless of the ridesharing or bike-sharing industry, can provide stable operational capacity with services or products that directly influences user satisfaction. For example, passengers may not choose DiDi as their primary ridesharing platform if they cannot always successfully call for a car or have to wait for a car for a long time due to an operational capacity shortage. Prior to purchasing DiDi’s service, customers may have various expectations (i.e., emergency demand for taking a DiDi rideshare) and hope DiDi can achieve their basic demand for the ridesharing service. However, DiDi cannot meet the expectation of the user prior to the purchase if DiDi does not have stable and adequate operational capacity. Similarly, people may decide to deal with the last-mile issue by walking or taking a taxi rather than using a bike-sharing service due to being unable to find a bike nearby when they expected it, since the total quantity of bikes from different bike-sharing companies has been controlled by the bike quota policy. According to these two situations, customers may stop choosing a given platform because of unpleasant experiences resulting from insufficient operational capacity, which did not meet the user’s expectation towards the platform and which had negative effects on platform loyalty. Following from the above discussion, the study offers the following proposition:

*P3b: Operational capacity provides customers with availability of service and therefore has positive effects on user satisfaction.*

Supply network readiness is another key factor that can directly influence user satisfaction. For example, in the ridesharing industry, the main purpose of extending supply network readiness for DiDi is to increase the user satisfaction of its customers. DiDi believes that a single product, i.e., providing a matchmaking service, cannot help it retain customers in the long term. Alternatively, after merging with Kuaidi and acquiring Uber China, DiDi has started focusing on the automotive after-market and provides various value-added services to customers, such as car leasing, fuel and repair services. The main purpose of providing value-added services is to provide a more comprehensive service to drivers. Thus, DiDi can meet the basic matchmaking service demand and provide comprehensive value-added services to drivers when they need these, thus increasing their user satisfaction with DiDi.

However, compared with DiDi, which has a high level of supply network readiness, the level is relatively lower in the bike-sharing industry. Specifically, because of the failure of merging with each other, Mobike and OfO were unable to attract new stakeholders onto their platform. Instead of offering various value-added services, Mobike and OfO continue delivering a single product and service to customers, which may not meet customers’ complex requirements, leading to relatively low user satisfaction. Following from the above discussion, the study offers the following proposition:

*P3c: Supply network readiness provides service suppliers and customers with the required service and therefore has positive effects on platform satisfaction.*

6.4. *The relationships between user satisfaction, platform loyalty and externality*

This study argues that different levels of user satisfaction could have different impacts on users’ platform loyalty from the supply and demand sides (see section 5.3). For example, in the ridesharing sector, DiDi can provide enough ridesharing services to the end user and offer various value-added services to the service supplier, which meet the expectations from users and make them happy with DiDi. By doing so, DiDi can cultivate its users’ loyalty. In the bike-sharing sector (see section 5.3), OfO and Mobike can neither provide diversified services to customers nor offer enough available shared bikes to customers; this outcome leads to a low degree of user satisfaction. Consequently, users are no longer willing to continually use these platforms. Following from the above discussion, the study offers the following proposition:

*P4a: User satisfaction has positive effects on platform loyalty.*

Moreover, externalities created by platform companies of both ridesharing and bike-sharing industries can influence the relationship between user satisfaction and platform loyalty. For example, using a bike-sharing service can alleviate local traffic congestion, especially during rush hours and simultaneously diminish CO2 emissions, thus protecting the environment. Similarly, it is unlikely that customers will leave a ridesharing platform when they have become used to it in their daily life because ridesharing services can meet customers’ demands when they need a ride. However, platform companies can also create negative externalities. For example, due to overcompetition, excessive shared bikes were discarded randomly on pavements or other public spaces, significantly affecting public rights of way and passively influencing the platform’s reputation. Moreover, because of the misuse by bike customers, users often find a bike with problems (i.e., broken or worn equipment) when they need a bike, which significantly influences their willingness to repurchase the next time. Positiveexternalities enhance user satisfaction and have positive effects on platform loyalty, while negative externalities damage platform reputation and user satisfaction and have negative effects on platform loyalty. Following from the above discussion, the study offers the following proposition:

*P4b: externalities moderate the relationship between user satisfaction and platform loyalty*

**7. Conclusion**

By applying a multiple case study method, this study examines four SE platform companies in China. This study has gone beyond the traditional focus on exploring the nature of SE by empirically examining its operational practices and answering key questions of how SE platform companies adjust their operations strategy to improve user satisfaction and ultimately achieve platform loyalty. The four sets of propositions provide answers to these questions. By answering these questions, several important theoretical and managerial contributions can be made.

