Why Do Consumers Use Ride-Hailing?
Evidence from China and Indonesia

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ABSTRACT

Consumers' attitudes and preferences in developing countries differ from those in developed countries. The research compared the motivation to use ride-hailing in developing and developed countries to understand consumers better. The research applied a qualitative survey with 52 drivers, followed by a quantitative survey with 741 passengers. It was finalized by one quantitative survey of 818 respondents to answer the research questions. The passengers in both quantitative surveys were from Indonesia and China who were Chinese, Indonesian, and Expatriates in China. Indicators in Partial Least Square-Structural Equation Modelling (PLS-SEM) were used to capture ride-hailing phenomena closer to actual business situations and made more robust measurements for future testing of consumers' decisions in sharing economy setting. The results show that the habit factor influences the decision to use ride-hailing among Indonesian, Chinese, and Expatriate respondents. Meanwhile, the financial factor only influences Indonesian respondents. Safety factor affects Expatriate respondents, and utility and convenience factors influence the decision of Chinese respondents. Innovation and social factors are significant when the significance level is reduced to the exploratory level. In conclusion, managers of sharing economy companies in developing and developed countries can use Importance-Performance Mapping Analysis (IPMA) result in the research to identify important but weak factors that can be improved.

Keywords: ride-hailing, consumer decision, Importance-Performance Mapping Analysis (IPMA)

INTRODUCTION

Sharing economy, circular economy, or collaborative economy are popular terms and have become a global phenomenon since the early 2010s and ever widely adopted in various sectors, such as transportation, tourism, accommodation, food, agriculture, supply chain, monetary and finance, personal and corporate services, volunteering, entertainment, education and labor market (Gunarso & Kembaren, 2019; Narasimhan et al., 2018; Plenter, 2017). Sharing economy is the exchange of goods, capital, services, assets, and other resources between individuals or groups with Internet-based platforms to use underutilized resources, with or without the transfer of ownership of the resources (Camilleri & Neuhofer,

2017). It is perceived as more effective and efficient, environmentally friendly, and sustainable, and it can revamp economic growth within a region (Cheng & Foley, 2019; Tirachini, 2020). In a collaborative economy, consumers often become the producers of shared resources in business settings and vice versa.

The transportation sector is among the forerunners of sharing worldwide economy adoption, closely supported by financial technology-enabled payment services. Ride-hailing or ride-sharing is a business activity where consumers provide the idle capacity of their vehicles to other consumers for an agreed amount of financial compensation. Hence, it puts consumers as providers simultaneously (Perera & Albinsson, 2018).

The ride-hailing phone application directs

passengers through a series of steps, including the type of available vehicles, the actual or expected fare of the ride, the name of the driver, the booked vehicle information, and the approximate waiting time (Cheng, Fu, & De Vreede, 2018; Hanh & Metcalfe, 2017). Meanwhile, the online process of ride-hailing services includes vehicle and driver search, route estimation, dynamic pricing, reservation, payment, evaluation, monitoring, and consumer review. The offline ride-hailing process begins when the drivers take the reservation and drive toward the passengers' location for pick-up. It ends when the drivers have arrived at the destination. Thus, ride-hailing includes both online and offline services.

In Indonesia, China, the United States, India, Korea, and other countries, ride-hailing services may extend into food delivery, goods transport, grocery, supply chain, and distribution services. Although the early proliferation of ride-hailing services seems to compete directly with public transportation or taxi services, recent development has shown that ride-hailing has started to cooperate and integrate with public services as the last mile or off-hours solution for passengers (Hausemer et al., 2017; Irawan, Belgiawan, Tarigan, & Wijanarko, 2020). Several commercial ride-hailing companies operate in hundreds of cities worldwide, including Didi Chuxing in China, Uber in the United States and Europe, Ola in India, GoJek in Indonesia, Yandex in Russia, and Grab in Malaysia, that all together can service more than three billion people.

Sharing economy companies replace conventional companies in many sectors, attracting billions of users and enhancing trillions of economies in hundreds of countries. The benefits may include economic, financial, convenience, enjoyment, and social acceptance (Cheng et al., 2018; Jia, Li, Liu, Sun, & Hernandez, 2020; Lee, Chan, Balaji, & Chong, 2018). While users favor the benefits of using ride-hailing over conventional services, some concerns and risks need to be addressed by ride-hailing companies. Meanwhile, the risks may include safety, security, privacy, environmental impact, increased traffic, workers' health, unfair fare sharing, and economic efficiency (Garben, 2017; Lee et al., 2018; Tirachini, 2020). In addition, ride-hailing companies face stiff competition, gradual loss of users, heavy financial losses due to high subsidies, lost market share, and bankruptcy (Jia et al., 2020).

Consumers' decision to use and reuse an e-service is based on a mix of offline and online factors and requires further exploration (Benoit, Baker, Bolton, Gruber, & Kandampully, 2017). Managers in ride-hailing companies must know what influences consumers' decision to use ride-hailing because engaged consumers and employees are determinants of managerial success (Palmatier, Kumar, & Harmeling, 2018). Sharing economy services differ from conventional services, where most service providers are not employed by ride-hailing companies. The drivers are considered partners instead

of employees. This unique condition challenges ride-hailing companies to ensure the service quality consistency provided to passengers, which may affect the passengers' decision to use and loyalty.

Research has explored various topics in ride-hailing, including the effects of ride-hailing on the taxi (Kim, Baek, & Lee, 2018), public transport (Clewlow & Mishra, 2017), law (Chaudhry et al., 2018), customer satisfaction on ride-sharing (Lin, 2017), intention to use ride-hailing viewed from the Technology Acceptance Model (TAM) (Wang, Wang, Wang, Wei, & Wang, 2018), influential factors in participation in ride-sharing (Limpin, 2018), users' characteristics, motivation to use the ride-hailing service, trip purposes, and potential future of ride-hailing. Although previous studies have examined various aspects of ride-hailing, limited studies address offline and online influential factors simultaneously in multi-country.

There is also a lack of research that compares consumer segments in two of the biggest ride-hailing markets in developing economies. Previous studies on ride-hailing consumers mostly aim for one particular market in one country or region. Several notable studies regarding ride-hailing in regions or countries are California in the United States (Alemi, Circella, Mokhtarian, & Handy, 2019), several cities in Brazil (De Souza Silva, De Andrade, & Maia, 2018), Puget Sound in the United States (Dias et al., 2017), countrywide in the United States (Sikder, 2019), ten cities in China (Tang, Li, Yu, & Wei, 2020), random cities in China (Ma, Zhang, Ding, & Wang, 2019), Santiago in Chile (Tirachini & Del Río, 2019), several cities in Taiwan (Lin, 2017), Delhi in India (Goel & Haldar, 2020), and several cities in Indonesia (Almunawar, Anshari, & Lim, 2020; Fauzi & Sheng, 2020; Joewono, Rizki, Dharmowijoyo, & Prasetyanto, 2021).

The research questions based on the research gaps are: (1) What are the factors that influence consumers' decision to use ride-hailing? (2) Which are the most important factors or factors that need improvement the most? (3) What should managers do to improve performance? The research uses qualitative and quantitative investigations to answer the research questions and focuses on three passenger segments from Indonesia and China, which include Chinese, Indonesian, and expatriates in China.

Previous studies have identified reasons to use ride-hailing and shown differences between developing and developed countries. Developed countries usually provide good quality public transport with heavy subsidies from the government, making ride-hailing services initially perceived as illegal and unsafe transportation modes (Young & Farber, 2019). Developing countries usually have less quality, uncomfortable, unsafe, and unreliable public transport. So, ride-hailing services get seen as a good alternative that can offset or complement what public transportation fails to fulfill (Ilavarasan, Verma, & Kar, 2018). Therefore there is a need to compare

the condition and motivation to use ride-hailing in a developing country, Indonesia, with a developed country, China, to understand better the passengers' intention to use ride-hailing.

Before ride-hailing proliferation, there are integrated models of consumer behavior from multiple disciplines (Kim & Crowston, 2011; Ladipo, Lyiegbuniwe, Ighomereho, & Ganiyu, 2014; Ozmete & Hira, 2011). However, these models are insufficient to capture the phenomena and do not simultaneously address online and offline influential factors in sharing economy context. Practically, no ride-hailing activity as people know now is before 2009.

