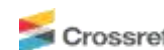# DETERMINANTS OF CUSTOMER SATISFACTION IN RETAIL BANKING: EMPIRICAL EVIDENCE FROM JAPANESE BANK CUSTOMERS

Crossref

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A R T I C L E   I N F O

A B S T R A C T

As a consumer-oriented service industry, the quality of customer service provided by banks and their customers' overall satisfaction with their services are becoming increasingly important. This study examines the factors influencing customer satisfaction with banking services provided by Japanese regional banks. Using data from the Japan Financial Institution Customer Ratings METER® of about 200,000 cases, we estimated the factors affecting customer satisfaction using an ordered probit model. The results indicate a positive correlation between direct financial services from regional banks and customer satisfaction. This relationship is solid when customers hold investment-related products. Additionally, we observed that individual customer satisfaction tends to decline with increasing financial asset holdings and increase as customers become more financially literate. Furthermore, we noticed that customer satisfaction tends to be higher for females than males, younger people than the elderly, and occupied customers than for unoccupied customers. The findings of this study suggest that customers may be more attracted to regional banks that provide investment information and advice tailored to their circumstances. It may be beneficial for regional banks to understand better factors that influence customer satisfaction, such as the age and gender of their customers, their level of financial Literacy, and the amount of financial assets they have. It would be beneficial for regional banks to consider these factors and enhance the quality of their direct interactions with customers and the customer service provided by their staff and call centers. This could help regional banks build long-term, ongoing relationships with their customers.

INTRODUCTION

The past two decades have witnessed a profound transformation within the banking industry, with global and regional shifts occurring concurrently. The banking industry must continually adapt to mounting competition from non-banking financial institutions, shifting demographics and social trends, the advent of information technology, such as digital banking, FinTech, and robot advisors, evolving channel strategies, and new entrants into the banking industry. The banking industry has experienced significant disruption from non-banking industries due to government deregulation of the financial services sector, changing customer preferences and needs, and regulatory changes (Annin et al., 2014; Byers & Lederer, 2001).

The expansion of financial product delivery channels has prompted banks to adopt a more assertive approach to marketing new and more sophisticated financial products, including investment trusts and mutual funds. This expansion has led to an increase in the number of individual investors who are actively engaged in investing in investment trusts and mutual funds. In Japan, it has become common practice for inexperienced individual investors to commence their participation in the securities market by investing in investment trusts. Furthermore, the continued aging of the population has invested in investment trusts, a more popular choice among older people, who have accumulated more assets than the younger generation to fund their retirement. In addition, the Japanese government has implemented policies to expand the Nippon Individual Saving Account (NISA) and defined contribution pension plans, which have led to a greater prevalence of investment in investment trusts by individuals. The entry of individual investors into the securities market through investment trust or mutual fund investments has also been observed in emerging Asian countries such as Malaysia, where

mutual fund investments by individual investors are becoming increasingly prevalent (Mahdzan et al., 2020; Ripain & Ahmad, 2018).

Comprehensive financial services, including investment advice and financial planning, have become crucial to banks' retail business. Moreover, the perspective from which individual customers evaluate financial institutions is transforming. In addition to traditional evaluation items such as accuracy and speed, the quality of financial services, including customer support and counseling, and customer satisfaction with these services are becoming increasingly important (Ananda & Devesh, 2018). It has been proposed that enhancing customer satisfaction also influences bank profitability (Anderson et al., 1994; Nagar & Rajan, 2005), and improving customer satisfaction has emerged as a pivotal strategic objective for bank management. A substantial body of research has been conducted on evaluating banks' retail services and customer satisfaction with their clients, including an analysis of e-banking (Ananda et al., 2023; Cambra-Fierro et al., 2017; Egala et al., 2021; Kaur et al., 2021; Pakurár et al., 2019). Nevertheless, to date, no study has been conducted on customer satisfaction among users of banking services, focusing on their investment advice rather than on a specific bank. Instead, we conducted a study on users' data of many banks.

This study examines the factors that influence customer satisfaction among Japanese regional banks. Japanese regional banks maintain a dense branch network within the prefecture of their head office, including urban and regional areas. They provide services that are closely linked to individual customers. Concentrating on regional banks was preferable to comprehend the patterns of customers utilizing financial services in Japan as a whole, including in the regions, and to evaluate the quality and quantity of financial services.

This study examines the factors influencing customer satisfaction with banking services, focusing on the influence of information channels and the content of investment advice. The analysis will consider several socio-demographic factors, including the client's age group, gender, asset level, and Financial Literacy. In this study, we employed the Japan Financial Institution Customer Ratings METER®, a distinctive and expansive database that has not been extensively utilized to date, to investigate the factors influencing customer satisfaction, focusing on socio-demographic variables. We employed an ordered probit model to analyze the data.