*7.1. Theoretical Contributions*

This study contributes to the literature on satisfaction-loyalty and SE in the following ways.

First, we are the first to link operations strategy and platform loyalty in an SE context. Previous studies mainly discuss loyalty from the consumer behaviour perspective by stressing the end customer-centric goals of an organization in the SE context (Mao and Lyu, 2017; Kim and Kim, 2020). However, it is not uncommon for demand chain analysis to identify customer expectations for which an economically viable response is not sustainable (Walters, 2009). This research highlights the importance of understanding platform loyalty from an operations management perspective. SE platforms consistently reconfigure their operations, form collaborative partnerships and supply chain relationships to ensure optimal service quality and ultimately achieve platform loyalty. In this sense, we extend the ECT to an SE platform context going beyond pure consumer research and focus on both supply and demand sides and provide a complete framework to explain how platform loyalty is achieved through carefully selected operations strategies.

Second, we found that the two operations strategies of operations capacity and supply network readiness are important antecedents to user satisfaction and contribute to the literature of satisfaction-loyalty. Most studies mainly focused on considering perceived performance (i.e., service quality) as the antecedent to achieve satisfaction and loyalty. We argue that the two operations strategies of operations capacity and supply network readiness play an important role in enhancing satisfaction-loyalty. Specifically, operations capacity is heavily influenced by government policy towards the ride- or bike-sharing industry. Supply network readiness indicates the value-added service provided to suppliers (e.g., drivers), who are in turn supported (by the platform) to provide high quality service to consumers.

Third, this study responded to Benjaafar and Hu’s (2020) call for more sharing economy studies that should be conducted from the OSCM perspective. Previous SE-related OSCM studies focused on resource distribution (i.e., peer-to-peer sharing and matchmaking) and price optimization (Benjaafar and Hu, 2020; Tian and Jiang, 2018). We identified two OSCM constructs (i.e., operations strategy and supply network readiness) and found that they are affected by an SE platform’s M&A activities and platform asset characteristics (asset-heavy or -light).

*7.2. Managerial Contributions*

The study offers important managerial implications for SE platforms. First, platform companies could carry out the M&A strategy to further achieve resource integration and avoid over-competition based on the different industries in which they are involved. Subsequently, platform companies should try to attract more stakeholders to improve their supply network readiness and simultaneously increase operational capacity to meet the user’s expectations and thus achieve user satisfaction, which positively leads to platform loyalty. Moreover, SE platform firms should focus on the externalities the platform may create, and they should try to create more positive externalities and avoid creating negative ones to better achieve platform loyalty.

*7.3. Limitations and Future Research Directions*

This study is not without limitations. First, since a multiple case study method is adopted, the study suffers subjective interpretation of the researchers. Future research may move from theory building to theory testing since the present study has proposed the basis of an SE for further development (Dyer and Wilkins, 1991). A large sample survey could be considered a fruitful path for future studies to test propositions derived from the theoretical framework. Moreover, this study only examines the role of government and investors as stakeholders. Future studies might involve more stakeholders in SE research, turning the viewpoint from the triadic perspective to an ecosystem perspective (Parente et al., 2018).

**Reference:**

Acquier, A., Valiorgue, B. and Daudigeos, T. (2017), "Sharing the shared value: A transaction cost perspective on strategic CSR policies in global value chains", *Journal of Business Ethics*, Vol. 144, pp.139-152.

Bardhi,F. and Eckhardt, G.M. (2012), “Access-based consumption: the case of car sharing”, *Journal of Consumer Research*, Vol. 39 No. 4, pp.881-898.

Barratt, M., Choi, T.Y. and Li, M. (2011), “Qualitative case studies in operations management: Trends, research outcomes, and future research implications”, *Journal of Operations Management*, Vol. 29, pp. 329-342.

Belk, R. (2014), "You are what you can access: Sharing and collaborative consumption online", *Journal of Business Research*, Vol. 67 No.8, pp.1595–1600.