Cheaper fares or trip costs, parking hassle, travel time, and inconvenient public transport emerge as the top reasons to use ride-hailing (Tirachini, 2020), followed by shorter waiting time, ease of payment method, inability to drive, vehicle comfort, better vehicle safety, and ease of booking (Alemi et al., 2019; He, Wang, Lin, & Tang, 2018; Ilavarasan et al., 2018; Wang et al., 2020). Fare transparency, trust, time benefit, taxi booking difficulty, reliability, no ownership of a vehicle, vehicle features, driver attitudes, unfavorable weather, and specific transport needs are also mentioned in the research as the reasons to use ride-hailing (Tirachini, 2020). Moreover, habit emerges in literature as a driving factor in choosing conventional transport modes and using information technology before ride-hailing becomes popular. Thus, it is worth to be explored in the ride-hailing context (Cheng, Fu, & Yin, 2017; Havlíčková & Zámečník, 2020).

A decision is defined as the reaction in favor of something by a person to do something after considering alternatives (Ofstad, 1961). Consumer decision is a function of how well the purchase or acquisition of something fulfills the needs and wants of someone (Mishra, Singh, & Koles, 2021). Consumers are paradoxically rational and irrational, consistent and inconsistent, and aware and unaware at the same time (Cojanu, 2017). Consumers use strategies to navigate through alternatives to reach a decision: a compensatory strategy consisting of an equally-weighted strategy (Von Gunten & Scherer, 2019), a different weighted strategy (Vidhate & Kulkarni, 2018), a non-compensatory strategy consisting of satisficing (Zhou, Zhang, Li, & Liang, 2018), elimination by aspects (Liu, Morrison, Wiggins, & Perry, 2021), and lexicographic (Von Gunten & Scherer, 2019).

Consumer decision is a combination of internal and external factors of the business that often makes managers uncertain about which variables influence consumers buying decisions (Mishra et al., 2021). Consumers make decisions intuitively and automatically using uncomplicated, relatively easy, nonanalytic, and quick processes, even when the decision is quite important (Penney, Vardaman, Marler, & Antin-Yates, 2019). It implies that habit is a factor that influences decisions (Havlíčková & Zámečník, 2020).

Consumers, as individuals, logically and rationally make decisions that maximize benefits when faced with a clear option. It implies benefits-related factors, such as financial, utility, safety, service, and convenience. Consumers are groups of individuals who transact or exchange with other individuals who are self-interest (Cojanu, 2017), ethically (Yang, Van Ngo, Chen, Nguyen, & Hoang, 2019), or sentimentally (DeTienne, Ellertson, Ingerson, & Dudley, 2021) motivated, which means the influence of social and safety factors on consumer decision.

Ride-hailing exists through innovation and information technology on mobile phone infrastructure and data communication technology because people see innovation as beneficial and easy to use (Lu & Wang, 2020). Then, they consciously decide to use innovation (Lee, Lee, Vogt, & Zhang, 2021) and collectively, over time, continue to use ride-hailing (Wu & Chen, 2017). This premise implies that innovation exists as a determinant for decisions in ride-hailing.

Next, buying behavior models are representations of related factors within a system or process hypothesized to influence purchase behavior (Huarng & Yu, 2020). In e-commerce, consumer behavior, consumer characteristics, environment, merchant and intermediary, product/service (including market stimuli), and e-commerce selling systems influence buying behavior (Benoit et al., 2017). In-car use behavior models, mode-specific travel time from origin to destination, monetary costs, reliability, flexibility, safety concern, and convenience influence consumer decisions (Tirachini, 2020). People participate in sharing economy activities due to economic exchanges, utility values, trust, cultural orientation and affiliation, financial gains, cost savings, familiarity, service quality, altruism, reciprocity, respect, physical pleasure, sense of achievement, and attachments to objects (Benoit et al., 2017; Dare et al., 2019; Kim et al., 2018; Narasimhan et al., 2018). Meanwhile, people use ride-sharing or car-pooling because of financial factors, regulatory limitations, automated processes, availability of communication devices and infrastructure, and physical limitations (Shaheen, 2018).

Habit is repetitive actions that reinforce automatic responses to similar situations and needs. Habit influences consumer decision to continue or discontinue the use of something (Vandaele & Ahmed, 2021). In the ride-hailing context, habits and adequate information acquisition influence how people choose their travel modes (Cheng et al., 2017). In the Information Communication Technology (ICT) in ride-hailing, habit is defined as the scope in which people tend to order and pay for ride-hailing automatically because of previous learning and experience of booking and paying the ride-hailing (Havlíčková & Zámečník, 2020). Meanwhile, habit in the Theory of Planned Behavior (TPB) is viewed as repetitions of action and behavior, making users comprehend how to use a technology (Moksness, Olsen, & Tuu, 2020). For example, the habit of selecting a car as the travel mode

is observable by automated travel decisions, travel mode choice, and script-based mode, which remains over time (Cheng et al., 2017).

Habit initially happens when the consumption of a product leads to satisfaction (or dissatisfaction), then the reinforcement effect appears (Kraft, Munk, Seifried, & Wagner, 2017). Every time a product, service, or process brings satisfaction, more reinforcement effect happens. Later, if consumers have the same needs, the particular consumers will tend to repeat the process of selecting and getting the same product, service, or process. This accumulation increase possibility that in the future, consumers will buy the same product, service, or process (Choi, Wen, Chen, & Yang, 2021). When consumers use ride-hailing for the first few times, consumers may use longer cognitive analysis to use ride-hailing. However, after passing a certain amount of uses, consumers will see the use as routine behavior. Then, the use becomes automatic over time (Chen et al., 2020). Hence, the first proposed hypothesis can be seen as follows.

H1: Habit factor influences consumer decision to use ride-hailing

Consumers of ride-hailing have several motives, including finance with fare as the main component (Wollenberg & Waty, 2017). Economic theories assume that a consumer is a rational individual with purchasing power, needs, and choices and will allocate resources to meet those needs to maximize utility or benefits (Kraft et al., 2017). Then, financial construct refers to money-related benefits resulting from using or purchasing a ride-hailing service (Wollenberg & Waty, 2017). Promotion from ride-hailing companies is beneficial for consumers and marketers. It can trigger learning processes that activate a desirable action, reinforce future intention to use ride-hailing, and positively influence the decision-making perspective of consumers (Wollenberg & Waty, 2017).

Ride-hailing apps in Indonesia, China, Singapore, and other countries provide multiple payment systems, such as credit cards, prepaid credit, or mobile-based payment linked to social media accounts. These efficient payment systems inform consumers on their mobile phones about the amount of fare they must pay, the same as what the drivers see on their mobile phones because the fare is determined automatically by the system. Since all parties in the transaction can see and understand the fare pricing structure, consumers can be sure that drivers do not cheat about fares (Brown & LaValle, 2021) and feel treated fairly (Narasimhan et al., 2018). Consumers can record and, if needed, reimburse fares based on the receipt issued automatically sent to an email from ride-hailing platforms (Brown & LaValle, 2021). The government can efficiently tax the revenue or profit based on the same system used by the consumers (Sun, He, Wang, & Ma, 2019). So, the second hypothesis is formulated as follows.

H2: Financial factor influences consumer decision to use ride-hailing

The utility is defined as alternatives and preferences that are useful and beneficial, bring goodness, or prevent harm (Kraft et al., 2017). Utility construct refers to benefits from the utilization or use of ride-hailing, and its attributes are related to transportation purposes. People assume how much utility, benefit, or satisfaction they will get from various products they purchase (Cojanu, 2017). Human utility components depend on personality traits and a combination of altruistic and non-altruistic motives like needs, benefits, fairness, and interactions among individuals (Say, Guo, & Chen, 2021). Since each consumer has different preferences, companies should provide options for a wide range of consumers (Benoit et al., 2017). For example, in selecting a brand and type for car rental, consumers relate the brand image of a car with the money they are willing to pay. However, product brand has a limited role in determining consumer attitude. Instead, consumers put more emphasis on availability, the convenience of getting or returning the car, human interaction, service quality, insurance, and price (Benoit et al., 2017; Habibi, Davidson, & Laroche, 2017).

Utility, trust, cost savings, and familiarity influence buying decisions and satisfaction in sharing economy activities (Zamani, Choudrie, Katechos, & Yin, 2019). The use of ride-hailing increases ride availability and city connectedness and removes the possibility of subjective erratic pricing, which in the end, reinforces the satisfaction of consumers (Lin, 2017).

Increased connectedness, accessibility, and availability increase competition in the transportation market, increase occupancy and utilization of cars, lower mobility cost for traveling by passenger car, make car travel more attractive (efficiency effect), and increase the number of vehicle kilometers (scale effect) (Hausemer et al., 2017). Although it may sound counterintuitive, consumers who use ride-hailing tend not to own or drive their vehicles and use public transport instead (Clewlow & Mishra, 2017). Therefore, the third hypothesis is as follows.

H3: Utility factor influences consumer decision to use ride-hailing

Convenience is defined as the consumers' sense of control over the management, utilization, and conversion of their actions to achieve their goals. From the product or service provider's point of view, convenience can be defined as reduced consumers' time, energy, and resources to procure, acquire, or use the product or service (Wasan, 2018). Consumers prefer to have a service or product that they can control in terms of time and resources to gain value.