The remainder of this paper is organized as follows: The subsequent section reviews the pertinent literature and develops the hypotheses. Section 3 presents the data and methodology employed in this analysis. Section 4 presents the estimated model's findings, while Section 5 discusses the results. Finally, Section 6 contains concluding remarks.

LITERATURE REVIEW

Effect of Advice on Customer Satisfaction

Several studies have demonstrated that individual customers of financial institutions are influenced by the investment advice and information provided by financial institutions in the execution of their customers' financial transactions and the amount of their investments. Kramer (2012) revealed that financial advisors assisted clients in diversifying their portfolios, reducing volatility, and decreasing the turnover ratio. Another study also showed a positive impact on investment performance, particularly when investors place trust in their investment advisors (Monti et al., 2014). Bhattacharya et al. (2012) examined individual investors in Germany. They found that the advice was received by wealthier male investors who had a more extended history with their brokers and that the advice improved efficiency.

Conversely, other studies indicated that investors needing more financial Literacy should seek investment advisors, which does not necessarily imply that they receive advice. Mullainathan et al. (2012) also proposed that financial advisors may have a conflict of interest. While financial advisors may encourage individual investors to pursue financial returns more strongly, they also strongly recommend active funds that could earn higher fees for investors.

Previous studies have indicated that investment advice provided by financial advisors may only sometimes benefit investors. However, it may facilitate risk-taking, enhance performance, and enhance customer satisfaction.

H1: There is a positive correlation between banks' information or advice and customer satisfaction with banking services.

Effect of Service Quality on Customer Satisfaction

Another factor that affects customer satisfaction with banks is the quality of banking services. Many empirical studies have employed multivariate analysis techniques, such as SERVQUAL or path analysis, frequently utilized in previous marketing research, to investigate the relationship between banking services and customer satisfaction within the banking industry. These studies have consistently demonstrated that enhancing the quality of banking services can positively impact customer satisfaction and have a favorable impact on bank profitability (Boonlertvanich, 2019; Halim et al., 2023; Johnston, 1997; Oppewal & Vriens, 2000; Paul et al., 2016; Teeroovengadum, 2022; Varki & Colgate, 2001).

Uddin (2020) demonstrated that the quality of banking services, including exemplary ATM service, mobile banking, and call center quality, is paramount in fostering customer loyalty and enhancing customer satisfaction. The superiority of conventional or regular financial advising methods may be more advantageous than e-banking for older clients who have more assets but are aware that they could be more financially literate and are cautious about managing their investments. Furthermore, it has been demonstrated that the quality of service provided by financial planners or advisors regarding advice, including ease of contact, reliability, and empathy, also affects customer satisfaction (Gazi et al., 2021; Jamal & Naser, 2002). Financial services that prioritize communication with individual customers and aim to resolve their issues enhance customer satisfaction. Carsamer (2018) also examined the factors influencing customers' perceptions of Ghana's financial products and banking services. The study found that the frequency and regularity of visits by bank employees positively influenced customers' perceptions of the bank's services.

The results indicate that the quality of service to customers, mainly how they are approached, and the human

contact that enhances the quality of service are significant factors contributing to satisfaction with bank services. In light of the preceding discussion, this study proposes the following hypothesis:

H2: How customers are approached affects their satisfaction with banking services.
H3: A direct customer approach by salespeople is associated with greater customer satisfaction with banking services.

Effect of Socio-demographic Factors on Customer Satisfaction

Recent studies have demonstrated that socio-demographic factors significantly influence customer satisfaction with financial services (Chattha, 2019; Darko et al., 2017; Gan et al., 2011; Seiler et al., 2013; Widityani et al., 2020). In a study of New Zealand electric banking (EB) users, Gan et al. (2006) considered socio-demographic factors. They found that individuals with higher incomes were less likely to use EB. In their 2014 study, Okeke and Okpala employed a binomial and multi-item logit model to analyze the impact of socio-demographic factors on Nigerian customers' use of EB. Their findings indicated that socio-demographic characteristics such as male gender, college graduation, student status, office work, and unmarried status were significant.

Li et al. (2005) employed a multinomial probit model to investigate the factors influencing customers' demand for a range of financial products and the ordering patterns of these products. The findings indicated that female and older individuals exhibited a heightened sensitivity to their overall satisfaction with the banking institution, relative to male and younger individuals, regarding the decision to purchase supplementary financial products.

Furthermore, socio-demographic factors influence how banks and financial products are perceived. In a study by Carsamer (2018), the factors affecting customer perceptions of financial products and banking services in Ghana. The results indicated that socio-demographic characteristics, such as age, marital status, and income, contribute to increased awareness of available services. Based on this discussion, this study assumes the following hypothesis.