Benjaafar, S. and Hu, M. (2020), “Operations Management in the Age of the Sharing Economy: What Is Old and What Is New?”, Manufacturing & Service Operations Management, Vol. 22, No.1, pp.93-101.

Bhattacherjee, A. and Premkumar, G. (2004), “Understanding Changes in Belief and Attitude Toward Information Technology Usage: A Theoretical Model and Longitudinal Test”, MIS Quarterly, Vol. 28, No. 2, pp. 229-254.

Bloomberg news (2018), “Bike-sharing Pioneer OfO Flirted With Bankruptcy as Cash Dried Up”, available at <https://www.bloomberg.com/news/articles/2018-12-20/bike-share-pioneer-ofo-flirted-with-bankruptcy-as-cash-dried-up>.

Botsman, R. and Rogers, R. (2010), “*What's Mine Is Yours: The Rise of Collaborative Consumption”*, New York, NY: Harper Business.

Bucher, E., Fieseler, C. and Lutz, C. (2016), "What's mine is yours (for a nominal fee) – Exploring the spectrum of utilitarian to altruistic motives for Internet-mediated sharing", *Computers in Human Behavior*, Vol. 62, pp.316-326.

Carr, C. (2007), “The FAIRSERV model: consumer reactions to services based on a multidimensional evaluation of service fairness”, Decision Sciences, Vol. 38 No. 1, pp. 107–130.

Carroll, J. M. and Bellotti, V. (2015). “Preface to the special issue on peer-to-peer exchange and the sharing economy: Analysis, designs, and implications”, Interaction Design and Architecture(s), Vol. 24, pp. 5–13.

Cohen, B. and Muñoz, P. (2016), "Sharing cities and sustainable consumption and production: towards an integrated framework", *Journal of Cleaner Production*, Vol. 134, pp.87–97.

CYZone (2019). Profile for Mobike, 2019. Available from: <https://www.cyzone.cn/company/314249.html>.

CYZone (2019). Profile for OfO, 2019. Available from: <https://www.cyzone.cn/company/295225.html>

CYZone (2019) Profile for Uber China, 2019. Available from: <https://www.cyzone.cn/company/321699.html>

Demers, E. and Lev, B. (2000), “A rude awakening: internet shakeout in 2000”, Working Paper FR 00-13, Bradley Policy Research Center Financial Research and Policy. William E. Simon Graduate School of Business Administration, University of Rochester.

Dillahunt, T. R. and Malone, A. R. (2015). “The promise of the sharing economy among disadvantaged communities”, Proceedings of the 33rd Annual ACM Conference on Human Factors in Computing Systems, pp. 2285–2294.

Ding, H.P., Huang, H. and Tang, O. (2018), “Sustainable supply chain collaboration with outsourcing pollutant reduction service in power industry”, *Journal of Cleaner Production*, Vol. 186, pp. 215-228.

Duriau, V. J., Reger, R. K., & Pfarrer, M. D. (2007). A content analysis of the content analysis literature in organisation studies: research themes, data sources, and methodological refinements. *Organisational Research Methods*, 10 (1), 5-34.

Dyer, W.G. and Wilkins, A.L. (1991), “Better Stories, Not Better Constructs, To Generate Better Theory: A Rejoinder to Eisenhardt”, *Academy of Management Review*, Vol. 16 No. 3.

Edmondson, A.C. and Mcmanus, S.E. (2007), “Methodological fit in management field research”, *Academy of Management Review*, Vol, 32, No. 4

Eisenhardt, K.M. (1989). “Building theories from case study research”, *Academy of Management Review*, Vol. 14 No. 4, pp. 532–550.

Eisenhardt, K.M. and Graebner, M.E. (2007), “Theory Building from Cases: Opportunities and Challenges”, Vol. 50, No. 1.

Eisenmann, T., Parker, G. and Alstyne, M, A. (2006), “Strategies for two-sided markets”, Vol. 84, No. 10, pp. 92-101.

Eroglu, C. and Hofer, C. (2014), “The effect of environmental dynamism on returns to inventory leanness”, *Journal of Operations Management*, Vol. 32, No. 6, pp. 347-356.