Convenience has attitude and situational dimensions that influence an individual's decision, selection, or preference. The dimensions of convenience

are the effective use of time, practicality, suitability, compactness, and risk avoidance (Kumar, Sachan, & Dutta, 2020). Then, convenience in service has five dimensions: decision, access, search, transaction, and after-sales service (Benoit, Klose, & Ettinger, 2017). Similarly, online shopping has five components of convenience: access, search, evaluation, transaction, and possession/post-purchase convenience (Kakar & Kakar, 2020).

E-services provide consumers with better convenience, lower transaction costs, wider providers' choice, and better accessibility by reducing space-time-resource constraints needed to interact with the e-service providers (Kumar et al., 2020). E-services enable providers to reach broader markets beyond geographical limits, lower entry barriers to new markets, and have more competitive advantages (Wasan, 2018). E-services also bring convenience, lower prices, more selections, and more accessibility to consumers (Lin, 2017). Therefore, ride-hailing companies should increase customers' convenience through the provision of resources (Tirachini, 2020).

Ride-hailing consumers, like consumers in other industries, do not want to feel wrong, regret, or lost due to their decision (Ma, Guo, An, & Wang, 2022). Aware of this stance, ride-hailing companies provide consumers with adequate information, such as the estimated time of arrival of the vehicle, license plate number, color, and pick-up location (Narasimhan et al., 2018). Consumers subconsciously need to feel important and expect better treatment than others. Such a feeling of importance is correlated with the person's hedonic and learning experiences under uncertainty (Fauzi & Sheng, 2020). In addition, consumers tend to explore available options before deciding and choosing the ones with better attributes, such as faster, cheaper, quicker, bigger, easier, more amusing, or easier to use options (Xie et al., 2019). The research formulates the fourth hypothesis as follows.

H4:   Convenience factor influences consumers' decision to use ride-hailing

Innovation is something new that answers "about what, how new, and new to whom". It includes one or more six activities, such as the invention of new products, the creation of new services, the formulation of new production methods, the opening of new markets, founding new supply sources, and organizing new ways (Álvarez-García, González-Vázquez, Del Río-Rama, & Durán-Sánchez, 2019; Gault, 2019; Wolf et al., 2021). Innovation is indicated by the creation of cheaper, simpler, smaller, and frequently more convenient things to use, enhancing consumers' relationships and retention by engaging them through technology (Wolf, Dobrucka, Przekop, & Haubold, 2021). Value creation is part of innovation. Without continuous value creation, innovations will fall away (Curley & Salmelin, 2018).

Sharing economy activities, including ride-hailing, are in the phase of disruptive innovation that increases the value of something using technology,

business model, and network of companies by forming infrastructure (Wewege, Lee, & Thomsett, 2020). Sharing economy uses digital innovations to empower entities through information sharing, thereby redistributing and reusing the idle capacity of products and services (Curley & Salmelin, 2018; Gunarso & Kembaren, 2019; Perera & Albinsson, 2018). When information about a product or service innovation is shared, the value of these goods or services may increase as more consumers want to feel the benefits. Innovation brings new types of service to the transportation industry, such as ride-hailing, ride-sourcing, ride-sharing, and car-sharing (Clewlow & Mishra, 2017).

Successful ride-hailing companies do nine dimensions of innovation strategy: high investment to satisfy great demand with consumer satisfaction as the focus, massive micro-customized standard delivery activities, unique experience for consumer delivery, adoption of new technologies to reduce costs, restructuring back office-front office, specialization, and training of the workforce to quickly adapt the changes, high degree of consumer participation and contact, continuous development and design of new services (Aranda & Molina-Fernández, 2002). The locus of familiarity postulates that consumers prefer familiar products, so companies must make ride-hailing applications familiar by making them easy to use or understand (Cai, Wang, Ong, Meng, & Lee, 2019). Ride-hailing companies should also consider that some consumers prefer to learn alone without help from technicians or other consumers because self-learning reinforces self-efficacy (Malik & Rao, 2019).

There are two inseparable and complementary components of travel: distance and time. One major innovation of ride-hailing in the transport industry is reducing waiting time caused by stationary scheduling or traveling time of public transportation or taxis (Brown & LaValle, 2021). Another important innovation of ride-hailing platforms is using Global Positioning Service (GPS) to arrange the ride and find alternative routes, which may reduce the distance and time of travel (Hanh & Metcalfe, 2017). As application areas of digital devices expand and apply artificial intelligence in the business process, consumers may ignore the decreasing level of human interaction, which result in the illusion of companionship without the demands of real-life friendship. In the end, it brings loneliness (Dare et al., 2019). This loneliness may make consumers prefer real-life persons from ride-hailing companies to handle complaints and claims rather than chatbots or answering machines (Luo, Tong, Fang, & Qu, 2019), despite the chatbots have imitated several criteria of personhood in the process (Gunarso, Mokorowu, Boy Saragih, & Perangin Angin, 2022). Therefore, the fifth hypothesis is as follows.

H5:   Innovation factor influences consumer decision to use ride-hailing

Service is defined as transactions by an individual or organization where the object is a non-transferable and non-tangible commodity. From another perspective, service can be defined as ways to provide value for consumers without transferring the ownership of certain costs and risks (Cronholm, Göbel, & Åkesson, 2020). Meanwhile, quality is defined as conformance to consumer specifications, and consumers assess service quality by comparing what they want and what they get, with five dimensions. Those dimensions are tangibles, reliability, responsiveness, assurance, and empathy (Hamenda, 2018; Hamerska, Ziółko, & Stawiarski, 2022).

Service level or service quality refers to how much service is provided by ride-hailing platforms and their drivers and how much that service is measured, expected, responded to, and perceived by the consumers following the commitments based on business objectives (Brown & LaValle, 2021). Service level in sharing economy is also related to consumer satisfaction and loyalty, where information integrity, competence, empathy, structural assurance, and interactive platform responsiveness are paramount (Cheng et al., 2018).

Service level has effects on profitability, offensive effects on competitors, defensive effects against the competition, influences perception on a decision, and positive influences on consumer retention (Rad, Mojtahedi, & Ostwald, 2021). For instance, service level in the banking industry has multiple determinants (attentiveness, responsiveness, care, and friendliness) and dissatisfiers (integrity, reliability, responsiveness, availability, and functionality) (Wasan, 2018). In sharing economy context, service quality is often measured by consumers' feedback in the form of open comments on social media, a survey on websites, videos, blogs, reviews, and standardized feedback systems. In ride-hailing, service quality has two dimensions: responsiveness (employees' response to complaints and requests) and customization (individualization of communication) (Phuong & Trang, 2019). The number of complaints about taxis in Chicago and New York has decreased after ride-hailing services entered the transportation market. This decrease is probably due to service improvement and better complaint responses by taxi companies, but it also may be due to lesser consumers who use taxi services (Brown & LaValle, 2021). Both possible reasons imply that dissatisfied consumers may choose other alternatives, competitors, or substitutes to fulfill their needs.

Although the friendliness of the drivers is not part of the consumers' feedback consumers, and consumers cannot choose drivers based on friendliness feedback, consumers may give a tip as a reflection of positive reception upon the service level experienced during the ride (Devaraj & Patel, 2017). Consumers can choose ride-hailing platforms perceived to have more friendly drivers, even when the other platforms may have an insignificant higher price (Lai, Hitchcock, Yang, & Lu,

2018). Since consumers cannot select vehicles based on cleanliness, comfort, and brand prestige, they can learn from their past riding experiences to estimate ride-hailing platforms with better vehicle conditions (Van Tonder & Petzer, 2021).

Ride-hailing consumers expect companies to do what the payment is supposedly made for. The ride-hailing platform represented by the drivers will take consumers to their destination. Previous research shows that consumers prefer to pay for consumption in advance and at a regulated rate (Brown & LaValle, 2021). Older passengers want to know their driver or other passengers need to convey their personal preferences despite limited communication clarity to share information about their pick-up and drop-off locations to their relatives, safekeeping of left-behind stuff, assistance to go in and out of places, and additional needs, such as more space to store their wheelchair or oxygen tank (Payyanadan & Lee, 2018). So, the sixth hypothesis is as follows.

