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Social commerce promotes sharing economy: a case study of Mercari, Japan

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Abstract: In Japan, the peer-to-peer sales platforms on smartphones have been overwhelming the traditional internet auction sites. However, only a few quantitative analyses have explored why these social commerce sites are attracting Japanese consumers. This study investigated what factors motivated Japanese consumers to participate in peer-to-peer sales platforms. Questionnaires were distributed to 1,000 respondents randomly selected from all districts. The logistic regression analysis was used to identify consumer motives while observing different factors that affect the said motives independent of controlled variables. The results showed that demographic factors and the motivation to participate in a sharing economy significantly affect the motives when engaging in peer-to-peer sales platforms. Interestingly, the study found that income had no significant effect when engaging in peer-to-peer sales platforms. These results will be useful for the effective entry of social commerce businesses and marketing strategies.

Keywords: C to C; social commerce; electronic commerce; Japanese online market; social media; peer-to peer sales platforms.

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1 Introduction

Social commerce continues to rapidly expand in many developed countries. In Japanese social commerce, a unique characteristic is the expansion of flea market applications via smartphones (these apps are called 'Fri-Ma' in Japanese). In Japan, social commerce emerged on 28 September 1999, when Yahoo! Auction (by Yahoo! Japan) started the service. Such services are defined as inter-individual EC [called Commerce (C) to C-Electronic Commerce, hereinafter 'C to C-EC'] by the Ministry of Economy, Trade and Industry, and it has been growing since the organisation started the estimation of the market size in 2016 (Ministry of Economy, Trade and Industry, 2019). Particularly, the market size of flea market apps, which is defined as a leading category of C to C-EC, was 639.2 billion yen in 2018. This increase accounted for 32.2% from 483.5 billion yen in 2017. Compared with 2016, the market size was doubled because it was 305.2 billion yen in 2016. The rate of increase is higher than other E-commerce markets. For example, the size of the B to C-EC market in 2017 was 16,505.4 billion yen and 17,984.5 billion yen in 2018, with a growth rate of 8.96% (Ministry of Economy, Trade and Industry, 2019). Social commerce is a combination of social networking service, social media and E-commerce, and it is known as S-E-commerce. Cohen (2011) defined social commerce as a business model where social media meets shopping. In Japan, the term social commerce first appeared in 2005, and one research reported told that Yahoo! Auctions was the first site that used the term (Computer World, 2005). Mashable (2013) classified social commerce into the following seven types:

1 C to C (peer-to-peer sales platforms)

2 social network-driven sales

3 group buying

4 peer recommendations

5 user-curated shopping

6 participatory commerce

7 social shopping.

'Fri-Ma' is a flea market mobile application that allows individual consumers to buy and sell goods mainly among themselves (C to C) as if there is a flea market online. The name of the flea market app is literally derived from 'flea market'. The application is used to create a market where consumers can show, buy and sell while negotiating with people who stop by the site via their smartphone or the internet. It can be positioned as a peer-to-peer social commerce site. This flea market app is said to be a uniquely evolved personal trading site that started in Japan (Tsurusawa, 2019).

Fri-ma apps began in 2012 with the launching of Rakuma (known as Rakuten Fri-ma nowadays). Since then, Mercari has been the key driver of the market from 2014 until present (Nakamura et al., 2018). The total amount of distribution sales has reached 490.2 billion yen in 2019 and 784.5 billion yen in 2021, from 232 billion yen in 2017. Meanwhile, the number of registered members ranges from 8.45 million to 19.54 million, more than 15% of Japan's total population in 2021. Since 2020, the total amount of distribution sales and the number of members has increased radically during the Covid-19 pandemic (Impress, 2021).

However, despite 20 years of market history, the market scale of internet auctions, which include all C to C, B to C and B to B, stagnated from 998.7 billion yen in 2016 to 101.3 billion yen in 2018 (xTECH Nikkei, 2018). As estimated by public institutions, the market scale of C to C internet auctions was 345.8 billion yen in 2016 and 356.9 billion yen in 2017 (Ministry of Economy, Trade and Industry, 2018).

However, no empirical research has been conducted on the factors motivating consumers to use flea market apps. This study used a questionnaire survey of flea market app users to analyse the motives of the consumers who use such apps and the unique characteristics of Japanese consumers of social commerce. The findings may provide insights to increase the chances of success for many marketers and companies in Japan's markets.