H4: Socio-demographic factors significantly influence customer satisfaction with banking services.

Effect of Financial Literacy on Customer Satisfaction

A lack of financial Literacy among individual investors is a pervasive issue affecting many global investors (Lusardi & Mitchell, 2011). Over the past few decades, many studies have been conducted on the effects of client financial literacy and investment advice on investment decisions. In particular, many researchers have studied to assess the impact of financial and investment Literacy on judgments about a range of financial products and services, including stock investments, mutual fund investments, retirement planning, and mortgage financing. (Fornero & Monticone, 2011; Gerardi et al., 2010; Mahdzan et al., 2020; Müller & Weber, 2010; Van Rooij et al., 2011). Nevertheless, the evidence regarding the significance of financial Literacy in these financial decisions is inconclusive. Some studies have indicated a significant positive correlation between financial Literacy and financial decision-making, whereas others have demonstrated a relatively weak relationship. In their research, Jamal and Naser (2002) showed that customer expertise plays a role in influencing customer satisfaction in the context of retail banking. In particular, a negative correlation exists between customer expertise and satisfaction, indicating that customers with expertise tend to be less satisfied.

Financial Literacy has been demonstrated to be associated with investment decision-making, specifically the selection of financial products and stock investments. In their study, Van Rooij et al. (2011) utilized data from Dutch households to investigate the relationship between financial Literacy and investment decisions. Their findings indicated that individuals with excellent financial knowledge were likelier to invest in stocks, whereas those with limited financial Literacy were less inclined. Conversely, the satisfaction derived from financial advice financial institutions provide is contingent upon the clients' financial literacy level. Kramer (2016) posited that financially literate clients are less likely to seek financial advice, and additionally, this relationship is more pronounced in households with more significant assets.

Conversely, Calcagno and Monticone (2015) discovered that individuals with superior financial Literacy were more prone to utilize investment advisors. Moreover, Calcagno and Monticone (2015) discovered that individuals with elevated financial Literacy were more prone to use investment advisors. Vlašić et al. (2022) also found that individuals with low financial Literacy, compared to those with high financial Literacy, were more likely to rely on subjective cues (e.g., customer feedback) in generating cognitive loyalty when recommending financial products to others. This study indicates that individuals with limited financial Literacy are prone to making decisions that may not be entirely rational. As previously discussed, financial Literacy affects the investment behavior of retail customers of financial institutions because it affects individuals' asset choices. Furthermore, the presence of investment advice by financial institutions can have a complex impact on their decisions and customers' satisfaction with their financial institutions. In light of the preceding discussion, this study predicts the following hypothesis:

H5: Customers' financial literacy level significantly influences customer satisfaction with banking services.

MATERIALS AND METHODS

In this research, a quantitative analysis is performed using the results of a questionnaire survey that includes the satisfaction levels of customers of Japanese regional banks. The survey results utilized in this study were derived from the 2019 and 2020 editions of the Japan Financial Institution Customer Ratings METER®, a database of the results of an online questionnaire survey on the evaluation of financial institutions conducted every August among Japanese adult aged 20 and over, with approximately 170,000 responses received in each year. Nikkei Research Inc. provides the METER®. The Japan Financial Institution Customer Ratings METER® is a database of the results of an online questionnaire survey on the

evaluation of financial institutions conducted every August among the general population of individuals aged 20 and over nationwide. Each year, the METER® receives approximately 170,000 responses. The individual questionnaire results are available for 46 regional banks and 12 second-tier regional banks in the 2019 data set and 45 regional banks and 12 second-tier regional banks in the 2020 data set, with one fewer regional bank. For this paper, the term "regional banks" encompasses the banks above and Saitama Resona Bank. Those who utilized these banks were included in the analysis.

The questionnaire comprises 30 questions designed to elicit information on various socio-demographic factors for each respondent. The questionnaire includes questions regarding the respondents' gender, age, area of residence, Occupation, the number of financial assets held, and customer characteristics such as savings and investment style and financial Literacy. The questionnaire includes questions about the respondent's relationship with the financial institution. These include the points of contact between the respondent and each financial institution, the services provided at the financial institution, and the overall satisfaction level of the financial institution used. The 30 questions in this paper address various topics, including gender, age, Occupation, financial assets, products and services currently utilized by financial institutions, contact with financial institutions within the past year, overall satisfaction with the financial institutions used, and Financial Literacy. For reference, these questions are presented in Table 1. The sample size for 2019 was 10,890, while that for 2020 was 10,601.