H6: Service level factor influences consumer decision to use ride-hailing

Safety in transportation is defined as the non-existence of injury and loss of life (Manuele, 2022) and the elimination of technical breakdowns and human errors (Amalberti, 2017). Safety co-exists with security in transportation, including humans, vehicles, and the environment, in which the vehicle is driven (Awad et al., 2020; Fayard, 2019). Safety determinants are the absence of human error, proper human behavior, properly functioning vehicles, proper safety procedures, proper maintenance, monitoring, and evaluation, proper regulation enactment, proper arrangement of working time and rest (Chaudhry, Yasar, El-Amine, & Shakshuki, 2018), attitudes, behavior, norms and values, training and development, and personal responsibilities (Isabelle, Carole, Pierre, & Jian, 2021; McElveen, 2019).

Consumers need to trust that the service or goods will be delivered reasonably at the expected price. Providers of goods or services need to trust that the shared assets are not mistreated and will be paid as agreed. Both parties expect their safety and security to be maintained (Fayard, 2019; Zhang, Li, Zhang, & Chen, 2021). There have been reports of crime and accidents involving passengers, drivers, and vehicles of ride-hailing activities. While the companies are relatively quick to respond and put prevention measures, there are still concerns about safety issues because ride-hailing providers do not or have not been fully-compliance with the regulations (Tirachini, 2020). Regulators and governments should take part and set a clear minimum standard for health and safety in sharing economy activities (Awad et al., 2020; Gunarso, 2022). Ride-hailing platforms provide features for consumers and drivers to contact each other without giving out unnecessary personal information (Hanh & Metcalfe, 2017). In recent developments, for safety and security reasons, consumers can share

the location of the vehicle they are in, and ride-hailing companies can monitor real-time location and condition within and outside the vehicle (Chaudhry et al., 2018). So, the seventh hypothesis is as follows.

H7: Safety factor influences consumer decision to use ride-hailing

Marketers see that consumers want to maximize the utility or benefits of the transaction. However, many pieces of research show that attitudes, behavior, norms, values, training, development, and personal responsibilities determine consumers' behavior (Cojanu, 2017). These determinants indicate that consumers are social beings who feel they belong to groups in such a way that the social process influences the behavior of individuals involved in groups and vice versa (Lu & Wang, 2020). The social factor here refers to the sense of community that naturally exists within the context of modern societies and sharing economy activities. A sense of belonging to a community enables individuals to function and integrate smoothly into modern communities (Pokorny, Holley, & Kane, 2017). A strong sense of community encourages participation and interaction in society (Habibi et al., 2017), increases satisfaction and commitment (Kotze, Nel, & Smit, 2022), increases retention rate, smoothes transition, improves persistence, and brings positive psychosocial outcomes, such as trust (Zhang, Sun, Hu, Wang, & Wu, 2021).

Elements of sense-of-community factors are membership, sense of matter, assimilation, fulfillment of needs, and emotional connection. From another perspective, the dimensions of social well-being are consistency, integration, actualization, acceptance, and contribution (Chen, Liu, Yu, Bwanali, & Douangdara, 2020). In the case of sharing economy, it is partly propelled by worldwide consumers' social media involvement, where consumers interact among themselves and companies (Davlembayeva, Papagiannidis, & Alamanos, 2020). Companies can engage this connectedness by linking consumers' social media with the offer to use ride-hailing services (Wirtz et al., 2019).

Consumer engagement is a crucial part of marketing and represents an individual's participation and connection with an organization's activities (Palmatier et al., 2018). The consumers' behaviors, actions, views, attitudes, and feelings influence other consumers' perceptions. These influences and perceptions may be positive or negative to collectively create a "social impact", which influences how companies are expected to perform in society (Davlembayeva et al., 2020). This impact varies due to the consumers' place of origin, social interest (Van Tonder & Petzer, 2021), level of striving for superiority (Chaudhry et al., 2018), altruism perception such as welfare treatment toward the drivers (Say et al., 2021), perceived usefulness (Wang et al., 2020), and perceived ease of use of technology related to continuance intention (Choi et al., 2021). The last

hypothesis is formulated as follows.

H8: Social factors influence consumer decision to use ride-hailing

METHODS

The research conducts three separate surveys. There is a qualitative research to solicit opinions and perceptions from the drivers, followed by a quantitative research to verify some factors from the passengers' point of view, and concluded by a quantitative research to empirically test the factors that may or may not be influential upon the phenomena. The results of the first and second surveys are not presented in the research due to their purposes to identify the factors and the practical reason for the article length.

Drivers are the actual contact point between ride-hailing companies and consumers to hear what consumers want. They answer questions for about 45 minutes long during trips from different pick-up points and times twice a day. The questions are composed simultaneously in English, Indonesian, and Mandarin. Before wider distribution, five native-language respondents from each segment check the survey for mistaken context. The works of literature provided support that utility motive, habit, social impacts, safety concerns, service level, innovation level, and convenience are influential factors in the decision.

From January 2017 to January 2018, the qualitative interviews yielded 334 semi-structured responses from ride-hailing drivers in Jakarta and Beijing to identify factors influencing consumers' decisions. In January 2018, there were 52 drivers took an e-survey of 32 questions about what the drivers wanted and thought about ride-hailing. The results supported the selection of the indicators for the consumers' survey. The second survey was for consumers from February to April 2018. It gathered 150 Chinese responses, 257 Indonesian responses, and 334 Expatriate responses. The second survey, with 27 questions, asked respondents to rank important factors and indicators in the decision to use ride-hailing. After readjusting the questions according to the literature and results from the second survey, the third survey was distributed to verify the consumers' decision models. From February to March 2019, the third survey gathered 321 Indonesian responses, 228 Expatriate responses, and 269 Chinese responses.

Moreover, the third survey prevents multiple responses from the same device, ensuring that respondents must answer all questions before proceeding to the next page of questions and filtering respondents who have never used ride-hailing and do not regularly use ride-hailing. Five trap questions are also used to prevent straight-lining, random choosing, diagonal lining, and alternating extreme pole responses from outliers. All records with missing values are deleted because the analysis only uses records without missing values.

RESULTS AND DISCUSSIONS

There are three model used, each for different consumers' segment, namely Indonesian consumers, Expatriate consumers, and Chinese consumers. The models are the final for each consumers' segment that has gone through analysis and tests. The Plus sign (+) indicates that there are indicators hidden in every variable. The Q60-68 in the service level means the questions used as the indicators are question number 60 to 68. Similarly, the Q35-42E41 in the utility means that the questions used as the indicators are the question number 35 to 42 except the question 41 because the question number 41 is a trap question. The indicators are hidden to simplify the figure for easier understanding of the relationship among the variables. The arrows show the relationship between the variables. For example, the arrow from social to decision shows that social variable influences decision.

The decision variable as the dependent variable is placed at the center while the independent variables to be arranged in such a way to conserve the space. The results are shown in several figures. Figure 1 shows the variables that influence decision for Indonesian customers to use ride-hailing and the connections among the variables. Meanwhile, Figures 2 and 3 show the variables that influence decision for expatriate and Chinese customers to use ride-hailing and the connections among the variables, respectively.

The results are analyzed using a licensed SmartPLS 3.2.8 software. The results are first assessed for collinearity, where VIF values of indicators on Indonesian-expatriate-Chinese segments are all less than 5,0. These values mean that the
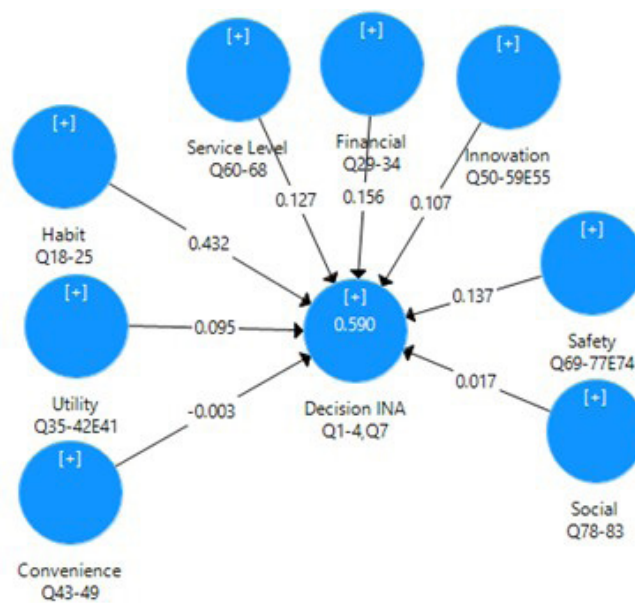