Fisher, G. and Aguinis, H. (2017), “Using theory elaboration to make theoretical advancements”, Organization Research Methods, Vol. 20, No. 3, pp. 438–464.

Forbes (2018), "Top 10 companies behind the 2018 midas list: exits and unicorns that helped their investors the most", available at: <https://www.forbes.com/sites/truebridge/2017/04/18/top-10-companies-behind-the-2017-midas-list/#2816411b28f0>

Fournier, S. (1994), “A consumer-brand relationship framework for strategic brand management”, Dissertation at the University of Florida.

Fu, X, M., Zhang, J, H and Chan, F, T, S. (2018), “Determinants of loyalty to public transit: A model integrating Satisfaction-Loyalty Theory and Expectation-Confirmation Theory”, Transportation Research Part A, Vol. 113, No. 476-490.

Gong, Y., Jia, F., Brown, S. and Koh, L. (2018), “Supply chain learning of sustainability in multitier supply chains: A resource orchestration perspective”, *International Journal of Operations & Production Management*, Vol, 38, No. 4, pp. 1061-1090.

Hamari, J., Sjöklint, M. and Ukkonen, A. (2015), "The sharing economy: Why people participate in collaborative consumption", *Journal of the Association for Information Science and Technology*, Vol. 67 No. 9, pp. 2047-2059.

Harrison, A. (2002), “Case study research”. In: David P. (Ed.), Essential Skills for Management Research. Sage, London

Hartl, B., Hofmann, E. and Kirchler, E. (2016), "Do we need rules for what’s mine is yours? Governance in collaborative consumption", *Journal of Business Research*, Vol. 69 No. 8, pp.2756-2763.

Hartley, J. (2004). Case study research. In C. Cassell & G. Symon (Eds.), Essential guide to qualitative methods in organizational research (pp. 323-333). London: Sage.

Hayes, R. and Wheelwright, S. (1979a), “Link manufacturing process and product life cycles”, *Harvard Business Review*, January/February, 133–140.

Hayes, R. and Wheelwright, S. (1979b), “The dynamics of process-product life cycles. *Harvard Business Review*, March/April, 127–136.

Hellwig, K., Morhart, F., Girardin, F. and Hauser, M. (2015), "Exploring different types of sharing: A proposed segmentation of the market for “sharing” businesses", *Psychology & Marketing*, Vol. 32 No.9, pp.891-906.

Hinings, C.R. (1997), “Reflections on processual research Scandinavian”, *Journal of Management*, Vol. 13 No. 4, pp. 493-503.

Hsu, Chin-Lung. and Lin, Chuan-Chuan. (2016), “Effect of perceived value and social influences on mobile app stickiness and in-app purchase intention”, *Technological Forecasting & Social Change*, Vol. 108, pp. 42-53

IFeng, 2019. Didi received USD20 Billion fund. Available from: <https://finance.ifeng.com/a/20180907/16492068_0.shtml>

Jacoby, J. and Kyner, D.B. (1973), “Brand loyalty versus repeat buying behaviour”, Journal of Marketing Research, Vol. 10 No. 1, pp. 1-9.

Jen, W., Tu, R. and Lu, T. (2011), “Managing passenger behavioral intention: an integrated framework for service quality, satisfaction, perceived value, and switching barriers”, Transportation, Vol. 38, pp. 321–342.

Jia, F., Lamming, R., Sartor, M., Orzes, G. and Nassimbeni, G. (2014), “International purchasing offices in China: a dynamic evolution model”, *International Business Review*, Vol. 23 No. 3, pp. 580-593.

Ketokivi, M. (2006), “Elaborating the contingency theory of organizations: the case of manufacturing flexibility strategies”, Production and Operations Management, Vol. 15, No. 2, pp. 215–228.

Kim, B. and Kim, D. (2020), “Attracted to or Locked In? Explaining Consumer Loyalty toward Airbnb”, Sustainability, Vol. 12, No. 7.

Kim, J., Jin, B., and Swinney, J. L. (2009), “The role of etail quality, e-satisfaction and e-trust in online loyalty development process”, Journal of Retailing and Consumer Services, Vol. 16, No. 4, pp. 239-247.

Kumar, V., Lahiri, A. and Dogan, O. (2018), "A strategic framework for a profitable business model in the sharing economy", *Industrial Marketing Management*, Vol 69, pp.147–160.