The rest of this study is presented as follows: Section 2 is about the brief history of Mercari, Japan. Section 3 presents the literature review and constructs hypotheses for the empirical survey. Section 4 describes the data and methodology, Section 5 summarises and discusses the empirical results and Section 6 concludes the study.

2 Brief history of Mercari

Shintaro Yamada founded Mercari, Inc. in 2013 under the name Kouzou, Inc. In the same year, the company changed its name to Mercari, Inc. During the fiscal year that ended on 30 June 2019, the company had a capital of 40.11 billion yen, sales of 51.683 billion yen and an operating income of 12.149 billion yen. At that time, the number of employees was 1,826 (Financial Services Agency, 2019). Yahoo Auction had the most number of users in 2014, followed by Rakuten Auction, Mobaoku and Mercari (Nielsen, 2014). However, in 2018, the number of users had changed, with Mercari ranking first and Yahoo Auction, second (Dime, 2020).

Mercari was expanding its services overseas, launching in the USA in 2014 and in the UK on 15 March 2017 (Business Insider, 2018). However, the service was terminated in 2019 because of the continued losses in the UK (Nikkei, 2018). For the US, the company has been out of the 'bottomline red' since 2019 and has continued to do good business. It aired its first 15-second commercial to the US audience at the 55th Super Bowl on 7 February 2021(TV-Asahi, 2017).

In 2017, Mercari, Inc. established the E.C. Business Council with Yahoo! Japan Corporation, the operator of Yahoo Auctions. The purpose of the organisation was to lay the foundation for solving and sharing information on illegal sales of goods and services, illegal financial activities and problems in transactions between buyers and sellers on peer-to-peer sales platforms. Government agencies, such as the Consumer Affairs Agency, Ministry of Internal Affairs and Communications and Ministry of Economy, Trade and Industry, also participated in the first council meeting as observers (Yahoo, 2017).

3 Literature review and hypotheses

A series of studies on the factors that influence participation in peer-to-peer marketplaces have found economic motivation to be a crucial factor. Here, as Solomon (2011) summarises, an individual's purchasing behaviour is influenced by four psychological

factors: motivation, perception, learning and attitude. Motivation plays a key role, and it represents one of the factors influencing the consumer's purchase behaviour during the final purchase decision. Selling products they no longer need can be directly associated with increase in income. Moreover, selling unwanted goods can also lead to additional physical space, and the monetary aspect is frequently cited (Bauwens et al., 2012; Hamari et al., 2016; Zalega, 2018). Given these economic motivations, it can be assumed that consumers seek to sell their possessions at the most advantageous location, and thus, prefer peer-to-peer market sites. In addition, fee is an important factor for participants. Nakamura et al. (2018) highlighted that Mercari had a dominant market share for a certain period when it entered the market because of the waiver of participation fees (sales commissions) to buyers. From these arguments, the following hypothesis is proposed.

H1 Consumers with a high economic motivation are more likely to participate in peer-to-peer marketplaces.

While users avail the economic benefits from peer-to-peer marketplaces, they are also aware of the various transaction costs. The complexity of shipping and receiving goods can be considered transaction costs. In addition, there are security risks. When participating in a peer-to-peer marketplace, users' detailed personal information may be captured by not only the platform provider but also their online counterparts (e.g. buyers and sellers face the risk of leaked detailed personal information to their counterparts). This information can not only be used for commercial activities but also for various criminal activities and harassment (Dillahunt and Malone, 2015; Daily Mail, 2015; Lee et al., 2018). How users perceive these transaction costs is probably influenced by their motivation to participate in peer-to-peer platforms. Therefore, the following hypothesis can be proposed.

H2 Consumers who are highly interested in contributing to the reduction of excessive consumption are likely to participate in peer-to-peer marketplaces.