Figure 1 Model and Path Coefficient of Factors Influencing Decision for Indonesian Consumers
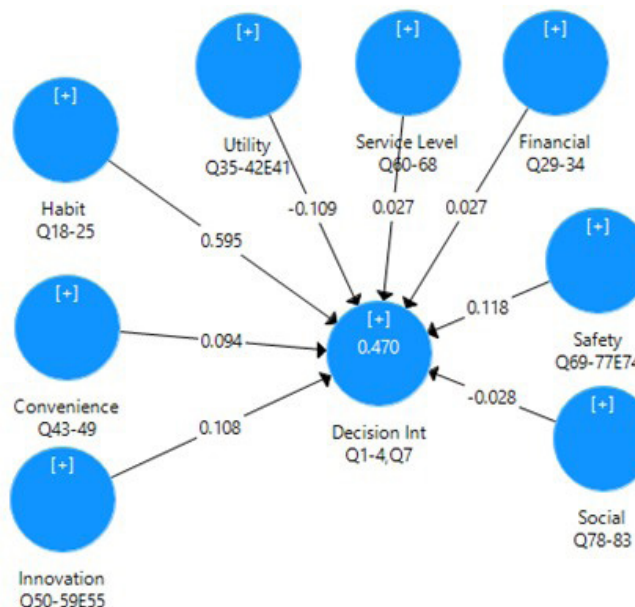

Figure 2 Model and Path Coefficient of Factor Influencing Decision for Expatriate Consumers

collinearity among indicators is not critical. After non-significant indicators (T<1,96) with low outer loadings (Loading<0,5) are removed, it confirms the significance of indicators by checking whether a zero value falls within its Bias-Corrected-accelerated (BCa) confidence interval. Although there are non-significant indicators, those are backed by theory and have outer loadings higher than 0,5. So, the indicators are retained. After confirming the indicators' significance, the remaining indicators are retested for collinearity that produces VIF values of < 5,0.

Table 1 R^2 Value to Represent Amount of Variance Explained by Each Model

	R^2	R^2 Adjusted
Decision-Indonesian	0,590	0,579
Decision-Expatriate	0,470	0,451
Decision-Chinese	0,494	0,479

The R^2 value in Table 1 shows the aggregate influence of all factors on consumers' decisions. The R^2 value represents the amount of variance of factors explained by the model. The greater the R^2 value is (Max = 1,0), the better a model explains the phenomenon captured by the survey. Meanwhile, the adjusted R^2 considers the complexity and number of samples in the database. The R^2 and R^2 adjusted values show that the Indonesian model is higher than the expatriate and Chinese models. This part shows how the indicator influences other indicators in the model and the whole performance of the model. The R^2 values also mean that the model explains 59% of phenomena (R^2 = 0,590) for Indonesian, 47% of phenomena (R^2 = 0,470) for expatriate, and 49,4% of phenomena (R^2 = 0,494) for Chinese.

Next, the f^2 test shows the effect size of each factor on R^2. The greater value of f2 is, the greater the factor influences the R^2 value. The f^2 value shows how much the R^2 changes if a particular factor is removed from the model.

Table 2 The Influence of f^2 Values on Each Factor on the R^2 Value in Each Model

F^2 Effects	Indonesian	Expatriate	Chinese
Convenience	0,000	0,010	0,023
Financial Factor	0,026	0,001	0,001
Habit	0,405	0,537	0,355
Innovation	0,013	0,015	0,000
Safety	0,023	0,018	0,000
Service Level	0,017	0,001	0,002
Social Factor	0,000	0,001	0,020
Utility	0,010	0,013	0,047

In Table 2, for all segments, the habit has a large effect on R^2, with Indonesian (f^2 = 0,405), expatriate (f^2 = 0,537), and Chinese (f^2 = 0,355) segments, respectively. In the Indonesian model, financial factor and safety have a weak effect. Meanwhile, service level, innovation, and utility have a very weak effect. In the expatriate model, safety and utility have a very weak effect. Then, in the Chinese model, utility, convenience, and social factors have a weak effect. The results show that a construct's existence and removal affect the relationships and performance of the whole model.
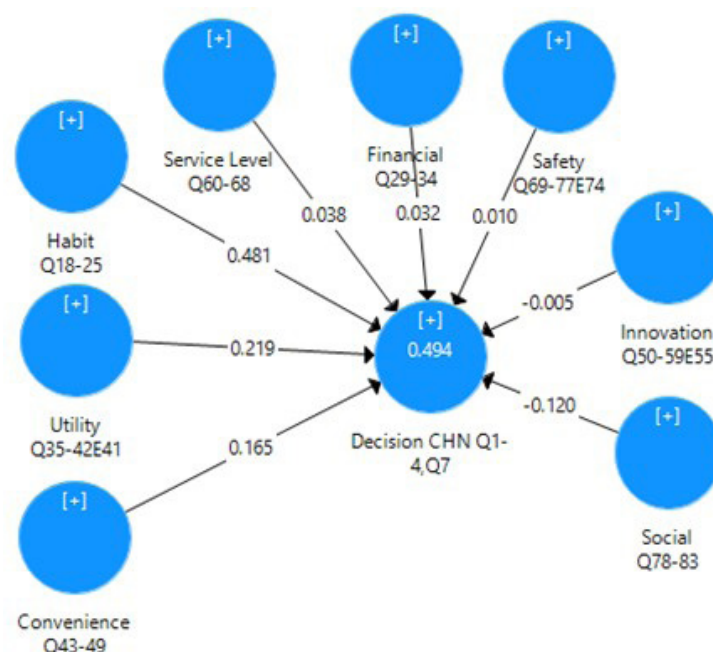

Figure 3 Model and Path Coefficient of Factor Influencing Decision for Chinese Consumers

Table 3 Total Effects of Constructs in Each Model

Total Effects	Indonesian	Expatriate	Chinese
Convenience	-0,003	0,010	0,165
Financial Factor	0,156	0.027	0,032
Habit	0,432	0,595	0,481
Innovation	0,107	0,108	-0,005
Safety	0,137	0,118	0,010
Service Level	0,127	0,027	0,038
Social Factor	0,017	-0,028	-0,120
Utility	0,095	-0,109	0,219

The path coefficient values in Table 3 shows the relative importance of each factor toward the decision. Path coefficient with the path coefficient statistical significance verifies that a path coefficient represents a significant condition from the dataset. Therefore, it justifies managerial actions. The result shows that every construct has its relative importance to other constructs in a model. If a factor's path coefficient is too small, managers should not prioritize managerial improvements on that factor.

For Indonesian consumers, habit (0,432) is the most influential factor for the decision. Hence, a 100% increase in habit will increase decisions by 43,2%. The other results are a financial factor (0,156), safety (0,137), service level (0,127), innovation (0,107), utility (0,095), and social factor (0,017). For expatriate consumers, habit (0,595) is also the most influential factor, so a 100% increase in habit will increase decisions by 59,5%. The result is followed by safety (0,118), innovation (0,108), convenience (0,094), financial factor (0,027), service level (0,027), social factor (-0,028), and utility (-0,109). Similarly, for Chinese consumers, habit (0,481) is the most influential factor. The 100% increase in habit will increase decisions by 48,1%. Then, it is followed by utility (0,219), convenience (0,165), service level (0,038), financial factor (0,032), safety (0,010), innovation (-0,005), and social factor (-0,120). The

negative values in the Chinese segment mean that a 100% increase in social factors will decrease decisions by 12%. The possible explanation is that the social media presence of ride-hailing is already seen as too much by consumers, or consumers have negative concerns about the social factor.

Indicator weight shows which element of a factor needs improvement to increase a factor's performance. The management can provide more rides for people to go home (0,345), leisure places (0,327), and a place with their friends (0,217) to improve the habit factor for Indonesian consumers. For the financial factor, the management can increase the number of payment methods (0,385) and enforce charging fares according to the application (0,342). For safety, the management can increase the perception of ride-hailing as a safe transport mode (0,683) and assurance that consumers will get a ride before getting out to the streets (0,389). At the service level, the management can improve the way of handling consumer complaints (0,604) and provide better ways for consumers to contact the drivers (0,533). The management can improve the user-friendliness of the application (0,622), expand cooperation with more companies (0,349), and add services related to pick-up and delivery (0,284) to increase innovation. Similar ways can be used to interpret the expatriate and Chinese segments.

Path coefficients' statistical significance test is useful to see whether a factor has significance on a decision when the model is tested on a larger number of respondents. In this case, 3000 samples are used in bootstrapping model (Hair, Jr., Hult, Ringle, & Sarstedt, 2017).

For Indonesian consumers in Table 4, habit (5,583), safety (2,423), service level (2,247), and financial factor (2,145) significantly influence the decision. If the research uses an exploratory level (T-statistic limit > 1,65), the innovation (1,827) is significant too. For expatriate consumers, habit (11,473) and safety (2,188) have statistical significance on the decision. At the exploratory level, the T-statistic limit is >1.65, and innovation (1,886) is significant.