Laczko, P., Hullova, D., Needham, A., Rossiter, A.M. and Battisti, M. (2019), “The role of a central actor in increasing platform stickiness and stakeholder profitability: Bridging the gap between value creation and value capture in the sharing economy”, *Industrial Marketing Management*, Vol 76, pp. 214-230.

Lan, J., Ma, Y., Zhu, D., Mangalagiu, D. and Thornton, T.F. (2017), “Enabling value Cocreation in the sharing economy: the case of Mobike”, *Sustainability*, Vol. 9. No. 9.

Li, D., Liu, G.Q., Jia, F. and Sun, H. (2019), “Sharing economy-based service triads: Towards an integrated framework and a research agenda”, *Journal of Cleaner Production*, Vol 218, pp. 1031-1044.

Ma, Y., Rong, K., Mangalagiu, D., Thornton, TF. and Zhu, D. (2018), "Co-evolution between urban sustainability and business ecosystem innovation: Evidence from the sharing mobility sector in Shanghai", *Journal of Cleaner Production*, Vol. 188, pp.942-953.

Ma, Y., Rong, K., Luo, Y., Wang, Y., Mangalagiu, D. and Thornton, T. (2019), "Value Co-creation for sustainable consumption and production in the sharing economy in China", *Journal of Cleaner Production*, Vol. 208, pp.1148-1158.

Mair, J. and Reischauer, G. (2017). “Capturing the dynamics of the sharing economy: Institutional research on the plural forms and practices of sharing economy organizations”, vol. 125, pp.11-20.

Mao, Z, X. and Lyu, J, Y. “Why travelers use Airbnb again? An integrative approach to understanding travelers’ repurchase intention”, International Journal of Contemporary Hospitality Management, Vol. 29, No. 9, pp. 2464-2482.

Meredith, J. (1998). “Building operations management theory through case and field research”, *Journal of Operations Management*, Vol. 16 No. 4, pp. 441–454.

Miles, M.B. and Huberman, A.M. (1994), Qualitative Data Analysis, 2nd Ed, Sage, London.

Miles, M.B., Huberman, A.M. and Saldana, J. (2013), Qualitative Data Analysis A Methods Sourcebook, 3rd ed., Sage, London.

Møhlmann, M. (2015), “Collaborative consumption: determinants of satisfaction and the likelihood of using a sharing economy option again”, Journal of Consumer Behaviour: An International Research Review, Vol, 14, No. 3, pp. 193-207.

Oliver, R.L. (1993), “Cognitive, Affective, and Attribute Bases of the Satisfaction Response”, Journal of Consumer Research, Vol. 20, No. 3, pp. 418-430.

Oliver, R.L. (1999), “Whence consumer loyalty?”, Journal of Marketing, Vol. 63, pp. 33-44.

Oliver, R, L. and Burke, R, R. (1999), “Expectation Processes in Satisfaction Formation: A Field Study”, Journal of Service Research, Vol.1, No.3.

Ozuem, W., Patel, A., Howell, K.E., Lancaster, G., 2017. An exploration of consumers’ response to online service recovery initiatives: identifying equity theory and fairness. International Journal of Marketing Research, Vol. 53, No. 5, pp. 1–24.

Parente, R., Geleilate, J.M. and Rong, K. (2017), "The Sharing Economy Globalization Phenomenon: A Research Agenda", *Journal of International Management*, Vol. 24, pp.52–64.

Parasuraman, A., Zeithaml, V. and Berry, L. (1988), “SERVQUAL: a multiple-item scale for measuring consumer perceptions of service quality”, Journal of Retailing, Vol. 64, No. 1, pp. 12–40.

Pathak, S.D., Wu, Z. and Johnston, D. (2014), “Toward a structural view of co-opetition in supply networks”, *Journal of Operations Management,* Vol. 32, pp. 254-267.

Patten, E., Ozuem, W., Howell, K. and Lancaster, G. (2020), “Minding the competition: The drivers for multichannel service quality in fashion retailing”, Journal of Retailing and Consumer Services, Vol. 53.

Romero-Silva, R., Santos, J. and Hurtado, M. (2018), “A note on defining organisational systems for contingency theory in OM”, *Production Planning & Control,* Vol.29, No.16, pp. 1343-1348.