Another reason for the willingness to join a peer-to-peer marketplace is consumers' attitudes toward the sharing economy. Attitude is a component of psychological factors in purchasing behaviour (Smith and Rupp, 1997). Concerns about the environmental impact of overconsumption and other issues have led to a growing interest in collaborative consumption or sharing economy (Lawson, 2010; Van de Glind, 2013). This is a discussion relevant to green consumers, and the characteristics of green consumers in marketing have been identified in several studies (Pickett-Baker and Ozaki, 2008; do Paço and Raposo, 2009; Essoussi and Linton, 2010). A peer-to-peer marketplace frequently advocates that joining their marketplace prevents the overuse of resources. Moreover, secondhand peer-to-peer sales platforms have an important position in France; they make the sales platforms play a role in sustainability issues and economic impact (Parguel et al., 2017). From these discussions, the following hypothesis is proposed as the motivation for participation in peer-to-peer marketplaces.

H3 Consumers who are highly interested in contributing to the reduction of excessive consumption are likely to participate in peer-to-peer marketplaces.

Social-related factors have also influenced the participation in peer-to-peer marketplaces. Wallace et al. (2014) and Chen et al. (2017) found that a word of mouth and reputation among colleagues and friends acted as motivators for participation. Therefore, the following hypothesis can be developed.

H4 Consumers who are highly interested in a good reputation among colleagues and friends on the platform are likely to participate in peer-to-peer marketplaces.

In addition to these motivations, demographic factors are important attributes for participation in peer-to-peer platforms. Several empirical studies have suggested that demographic factors, such as gender and income, may be related to participation. Therefore, the following hypothesis is proposed:

H5 Demographic factors influence the decision to participate in peer-to-peer platforms.

4 Data and methodology

4.1 Data

An online survey of peer-to-peer flea market platform users was conducted from 6 March 2020 to 10 March 2020. The survey targets men and women, including active users who are both selling and buying in peer-to-peer sales platforms. The sample is randomly chosen in all Districts in the 47 Prefectures of Japan. Age brackets are between 20- and 49-year-olds who are considered the main users of the target platform and registered with an online survey company, MyVoice Communications Inc. Randomly selected respondents were asked about their willingness to participate in the survey. The respondents who agreed to participate were then notified of the survey's URL and asked to answer the questionnaire via the said URL. As a result, 1,000 questionnaires were returned. After eliminating incomplete questionnaires, the sample included 921 responses. The sample sets included 543 male and 378 female respondents.

The respondents were asked their preference for a peer-to-peer platform mainly (frequently) as a seller (also a buyer). Next, they were asked about the importance of the following features for them when using online flea market platforms:

1 How important is it to have a low application cost for using the service platform (application software)?

2 How important is the convenience of uploading/selling (via the platform)?

3 How important is the possibility for sellers to make higher profits than other platforms?

4 How important is a good reputation among colleagues and friends on the platform?

5 How important is it to ensure high anonymity during trading?

6 How important is the ease of processing shipment of goods?

7 How important is re-using and re-selling to reduce the cause of a wasteful society via the platform?

8 How important is the frequency of beneficial promotions from the platform?

9 How important is it to avoid negotiations on the platform?

Each respondent was asked to choose one of the four options (4-point Likert scale), from 1 (important), 2 (somewhat important), 3 (somewhat unimportant) and 4 (unimportant). This scale is chosen because it reduces the burden on the survey respondents. There is considerable discussion about how many scales to use in a questionnaire (Krosnick and Presser, 2010). Andrews (1984) has shown that four levels provide sufficient validity and reliability. Meanwhile, Alwin and Krosnick (1991) and Scherpenzeel (1995) found no differences in the reliabilities between 4-point and 5-point scales. Furthermore, the scale avoids the bias unique to the Asian region, where responses tend to be gathered in the middle (i.e. neither agree nor disagree) (Chen et al., 1995). Hence, the 4-scale questionnaire is sometimes used in Japanese social surveys. The scale also has the advantage of being familiar to respondents, making it easier for them to answer. Moreover, the questions that include social desirability are included in the questionnaire. In this case, Garland (1991) has shown that the middle question must be removed to avoid respondent bias.

Moreover, demographic characteristics (gender, age, household size, etc.) were also collected. Table 1 shows the demographic data of the sample. According to the data collected, 441 respondents regularly sell and buy in Mercari and 480 in Yahoo! Auctions.