Table 4 Path Coefficient Statistical Significance – Bootstrapping 3000 samples

Path Coefficient	Indonesian		Expatriate		Chinese	
	T-Statistic	P-Value	T-Statistic	P-Value	T-Statistic	P-Value
HB	5,583	0,000	11,473	0,000	8,111	0,000
SF	2,423	0,015	2,188	0,029	2,896	0,004
SL	2,247	0,025	1,886	0,059	2,101	0,036
FI	2,145	0,032	1,603	0,109	1,754	0,079
IN	1,827	0,068	1,379	0,168	0,629	0,529
UT	1,215	0,224	0,466	0,641	0,565	0,572
SO	0,317	0,751	0,444	0,657	0,139	0,890
CO	0,042	0,966	0,415	0,678	0,076	0,940

Note: HB= Habit, SF= Safety, SL= Service Level, FI= Financial Factor, IN= Innovation, UT= Utility, SO= Social Factor, CO= Convenience

For Chinese consumers, habit (8,111), utility (2,896), and convenience (2,101) have statistical significance in the decision. At the exploratory level, with a T-statistic limit > 1,65, the social factor (1,754) is significant too. These confirmations confirm that all the hypotheses are supported.

When compared among the segments in Table 5, the hypotheses habit influences consumers' decisions in all three segments to use ride-hailing (Chen et al., 2020; Cheng et al., 2017; Kraft et al., 2017). Repetitive use over time will simplify the decision process using lesser cognitive processes (DeTienne et al., 2021). Then, safety influences decisions in the Indonesian and expatriate segments because they have an interest in the safety and security of their life, as well as tangible and intangible assets (Blau, 2017; Chaudhry et al., 2018).

Service level influences decisions in only the Indonesian segment because consumers expect ride-hailing companies to satisfy a certain level of service according to what they are willing to pay (Cheng et al., 2018; Law, Fong, Chan, & Fong, 2018; Tran & Le, 2021). Similarly, the financial factor is an influential construct in Indonesian consumers' decisions (Brown & LaValle, 2021; Cheng et al., 2017; Tirachini & Del Río, 2019).

Because consumers want to maximize benefit or utility, the utility factor becomes influential in Chinese consumer decisions (Kraft et al., 2017; Longoni & Cian, 2022; Ma et al., 2022). Although it is only partially statistically significant in Indonesian and expatriate segments, innovation is influential in consumer decisions (Leung, Paolacci, & Puntoni, 2018; Mazambani & Mutambara, 2020).

Consumers use ride-hailing because successful innovative products are usually cheaper, more convenient, simpler, and smaller (Gault, 2019; Gunarso & Kembaren, 2019; Hanafizadeh & Mehrabioun, 2020; Shaheen, 2018; Yadav & Bansal, 2021). Consumers as social beings are influenced by social constructs, as shown partially in the Chinese segment. It confirms that innovation adoption in society is influenced by social factors (Montgomery, Squires, & Syed, 2018; Yeh, 2020; Yuneline, 2019).

The Q^2 of predictive relevance values in Table 6 in the path model test produces Stone-Geisser's Q^2 value as an indicator of the model's out-of-sample predictive power. It shows that the model accurately predicts data that are not used in model estimation. Then, blindfolding results suggest that all Q^2 are greater than zero. It means the models can predict factors influencing consumer decisions in ride-hailing in Indonesian (0,229), expatriate (0,375), and Chinese (0,223) segments.

Table 5 Hypotheses Confirmed in Each Consumer's Segment

Hypotheses	Indonesian	Expatriate	Chinese
H1:Habit	S	S	S
H2:Financial Factor	S	NS	NS
H3:Utility	NS	NS	S
H4:Convenience	NS	NS	S
H5:Innovation	PS	PS	NS
H6:Service Level	S	NS	NS
H7:Safety	S	S	NS
H8:Social Factor	NS	NS	PS

Note: S= Supported, PS=Partially Supported, and NS= Not Supported

Table 6 The Effect Sizes of Constructs on the Model's Predictive Relevance

Constructs	Indonesian		Expatriate		Chinese	
	Q^2	Category	Q^2	Category	Q^2	Category
HB	-0,001	None	0,003	None	0,009	None
SF	0,005	None	-0,010	None	0,000	None
SL	0,032	Small	0,442	Large	0,097	Small
FI	0,003	None	-0,010	None	-0,001	None
IN	0,005	None	0,014	None	0,000	None
UT	0,001	None	0,002	None	-0,003	None
SO	-0,001	None	-0,013	None	0,001	None
CO	0,004	None	-0,011	None	0,021	Small

Note: HB= Habit, SF= Safety, SL= Service Level, FI= Financial, IN= Innovation, UT= Utility, SO= Social, CO= Convenience

The Q² relative impact of predictive relevance tests each construct's influence on the Q² value. In all three segments, habit shows a small effect on Q² value, while other constructs have very little to almost no effect on Q². When the habit is removed from the model, there will be a small effect on the predictive relevance of the model. However, when other constructs are excluded one by one, there will be no effect on the predictive relevance. The result shows that each construct in the model impacts relationships among constructs and indicators by affecting the predictive relevance of the model.

Next, the Importance-Performance Map Analysis (IPMA) on the construct level compares a construct's importance in predicting a specific construct. It has average latent variable scores to predict their performances. For the Indonesian segment in Figure 4, the habit has high total effects (0,222) on the far-right side, which means important. However, it has a relatively medium performance (50,544). Managers can improve the performance of

habit for better decision performance. By increasing one performance point of habit, decision performance will increase from 61,826 to 62,046.

Similarly, the financial construct in the Indonesian model has high total effects (0,140) and quite high performance (80,967). Financial has high performance and can be improved. However, managers should consider the cost and complexity of action because the improvement of every construct requires cost. Increasing one performance point of the financial construct will increase decision performance from 61,826 to 61,966.

In the expatriate segment in Figure 5, habit also has high importance (0,595) but relatively medium performance (50,516). Increasing one performance point of habit will increase decision performance from 57,632 to 58,227. Then, innovation has high total effects (0,108) and performance (72,746), so increasing one performance point will increase decision performance from 57,632 to 57,740. Similarly, convenience has high performance (73.371) but is relatively less
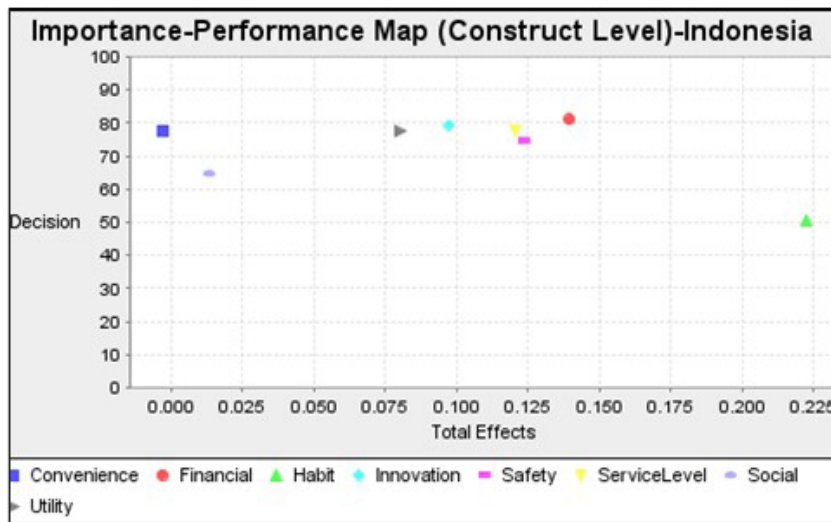

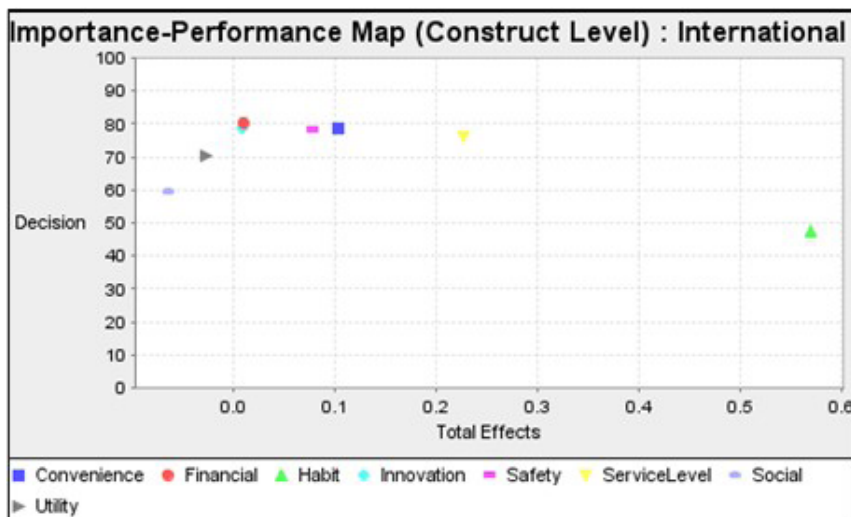Figure 4 IPMA Construct Level – Indonesian Segment

Figure 5 IPMA Construct Level – Expatriate Segment

important (0.094). Improving one performance point of convenience will increase decision performance from 57,632 to 57,726.