SIC (State Information Center), 2018. “China Sharing Economy Development Report”, State Information Center, Beijing.

Simmel, G., 1950, “The triad. In: The Sociology of George Simmel”, Free Press, Glencoe, IL.

Simpson, M., Padmore, J. and Newman, N. (2012). “Towards a new model of success and performance in SMEs”, *International Journal of Entrepreneurial Behavior & Research*. Vol. 18, pp. 264–285.

Sinha, Kingshuk, K. and Van de Ven, Andrew, H. (2005), “Designing work within and between organizations”, *Organization Science*, Vol. 16 No. 4, pp. 389–408.

Sutherland, W. Jarrahi, M, H. (2018), “The sharing economy and digital platforms: A review and research agenda”, International Journal of Information Management, Vol. 43, pp. 328-341.

Sutton, R.I. and Callahan, A.L. (1987), “The Stigma of Bankruptcy: Spoiled Organizational Image and Its Management”, *Academy of Management*, Vol. 30, No. 3.

Ta, H., Esper, T.L. and Hofer, A.R. (2018), “Designing crowdsourced delivery systems: the effect of driver disclosure and ethnic similarity”, *Journal of Operations Management,* Vol. 60, pp.19-33.

Teerikangas, S. and Very, P. (2006), “The culture-performance relationship in M&A: from Yes/No to How”, *British Journal of Management,* Vol. 17, pp. 31-48.

Tencent News, 2018. Available from: https://news.qq.com/a/20180510/035374.htm. Accessed 12/01, 2017.

Tian, L. and Jiang, B. (2018), “Effects of consumer-to-consumer product sharing on distribution channel”, Production Operations Management, Vol. 27, No.2, pp. 350–367.

Toufaily, E, Richard, L. and Perrien, J. (2013), “Customer loyalty to a commercial website: Descriptive meta-analysis of the empirical literature and proposal of an integrative model”, Journal of Business Research, Vol.66, No. 9, pp. 1436-1447.

Voss, C., Tsikriktsis, N. and Frohlich, M. (2002), “Case research in operations management”, *International Journal of Operations & Production Management*, Vol. 22 No. 2, pp. 195‐219.

Walker, H., D. Chicksand, Z. Radnor, and G. Watson. 2015. “Theoretical Perspectives in Operations Management: An Analysis of the Literature”, *International Journal of Operations and Production Management,* Vol. 35 No. 8, pp. 1182–1206.

Weill, P. and Olson, M.H. (1989), “Managing Investment in Information Technology: Mini Case Examples and Implications”, *MIS Quarterly,* Vol. 13, No.1, pp. 3-17.

Wu, X.K., Michalopoulos. P. and Liu, H.X. (2010), “Stochasticity of freeway operational capacity and chance-constrained ramp metering”, *Transportation Research Part C: Emerging Technologies*. Vol. 18 No. 5, pp. 741-756.

Wu, Z. and Jia, F. (2018), “Toward a theory of supply chain fields – understanding the institutional process of supply chain localization”, *Journal of Operations Management*. Vol. 58-59, pp. 27-41.

Yi, Y. and Jeon, H. (2003), “Effects of Loyalty Programs on Value Perception, Program Loyalty, and Brand Loyalty”, Journal of the Academy of Marketing Science, Vol. 31, No. 3.

Yin, R. K. (2009). Case study research: Design and methods. 4th ed. Applied social research methods series. Vol. 5. Los Angeles, CA: SAGE Publications Inc.

Zaheer, A. and Bell, G.G. (2005), “Benefiting from network position: firm capabilities, structural-holes, and performance”, *Strategic Management Journal,* Vol. 26, No. 9, pp. 809-825.

Zeithaml, V.A., Berry, L.L. and Parasuraman, A. (1996), “The behavioural consequences of service quality”, Journal of Marketing, Vol. 60 No. 2, pp. 31-46.

Zhang, Q., Nakatani, J., Shan, Y.L. and Moriguchi, Y. (2019), “Inter-regional spillover of China's sulfur dioxide (SO2) pollution across the supply chains”, *Journal of Cleaner Production*, Vol. 207, pp. 418-431.

36kr (2017) Profile for sharing economy all over the world. Available from: https://36kr.com/p/5077981