Table 1 Demographics of the respondents (n = 921)

Variable		*n*	*Percentage (%)*
Gender	Male	543	59.0
	Female	378	41.0
Age (y)	20–29	170	18.5
	30–39	343	37.2
	>40	408	44.3
Household income (10,000¥)	<300	158	17.2
	300–499	235	25.5
	500–699	217	23.6
	700–899	148	16.1
	>900	163	17.7
Main site	Mercari	441	47.9
	Yahoo! Auctions	480	52.1
	Others	0	0
Academic background	Undergraduate or graduate school	525	57.0

4.2 Methodology

We constructed the following model for empirical analysis. The model is estimated using logit analysis to control different effects and examine the relative importance of demographic characteristics, attitudes, preferences about peer-to-peer sales platforms and economic variables. The linear regression logit models are defined as follows:

$$Y_i + \alpha + \beta_{Gender}\text{Gender} + \beta_{Age}Age + \beta_{Cost} + \text{Cost} + \beta_{Convernievce}\text{Convernievce}$$
$$+\beta_{Profits}\text{Profits} + \beta_{Reputation}\text{Reputation} + \beta_{\text{Anonymity}}\text{Anonymity} + \beta_{\text{Shipment}}\text{Shipment}$$
$$+\beta_{\text{Sharing Economy}}\text{Sharing Economy} + \beta_{\text{Promotions}}\text{Promotions} + \beta_{\text{Negotiation}}\text{Negotiation}$$
$$+\beta_{\text{Academic Background}}\text{Academic Background} + \beta_{\text{Household Income}}\text{Household Income}$$

In this model, the dependent variable (*Yi*) is the i^{th} respondent's binary choosing behaviour to a peer-to-peer platform. *Yi* takes the value 1 if the respondents regularly use Mercari, and 0 if they do not. *Gender* is a dummy variable (male or female). *Age* represents the respondent's age. *Cost* denotes the attitudes about the importance of low application cost for using the service platform. *Convenience* denotes the attitudes about the convenience of uploading/selling. *Profits* denote the attitudes about the high possibility for sellers. *Reputation* denotes the good reputation among colleagues and friends on the platform. *Anonymity* represents the attitudes about the importance of ensuring high anonymity during trading. *Shipment* denotes the attitudes about the ease of processing shipment of goods price. *Sharing economy* denotes the attitudes about the willingness to reduce the cause of a wasteful society via the platform. *Promotions* denote the attitudes about the high frequency of beneficial promotions from the platform. *Negotiations* represent the attitudes about the unwillingness to negotiate with the sales partners. *Academic Background* is a dummy variable (1 = university or above, 0 = below University). *Household Income* is a dummy variable (1 = below 3000,000 yen, 0 = above 3000,000 yen).

5 Empirical results and discussion

5.1 Empirical results

The model uses logit analysis by SPSS version 26. Table 2 shows the results of a multivariate regression model predicting the participation in Mercari. The results of the analysis show that participation in Mercari was significantly associated with gender, age, emphasis on anonymity in transactions, emphasis on the ease of physical shipping, concern for the environment and a tendency to avoid negotiations.

The probability of belonging to the category, in which women participate in Mercari was approximately 1.26 times higher than that of men, if the other factors were constant.

The probabilities of participating in Mercari among young people, that is, those in their 20s and 30s, belonging to the category were 7.14 times and 2.85 times higher, respectively, than the probability of those in their 40s.

The emphasis on anonymity is also a significant predictor. The odds ratio for this variable was 2.02, which means that respondents who valued anonymity when making transactions were about twice as likely to choose Mercari. Similarly, the odds ratios were 3.05, 1.43 and 0.57 for those who valued the ease of shipping, socialisation and avoidance of negotiation, respectively. This means that respondents who value the ease of shipping are approximately three times more likely to participate in mercantilism, while those who value the social contribution are 1.43 times more likely. Conversely, those who responded that they wanted to avoid negotiation were 0.57 times more likely to participate in Mercari. From these empirical results, H2 (transaction costs), h3 (sharing

economy) and H5 (demographic factors) are supported. However, H1 (economic motivation) and h4 (reputation) are rejected.