For the Chinese segment in Figure 6, the habit also has high importance (0,404) and lower medium performance (49,516). Managers can improve the habit performance for better decision performance. Increasing the habit performance from 49,516 to 50,516 will increase decision performance from 61,804 to 62.008. Next, the utility has high total effects (0,214) and medium-high performance (63,913). Meanwhile, the convenience (0,168) has high performance (73,371) yet relatively less importance, so it may not be a priority for improvement.

The IPMA on the indicator level compares the importance of an indicator with average latent variable scores predicting its performance. The labeling system is used to meet the space limitations of the SmartPLS. The list of the indicators is attached in the appendix, with Q1 as the first question, Q2 as the second question, and until the last question.

In the Indonesian segment in Figure 7, two indicators have high importance (total effects) but low performance: Q19 (0,060 and 50,363) and Q21 (0,057 and 46,417). These two indicators belong to the habit construct. Increasing one performance point of Q19 from 50,363 to 51,363 will increase decision performance from 61,826 to 61,886. Meanwhile, increasing one performance point of Q21 from 46,417 to 47,417 will increase decision performance from 61,826 to 61,883.

This condition suggests the manager provide available vehicles for consumers who will go home in Q19 and who will go to leisure places in Q21 using ride-hailing. One possible action to address Q19 is forecasting the demand and allocating an adequate number of vehicles to office or working areas where consumers will book vehicles to go home. Extreme traffic in Indonesian cities during morning and evening rush-hour make public transportation often extremely get overcrowded and unreliable. Meanwhile, for Q21, the management can provide adequate vehicles in
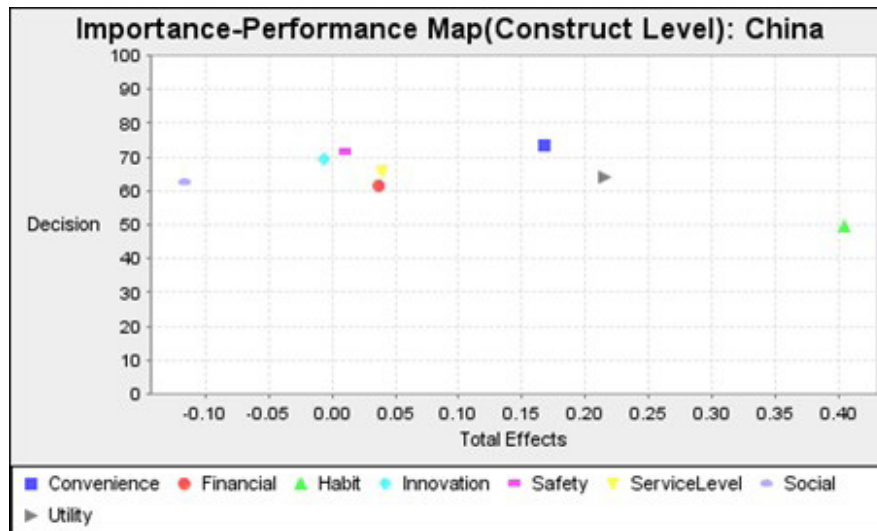

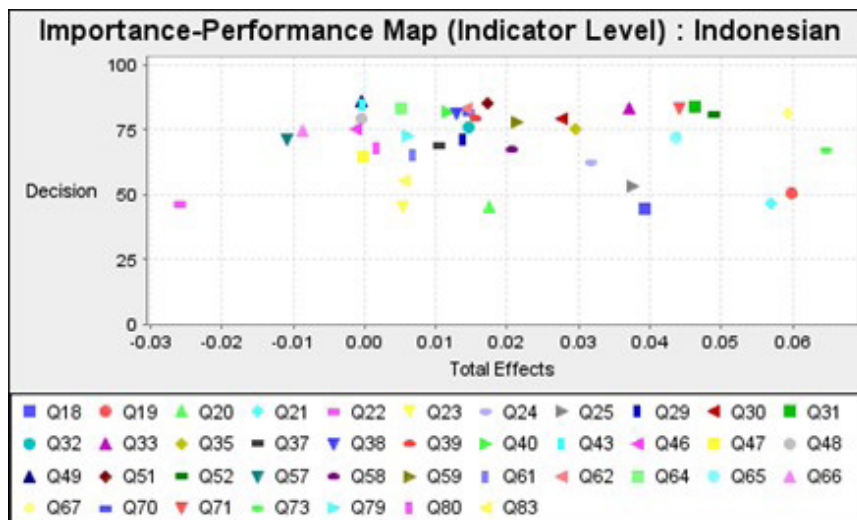Figure 6 IPMA Construct Level – Chinese Segment

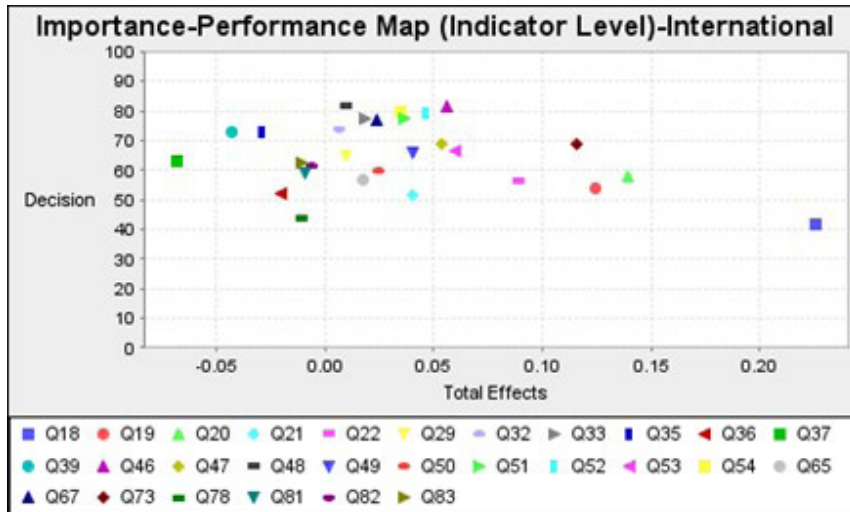Figure 7 IPMA Indicator Level – Indonesian Segment

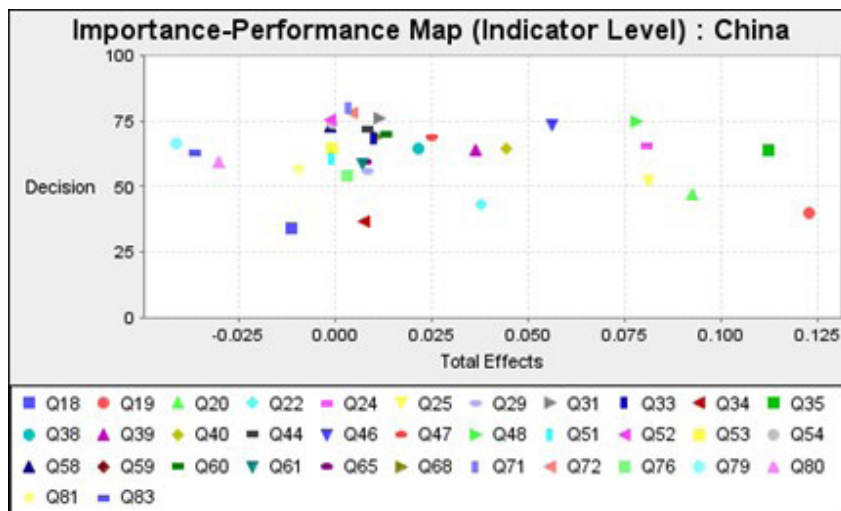Figure 8 IPMA Indicator Level – Expatriate Segment

Figure 9 IPMA Indicator Level – Chinese Segment

business and industrial districts after working hours and end-shifts hours and in residential areas during weekends and holidays.

In the Expatriate segment in Figure 8, one indicator has the highest importance (total effects) but low performance: Q18 (0,030 and 42,120). This indicator belongs to the habit construct. So, increasing one performance point of Q18 from 42,120 to 43,120 will increase decision performance from 57,632 to 57,662. The other indicators with the next two highest effects are Q19 and Q20, which may be the next targets for improvement.

As shown in Figure 9 regarding Chinese segment, one indicator has the highest importance (total effects) but low performance: Q19 (0,123 and 30,530). This indicator also belongs to the habit construct. Hence, increasing one performance point of Q19 from 30,530 to 31,530 will increase decision performance from 61,804 to 61,917. The other indicators with the next two highest effects are Q35 and Q20, which can be the next targets for improvement.