Table 1. Customer Satisfaction Factors

Variables	Definition
Personal attributes and bank competition	
Gender	Female=0; Male=1
Age	The class value for each age group is divided into 13 classes, from age 20 to 79 and 80 and above in 5-year age increments. Each age group value (e.g., 22 for ages 20 to 24)
Occupation	0 for retirees, unemployed persons, and others without regular employment and 1 for those with other regular jobs.
Assets	Logarithmic value of total financial assets expressed as the median for the class (e.g., 2 million yen for 1 to 3 million yen, etc.)
Literacy	Financial Literacy; The overall score for the 10 questions was calculated for each individual, with +2 for correct answers, -2
HHI	Herfindahl-Hirschman Index: Calculated from the share of total deposits by financial institution and business type by prefecture.
SHR	Deposits Market Share: Calculated from total deposits by financial institution and business category by prefecture.
Contacts viewed in the past year	
Staff	Salespeople visits, phone calls, in-store
CallCenter	Call center
Website	Website, Smartphone Apps, Homepage
Events	Customer events and seminars organized by the bank
SNS	Social Networking Sites, i.e. Facebook, LINE, Twitter etc.
Pop-up	Online video commercials and pop-up ads
Trainads	Train ads, DM flyers, Brochures, and other ads
None	None
Products and services currently used;	
Deposit	Deposits and Settlements related (Ordinary and fixed deposits, Foreign Currency Deposits, Fixed term and fixed amount savings (by Japan Post bank), Debit Cards)
HLoan	Housing Loan
Investment	Investment (Stock trading, Japanese government bond for individuals, Mutual funds and ETFs, Foreign Currency MMFs, REIT, Wrap accounts and fund wrap accounts, Robo Advisor)
Insurance	Insurance and Private Pensions related (Medical Care Insurance, Yen and foreign currency savings insurance, iDeCo (individual-type Defined Contribution pension plan) Fixed and Variable Individual Annuities)

In the banking industry, it has been observed that banks operating in competitive environments strive to establish sustainable competitive advantages through enhanced service quality and customer relationships (Petridou et al., 2007). Consequently, a variable indicates the degree of competition in the retail business of each regional bank. The Herfindahl-Hirschman Index (HHI) is calculated from the deposit share in each prefecture where the head office of each regional bank is located. This index is employed as a measure of the degree of competition in that prefecture. Additionally, the in-prefecture deposit share (SHR) is used as a control variable, which indicates the name recognition and influence of the relevant regional bank on its customers. The number of samples was 75,690 in 2019 and 2020, including data other than METER. In addition to SERVQUAL, there are different methods of analyzing customer satisfaction, such as the National Customer Satisfaction Index (NCSI) or nonlinear regression models that estimate customer satisfaction factors (Arbore & Busacca, 2009). In recent years, numerous analyses, including ordinal logit and ordinal probit regression models, have been employed (Ngo, 2015; Moraru et al., 2022). In this analysis, we used ordered probit regression models, utilized in numerous previous studies in recent years.

RESULTS AND DISCUSSIONS

Descriptive Results

Table 2 depicts that most respondents (59.9%) are between the ages of 40 and 59, with a slight majority of males (55.3%). Additionally, most respondents (55.3%) have regular jobs, which may include homemakers/househusbands or older, non-retired persons. The respondents' mean and median financial assets were 18.71 million and 4.5 million, respectively. Those who scored 0 or more correct answers exhibited a financial literacy level exceeding 60%. 48% of respondents indicated that they had contacted a financial institution in some form, with 24.3% stating that they had done so through direct contact with staff and 13.1% via the institution's website.

Table 2. Descriptive Statistics (n=215,010)

Variables	Frequency	Percentage	Variables	Frequency	Percentage
Gender			*Occupation*		
Male	128,725	59.9	Yes	118,899	55.3
Female	86,285	40.1	No	96,111	44.7
Age			*Literacy*		
~29	18,644	8.7	Below -1	24,753	11.5
30~39	33,646	15.6	0	57,704	26.8
40~49	48,447	22.5	$1-10$	100,812	46.9
50~59	52,982	24.6	$11-20$	31,741	14.8
60~69	41,835	19.5			
70~79	17,698	8.2			
80 and above	1,758	0.8			
Financial Assets (million yen)			*Contacts viewed in the past year*		
~ 300	56,193	26.1	*Staff*	56,429	24.3
300~ 1,000	46,768	21.8	*CallCenter*	3,566	1.5
1,000~ 3,000	28,089	13.1	*Website*	30,474	13.1
3,000~ 5,000	9,403	4.4	*Events*	1,602	0.7
5,000~10,000	6,908	3.2	*SNS*	2,536	1.1
10,000~50,000	2,810	1.3	*Pop-up*	10,936	4.7
50,000 and above	792	0.4	*Trainads*	6,142	2.6
No Answer	64,047	29.8	*None*	121,004	52.0