Table 2 Empirical results (N = 921)

Variables	*Beta*	*S.E. (beta)*	*Odds ratio*	*95% CI*
Gender (Female)	−1.340**	0.161	0.262	0.191–0.359
Age (20–29)	1.967**	0.231	7.148	4.548–11.233
Age (30–39)	1.049**	0.170	2.854	2.046–3.981
Cost	−0.923	0.375	0.397	0.190–0.829
Convenience	−0.322	0.384	0.725	0.342–1.538
Profits	−0.042	0.300	0.959	0.532–1.727
Reputation	−0.060	0.170	0.942	0.675–1.314
Anonymity	0.707**	0.214	2.028	1.333–3.084
Shipment	1.117**	0.309	3.054	1.666–5.600
Sharing Economy	0.362*	0.183	1.437	1.004–2.055
Promotions	−0.048	0.177	0.953	0.674–1.348
Negotiation	−0.551**	0.179	0.576	0.406–.818
Academic background	0.026	0.079	1.026	0.880–1.197
Household Income	−0.045	0.209	0.956	0.635–1.439
Constants	−0.228			

Notes: The reference categories for the variables are as follows: Gender: Male;
Age: over 40.
***, ** indicate that the coefficients are significant at 1% and 5%, confidence level, respectively.

5.2 Discussion

The participants in Mercari appear to have distinct characteristics, which we categorised into the following five factors: strong economic motivation, willingness to save on transaction costs, motivation to contribute to the reduction of overconsumption, high interest in gaining a good reputation among their peers and demographic factors. In terms of demographic factors, previous studies have consistently shown that peer-to-peer sales platforms have higher participation rates among women and that younger people are more likely to participate in transactions than older people, which is consistent with the current study.

However, the results of our analysis highlight some differences compared with previous studies. For example, having a desire to sell goods at the highest possible price and earn more profit compared with using other platforms and factors, such as the low fee of peer-to-peer marketplace, participation and offering useful promotions to participants, were not statistically significant motivators for participation in Mercari. Similarly, high or low household income had no significant effect. These results indicate that economic status is not a strong motivator for participation in peer-to-peer marketplaces. Hamari et al. (2016) specified that users' motivation to continue participating in social commerce often relies on the perception of individual enjoyment (relatedness is also included) and economic benefits. Meanwhile, Wang and Zhang (2012) paid considerable attention to

economic concern. The difference between Hamari et al. (2016) and current study's empirical findings can be attributed to the different target sample. Hamari et al. (2016) focused on registered users of sites related to the sharing economy. Most registered users were not active users. In contrast, the current study sample included active users who sell and buy. Therefore, highlighting the differences in the characteristics of active and inactive users is the contribution of our study, and thus, provides room for future research.

Meanwhile, willingness to participate (sharing economy) and the attributes and characteristics of transaction costs in the market are critical factors. These results revealed that Mercari participants are characterised by a high interest in contributing to society through the sharing economy, while reducing the physical and psychological burden of interpersonal transaction activities as much as possible. In its promotions, Mercari has emphasised that what is not necessary for them may be useful for others, and that Mercari can be a good intermediary for such contributions. Furthermore, studies have shown that several participants sometimes list items at prices that are not in line with their profit margins (ITmedia, 2019). This indicates that Mercari has captured a segment of the market with a strong desire to participate in the sharing economy, in contrast to the traditional auction sites.

6 Conclusions

The significant factors that classified the participants of Mercari were as follows: gender (female), younger generations and willingness to save transaction costs (e.g. negotiating price, ensuring anonymity and shipping procedures). Zhang et al. (2019) found that social-related factors (altruistic motivation, reputation and embarrassment) emerged as important antecedents of participation in mobile collaborative consumption. Individual sociability plays an important role among these factors. Our findings regarding unwillingness to negotiate with other participants and ensuring anonymity are consistent with their findings.

Specifically, addressing these factors may encourage individuals with low sociability to participate and those who want to contribute to reducing overuse and overconsumption of resources through trade. Interestingly, economic motivation was not a significant predictor. These results not only provide promising clues for establishing a new peer-to-peer marketplace in Japan but also suggest that peer-to-peer marketplaces can be a powerful tool to promote the sharing economy and increase environmental protection in Japan. The motivating factors of user's intention to participate in the sharing economy have been studied from many aspects (Hamari et al., 2015; Möhlmann, 2015; Lee et al., 2018). However, few empirical studies in Japanese users exist, although its current and potential market size is high. Our study contributes to this aspect.

Whether the study results can be generalised to other Asian countries is debatable. For example, the results should be tested in developed Asian countries, such as Taiwan, China, Thailand and Singapore, and in developing countries, such as the Philippines, where peer-to-peer marketplaces are well established as a means of transaction.

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