The implicit things on the tables and figures show that expatriate consumers only regularly use ride-hailing without promoting ride-hailing to others and expressing satisfaction with ride-hailing service for their personal lives and society. This expatriate consumers' behavior may explain why the market size, revenue, and projected growth in other countries are not as big as in China and Indonesia. Collaborative services in sharing economy need co-promotion from users to expand and maintain growth because the number of users grows in parallel with the number of providers. When expatriate users do not promote to others about ride-hailing, growth within those regions will be slower than in regions where users co-promote ride-hailing.

Managers in all three segments must augment the habit factor to encourage ride-hailing as the choice for transport. In a developing economy, where public transport and security level performance is relatively low to moderate, managers should address financial, safety, service level, and innovation factors.

In contrast, in a developed economy where public transport and security level performance is moderate to high, managers should improve safety and innovation factors. In addition, in a country with a mixed developing-developed economy, the public transport performance is moderate to high, and the national transport security level is high. So, managers should improve the utility, convenience, and social factors. Managers should think about how to encourage consumers to co-promote ride-hailing.

CONCLUSIONS

The research provides a model to describe how online and offline factors influence decisions to use ride-hailing. The structural models show the reasons why consumers use ride-hailing in three types of market situations. Comparisons of Chinese, Indonesian, and expatriate consumers in China and Indonesia bring a better understanding of consumers in developing and developed countries. It can be concluded that habit factor influences the decision to use ride-hailing among Indonesian, Chinese, and expatriate respondents. Meanwhile, a financial factor only influences Indonesian respondents. Safety factor affects expatriate respondents, and utility and convenience factors influence the decision of Chinese respondents. Innovation and social factors are significant when the significance level is reduced to an exploratory level. The research has explained how offline and online factors influence each other according to their relative positions to every other entity.

There are limitations in the research. First, all indicators use reflective indicators and have not included a moderator or mediator. Second, the research does not check variables that interfere with the research results (age, gender, or income). However, previous research shows that demographics do not affect the intention to use ride-hailing. Hence, future research can compare the difference when the indicators are treated as formative or reflective. Replications within other sharing economy sectors can help to generalize the findings of the research.

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APPENDIX

Construct	Original English Questions
Decision	
1	I use ride-hailing regularly
2	Ride-hailing service is beneficial for me
3	Overall, I am satisfied with the ride-hailing service
4	Ride-hailing service is beneficial for society
Habit	
18	I use ride-hailing to go to work
19	I use ride-hailing to go home
20	I use ride-hailing to go to social events
21	I use ride-hailing to go to leisure places
22	I use ride-hailing to go to an unfamiliar place
23	I use ride-hailing when carrying big/many/bulky stuffs
24	I use ride-hailing when there is no public transport to my destination
25	I use ride-hailing when I go somewhere together with my friends
26	TRAP QUESTION: I never use ride-hailing
Financial	
29	Ride-hailing is an economical transport mode (acceptable and relatively cheaper than other transport)
30	Ride-hailing provides many promotions (coupon, subsidy, bonus, and referral program)
31	Ride-hailing provides many ways to pay (credit card, mobile phone payment, WeChat pay, Alipay, coupon, or cash)
32	Ride-hailing fare is more flexible and reasonable than a taxi or chartered car
33	Ride-hailing driver always charges according to the fare seen on the application
34	Ride-hailing trip is reimbursable by my company
Utility	
35	Ride-hailing is a reliable transportation (available 24 hours, to wherever I want to go, in all kinds of weather)
36	Ride-hailing can increase my prestige (I feel like using my car or having my driver)
37	I get ride-hailing quicker than waiting for public transport (taxi, bus, subway, or other public transport)
38	It is easier to get ride-hailing than getting a mode of public transportation (no need to go to the station, no transfer to another vehicle, no queue, no cramming)
39	Ride-hailing can choose a better route (using GPS, less traffic, less dangerous, better sight)
40	Ride-hailing offers a few suitable types of vehicles (car, bigger car, taxi, or motorcycle)
41	TRAP QUESTION: Ride-hailing cars are ugly, smelly, and old (options: strongly disagree, but I never use ride-hailing. Ride-hailing cars are acceptable, normal, and decent. I a bit disagree, but I do not use ride-hailing. Neutral, that is why I never use ride-hailing. A bit agree, ride-hailing should be forbidden. Agree, ride-hailing use junk cars. Strongly agree, they never use any decent car)
42	Ride-hailing provides integration (long-range trips to other cities, drop-off to subway or train stations, airport pick-up, and cooperation with intercity buses)

Convenience

43	Ride-hailing provide a good pick-up location (I do not need to walk far to meet my driver, the driver knows where to pick me up, and I can tell the driver exact instruction for the pick-up point)
44	Ride-hailing application knows my destination (the driver already knows my destination from the ride-hailing application, and I do not have to explain my destination or route to the driver)
45	I can choose my driver (I can come to a driver then book a ride or can see where many drivers gather and select one of them)
46	Ride-hailing application is easy to understand and use
47	Ride-hailing application is proper (it does not slow my phone, loads quickly, and gets a driver quickly)
48	Ride-hailing is convenient (door-to-door transportation and more convenient than public transport)
49	Ride-hailing is integrated with other services (food delivery, document delivery, goods delivery, medicine delivery, e-commerce delivery, laundry service)

Innovation

50	I need automatic translation to my language in the ride-hailing application
51	I need a chat feature with the driver in the ride-hailing application
52	I can understand ride-hailing applications without anyone's explanation
53	The driver is sometimes too far or facing too much traffic from my pick-up point
54	I need a ride-hailing application that can accept credit cards, WeChat, Alipay, cash, or other methods
55	TRAP QUESTION: I do not know how to use a ride-hailing application (Options: never use ride-hailing. I do not use ride-hailing. I do not want to use ride-hailing. Never use ride-hailing. I know how to use ride-hailing. What is ride-hailing?
56	I need to see the driver's reputation before I take the trip
57	I need an electronic receipt sent to my email or social media
58	I wish my company would cooperate with ride-hailing applications on transportation matters, such as marketing, delivery, pick-up, and distribution
59	I wish online transportation also would provide other pick-up and delivery services such as food delivery, medicine pick-up, laundry pick-up, and others

Service Level

60	Ride-hailing driver rarely cancels my booking (the driver always tries to pick me up at my pick-up point before cancelling any booking or giving a notification or apology if he/she cancels my booking)
61	Ride-hailing driver is friendly or helpful
62	Ride-hailing drivers should get a tip or reward if he/she is friendly or helpful
63	Ride-hailing vehicles/cars are good (clean, not smelly, comfortable, and nice)
64	Ride-hailing rating/feedback system is effective (it is beneficial to improve the service, comfort, and safety)
65	Ride-hailing customer service handles my complaints properly (It tells me about the progress of my complaint and make the necessary adjustment)
66	The ride-hailing application allows me to contact my driver to give instructions for pick up or if I leave/ lose my items in the vehicle
67	The ride-hailing application should provide an internal chat or call feature to contact the driver
68	Ride-hailing should provide a special service that employs a driver who can speak a foreign language (I am willing to pay a bit more)

Safety		
	70	I can know the driver's face, reputation, car color, and car brand before getting in
	71	I can be sure to get a ride before I go out to the road, and ride-hailing application can estimate the time of arrival of my ride
	72	I do not need to wait outside too long for my ride in an uncomfortable condition
	73	Ride-hailing is safe (it is safer than public transportation, drivers drive carefully, and there is no need to drive by myself in traffic)
	74	TRAP QUESTION: I do not trust all drivers and do not use ride-hailing (options: strongly disagree, drivers are trustworthy. Disagree, drivers are ok. I a bit disagree, drivers have done their best. Drivers are not trustworthy, so I stopped using ride-hailing. A bit agree, drivers are all bad people. Agree, drivers cheat me. I will not use ride-hailing. Strongly agree, drivers cheat all the time.)
	75	The ride-hailing application should monitor the condition inside and outside the vehicle
	76	The ride-hailing application should provide alarm buttons linked to the police
	77	I can let others know my location and driver's data
Social		
	78	I like to meet new acquaintances or strangers using ride-hailing
	79	Ride-hailing has good branding and marketing on social and other media
	80	Ride-hailing has good corporate social responsibility program (social donation, disaster relief, poverty alleviation, health, and education)
	81	Ride-hailing company has welfare programs for their drivers (insurance, health clinics, home mortgage, and others)
	82	I like to talk to the ride-hailing drivers during my trip
	83	Ride-hailing company has good fare-sharing/profit-sharing with their drivers