The Results for the entire sample

Table 3 presents the probability distribution of customer satisfaction with regional banks in 2019 and 2020. Consequently, the highest probability of customer satisfaction in 2019 (2020) was 0.504 (0.496) for the category "neutral," followed by 0.352 (0.362) for the category "satisfied." The ranking was identical in both years. The proportion of respondents who rated their satisfaction as "very satisfied," "dissatisfied," and "very dissatisfied" was 0.078 (0.079), 0.048 (0.045), and 0.018 (0.017), respectively, in 2019 (2020). These values were all shallow and exhibited minimal variation between the two years. The total probability of customer satisfaction (highly satisfied and satisfied) was 0.430 (0.441) in 2019 (2020), while the total likelihood of dissatisfaction (highly unsatisfied and unsatisfied) was 0.066 (0.062) in both years. Satisfaction was significantly higher than dissatisfaction. Nevertheless, given that the total satisfaction probability is below neutral, regional banks should analyze the reasons behind the high number of customers who responded neutrally. This analysis should inform the development of marketing and management strategies designed to increase the satisfaction of these customers.

Table 3. Probability Distribution of the Level of Satisfaction

Category / Particulars	2019		2020		2019 & 2020	
	Observations	Probability	Observations	Probability	Observations	Probability
P(Y=1) Highly Dissatisfied	1,983	0.018	1,807	0.017	3,790	0.018
P(Y=2) Dissatisfied	5,268	0.048	4,805	0.045	10,073	0.047
P(Y=3) Neutral	54,849	0.504	52,655	0.496	107,504	0.500
P(Y=4) Satisfied	38,313	0.352	38,436	0.362	76,749	0.357
P(Y=5) Highly Satisfied	8,496	0.078	8,398	0.079	16,894	0.079
Total	108,909	1	106,101	1	215,010	1

Logistic Regression Results: Analysis for all services

Table 4 presents the estimated FY 2019 and FY 2020 results, respectively. The results of these estimates confirm that the statistically significant values in both the 2019 and 2020 estimates were the specific variables required to increase customer satisfaction. Total financial assets (*Assets*) are negatively correlated with customer financial literacy score (*Literacy*) and positively correlated with customer satisfaction with regional banks. These findings support Hypothesis 1.

Next, the explanatory variables indicating competition between banks demonstrate a positive and significant impact ($P < 0.05$) on customer satisfaction. This impact is evidenced by the degree of oligopoly (*HHI*). In other words, as competition among regional banks intensifies, they can conduct more sophisticated financial marketing analysis and offer more complex services to attract and retain existing customers. These results are interpreted as improved product suitability for customers and higher levels of customer satisfaction. Conversely, the deposit share (*SHR*) was not significant.

In terms of demographic variables, gender (*Gender*), age (*Age*), and occupational status (*Occupation*) were found to have a significant ($p < 0.05$) impact on customer satisfaction in both the 2019 and 2020 estimates. This impact indicates that customer satisfaction is typically higher among females than males, younger individuals than older ones, and those with employment than those without.

Table 4. Ordered Logistic Regression Results of Customer Satisfaction

	2019			2020		
	Coef.	Z stats.		Coef.	Z stats.	
Gender	-0.085	-8.680	***	-0.075	-7.170	***
Age	-0.008	-22.260	***	-0.009	-23.880	***
Occupation	-0.064	-7.060	***	-0.089	-9.370	
Assets	-0.018	-6.610	***	-0.019	-6.510	***

Literacy	-0.007	-9.310	***	-0.006	-7.560	***
HHI	0.000	-2.210	**	0.000	-3.600	***
SHR	0.000	-0.110		-0.001	-2.230	**
Staff	0.290	18.750	***	0.303	17.250	***
CallCenter	0.235	7.950	***	0.205	5.800	***
Website	0.169	11.090	***	0.158	9.150	***
Events	0.102	2.460	**	0.079	1.480	
SNS	0.020	0.570		0.051	1.140	
Pop-up	0.043	2.280	**	0.015	0.690	
Trainads	0.056	2.410	**	0.056	2.100	**
None	-0.128	-7.780	***	-0.114	-6.170	***
Deposits	0.494	24.190	***	0.493	21.240	***
HLoan	0.207	11.580	***	0.243	12.930	***
Investment	0.168	9.520	***	0.198	10.150	***
Insurance	0.111	5.370	***	0.110	4.770	***
A number of obs.	75,690			75,690		
Log-likelihood / Pseudo R2	-85327.3	0.0273		-79954.08	0.0274	

Note. ***, ** and * represent the statistically significant coefficients at significance levels of 1, 5, and 10 percent, respectively.

Additionally, the impact of any benefits received by customers from regional banks on their satisfaction is considered through the channels through which they contacted the financial institution within a year. The impact of staff and call centers on customer satisfaction is significant, with a p-value of less than 0.01 in both the 2019 and 2020 estimates. It has been demonstrated that direct human contact with customers is an effective means of improving satisfaction. Contact via the website (*Website*) and train ads and direct mail (*Trainads*) also demonstrated a significant impact on customer satisfaction ($P < 0.01$). Conversely, events/seminars (*Events*) and pop-up and TV online ads (*Pop-ups*) significantly impacted customer satisfaction in 2019. However, this impact was insignificant in 2020. The effect of the global pandemic has resulted in a substantial decline in the ability of regional banks to organize events and seminars for their customers. This decline has been attributed to the loss of customer benefits associated with such events.

Conversely, the 2019 and 2020 estimates revealed that social networking services (*SNS*) had no significant impact on satisfaction. Given that Japanese regional banks operate in rural areas, have a large number of older customers, and still need to have a high level of trust in social media information, it is likely that contact through this channel did not affect satisfaction levels. About the financial products they do business with, those who do business with a regional bank exhibited a positive and significant ($P < 0.01$) correlation with satisfaction for all products. We found that the services of deposits and settlements (*Deposits*), housing loans (*HLoan*), investment management (*Investment*), and insurance and private pensions (*Insurance*) have a more significant influence on customer satisfaction than in FY 2019. The level of significance was found to be higher in FY2020.

Table 5 presents the marginal effects, or the probability changes in the dependent variable for a one-unit change in the independent variable, for the estimated results in 2019 and 2020. The direction of the effect is contingent upon the sign of the coefficient. Values greater than zero indicate an effect of increasing satisfaction, while values less than zero imply an impact of decreasing satisfaction. The direction of the effect is contingent upon the sign of the coefficient. Values greater than zero indicate an effect that increases satisfaction, while values less than zero imply an effect that decreases satisfaction.

Regarding the customer benefits, the results indicate that the marginal effects for the categories "satisfied" and "very satisfied" categories are positive and significant. Furthermore, the impact of "satisfied " was higher than that of "very satisfied." The marginal effects for events and seminars (*Events*) and pop-up and TV online advertising (*Pop-up*) were positive and significant for "satisfied" and "very satisfied" in 2019 but not substantial in 2020. The significance of this factor has now been eliminated. The above marginal effects indicate that if regional banks intensify or continue their efforts to utilize these channels and benefits to their customers, the probability of customer satisfaction and high satisfaction will increase.

Consequently, it can be posited that the strengthening and enhancement of contact from these channels can reduce the probability of customers being "unsatisfied" or "very dissatisfied." Recognizing the significance of contacts from the distribution channel and the benefits provided to customers' needs is essential. This is because highly satisfied customers are more likely to form long-term relationships with the regional bank, which can deliver several performance outcomes to the customer or the bank while also providing significant benefits to the regional bank.

Among the socio-demographic variables, *Gender*, *Age*, and *Occupation* negatively affected satisfaction in the 2019 and 2020 estimates. Gender was positively correlated with satisfaction and high satisfaction, while Occupation was negatively correlated with satisfaction and high satisfaction. It can be concluded that satisfaction is higher among females than males, among those who are unemployed than those who have a job, and among those who are younger than those who are older. This result may be attributed to the fact that longer relationships with regional banks and experience in asset management may lead to more rigorous evaluations of their services. The amount of financial assets (*Assets*) and customers' financial literacy scores (*Literacy*) exhibited a negative effect (negative marginal effect for satisfaction and high satisfaction) in both 2019 and 2020. This result suggests that customers with more outstanding asset holdings and higher levels of financial Literacy are less satisfied with the services provided by regional banks. Therefore, these affluent and financially literate customers may seek more sophisticated services and professional advice.

Table 5. Marginal Effects of Benefits Received on Customer Satisfaction

	2019					**2020**				
	Highly Dissatisfied	Dissatisfied	Neutral	Satisfied	Highly Satisfied	Highly Dissatisfied	Dissatisfied	Neutral	Satisfied	Highly Satisfied
	1	2	3	4	5	1	2	3	4	5
Gender	0.004	0.007	0.021	-0.021	-0.013	0.003	0.006	0.019	-0.017	-0.011
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Age	0.000	0.001	0.002	-0.002	-0.001	0.000	0.001	0.002	-0.002	-0.001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Occupation	0.003	0.005	0.016	-0.015	-0.010	0.004	0.007	0.023	-0.021	-0.013
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Assets	0.001	0.002	0.004	-0.004	-0.003	0.001	0.002	0.005	-0.004	-0.003
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Literacy	0.000	0.001	0.002	-0.002	-0.001	0.000	0.000	0.002	-0.001	-0.001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
HHI	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(0.028)	(0.027)	(0.027)	(0.027)	(0.027)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
SHR	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(0.914)	(0.914)	(0.914)	(0.914)	(0.914)	(0.026)	(0.026)	(0.026)	(0.026)	(0.026)
Staff	-0.014	-0.025	-0.072	0.067	0.043	-0.014	-0.025	-0.077	0.071	0.045
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
CallCenter	-0.011	-0.020	-0.059	0.055	0.035	-0.009	-0.017	-0.052	0.048	0.030
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Website	-0.008	-0.014	-0.042	0.039	0.025	-0.007	-0.013	-0.040	0.037	0.023
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Events	-0.005	-0.009	-0.025	0.024	0.015	-0.004	-0.006	-0.020	0.019	0.012
	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)	(0.140)	(0.140)	(0.140)	(0.140)	(0.140)
SNS	-0.001	-0.002	-0.005	0.005	0.003	-0.002	-0.004	-0.013	0.012	0.008
	(0.567)	(0.567)	(0.567)	(0.567)	(0.567)	(0.255)	(0.255)	(0.255)	(0.255)	(0.255)
Pop-up	-0.002	-0.004	-0.011	0.010	0.006	-0.001	-0.001	-0.004	0.003	0.002
	(0.023)	(0.023)	(0.022)	(0.022)	(0.022)	(0.490)	(0.490)	(0.490)	(0.490)	(0.490)
Trainads	-0.003	-0.005	-0.014	0.013	0.008	-0.003	-0.005	-0.014	0.013	0.008
	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)	(0.036)	(0.036)	(0.036)	(0.036)	(0.036)
None	0.006	0.011	0.032	-0.030	-0.019	0.005	0.009	0.029	-0.027	-0.017
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Deposits	-0.023	-0.042	-0.123	0.115	0.074	-0.022	-0.040	-0.126	0.115	0.073
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
HLoan	-0.010	-0.018	-0.051	0.048	0.031	-0.011	-0.020	-0.062	0.057	0.036
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Investment	-0.008	-0.014	-0.042	0.039	0.025	-0.009	-0.016	-0.051	0.046	0.029
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Insurance	-0.005	-0.009	-0.028	0.026	0.017	-0.005	-0.009	-0.028	0.026	0.016
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)

Note. Values in parentheses are p-values.

The Results for Satisfaction of Customers Holding Investment-related Products.
For Japanese regional banks, the provision of retail financial services, particularly in deposit-taking and settlement, represents a long-standing and historically significant aspect of their business. However, these services have traditionally been characterized by low profitability and a high degree of competitive intensity.

The preceding analysis indicates that the satisfaction levels of customers of the same regional bank who utilize only traditional deposit and payment services will differ from those of customers who purchase investment-related products through the regional bank's channels. Since customer satisfaction and loyalty have become increasingly important for these products, this section will focus on investment-related products.

The estimation results, as presented in Table 6, indicate that in both the 2019 and 2020 estimates, statistically significant values were also observed for customers holding investment-related products. This result is a specific variable that is required when increasing customer satisfaction. The significance of financial assets (*Assets*) in the overall estimation has been eliminated in these estimation results. Conversely, the financial literacy scores of customers are positive and both significant (P < 0.05), exerting an impact on customer satisfaction with their regional bank.

Next, an examination of the competitive landscape among banks reveals that the oligopoly Herfindahl-Hirschman Index (*HHI*) exerts a positive and significant (P < 0.05) influence on customer satisfaction in 2019. However, this impact has yet to be evident in the 2020 estimates. In contrast to deposit settlement services, the services offered by regional banks for investment-related products are of critical importance. However, in 2020, due to the impact of the spread of the novel coronavirus, banks were likely to have encountered difficulties in their sales activities, and human contact with customers could have been more extensive. This result indicates that the effect on customer satisfaction is no longer significant.

About the remaining socio-demographic variables, only age (*Age*) exhibited a statistically significant (P < 0.05) impact on customer satisfaction in both the 2019 and 2020 estimates, while the other variables were not found to be significant. In other words, the results indicated that younger customers tend to be more satisfied with investment-related products than older customers in terms of age.

Table 6. Ordered Logistic Regression Results of Customer Satisfaction with Investment Products

	2019			2020		
	Coef.	Z stats.		Coef.	Z stats.	
Gender	-0.046	-1.380		-0.020	-0.560	
Age	-0.006	-4.460	***	-0.004	-3.130	***
Occupation	-0.010	-0.300		-0.010	-0.270	
Assets	-0.011	-0.990		0.009	0.710	
Literacy	0.009	3.400	***	0.011	4.140	***
HHI	0.000	2.500	**	0.000	1.030	
SHR	0.000	0.090		-0.001	-0.480	
Staff	0.357	8.450	***	0.378	8.530	***
CallCenter	0.220	3.760	***	0.267	4.100	***
Website	0.169	4.820	***	0.185	4.970	***
Events	0.093	1.620		0.015	0.240	
SNS	-0.017	-0.340		0.091	1.570	
Pop-up	-0.045	-0.810		-0.009	-0.150	
Trainads	0.019	0.300		0.119	1.680	*
None	-0.151	-2.630	***	-0.106	-1.820	*
Deposits	0.290	6.660	***	0.277	5.940	***
HLoan	0.245	3.990	***	0.151	2.350	***
Insurance	0.150	3.120	***	0.144	2.840	***
A number of obs.	5,219			4,935		
Log-likelihood / Pseudo R2	-6675.15	0.0343		-6100.70	0.0367	

Note. ***, ** and * represent the statistically significant coefficients at significance levels of 1, 5, and 10 percent, respectively.

Table 7. Marginal Effect of Customer Satisfaction with Investment Products

	2019					2020				
	Highly Dissatisfied 1	Dissatisfied 2	Neutral 3	Satisfied 4	Highly Satisfied 5	Highly Dissatisfied 1	Dissatisfied 2	Neutral 3	Satisfied 4	Highly Satisfied 5
Gender	0.003	0.006	0.009	-0.008	-0.010	0.001	0.002	0.004	-0.003	-0.004
	(0.170)	(0.169)	(0.168)	(0.168)	(0.168)	(0.574)	(0.573)	(0.574)	(0.574)	(0.573)
Age	0.000	0.001	0.001	-0.001	-0.001	0.000	0.000	0.001	-0.001	-0.001
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)
Occupation	0.001	0.001	0.002	-0.002	-0.002	0.001	0.001	0.002	-0.002	-0.002
	(0.767)	(0.767)	(0.767)	(0.767)	(0.767)	(0.788)	(0.788)	(0.788)	(0.788)	(0.788)
Assets	0.001	0.001	0.002	-0.002	-0.002	0.000	-0.001	-0.002	0.001	0.002
	(0.324)	(0.324)	(0.323)	(0.323)	(0.324)	(0.477)	(0.477)	(0.477)	(0.477)	(0.478)
Literacy	-0.001	-0.001	-0.002	0.001	0.002	-0.001	-0.001	-0.002	0.002	0.002
	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
HHI	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(0.014)	(0.013)	(0.012)	(0.012)	(0.012)	(0.306)	(0.305)	(0.305)	(0.305)	(0.305)
SHR	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
	(0.927)	(0.927)	(0.927)	(0.927)	(0.927)	(0.632)	(0.632)	(0.632)	(0.632)	(0.632)
Staff	-0.023	-0.043	-0.068	0.058	0.076	-0.021	-0.042	-0.078	0.064	0.077
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
CallCenter	-0.014	-0.026	-0.042	0.036	0.047	-0.015	-0.030	-0.055	0.045	0.054
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Website	-0.011	-0.020	-0.032	0.027	0.036	-0.010	-0.020	-0.038	0.031	0.037
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
Events	-0.006	-0.011	-0.018	0.015	0.020	-0.001	-0.002	-0.003	0.003	0.003
	(0.106)	(0.105)	(0.104)	(0.105)	(0.104)	(0.809)	(0.809)	(0.809)	(0.809)	(0.809)
SNS	0.001	0.002	0.003	-0.003	-0.004	-0.005	-0.010	-0.019	0.015	0.019
	(0.733)	(0.733)	(0.733)	(0.733)	(0.733)	(0.117)	(0.117)	(0.116)	(0.116)	(0.116)
Pop-up	0.003	0.005	0.009	-0.007	-0.010	0.001	0.001	0.002	-0.002	-0.002
	(0.420)	(0.419)	(0.419)	(0.419)	(0.419)	(0.884)	(0.884)	(0.884)	(0.884)	(0.884)
Trainads	-0.001	-0.002	-0.004	0.003	0.004	-0.007	-0.013	-0.024	0.020	0.024
	(0.765)	(0.765)	(0.765)	(0.765)	(0.765)	(0.097)	(0.094)	(0.094)	(0.095)	(0.094)
None	0.010	0.018	0.029	-0.025	-0.032	0.006	0.012	0.022	-0.018	-0.022
	(0.010)	(0.009)	(0.009)	(0.008)	(0.009)	(0.073)	(0.067)	(0.069)	(0.067)	(0.069)
Deposits	-0.019	-0.035	-0.056	0.047	0.062	-0.015	-0.031	-0.057	0.047	0.056
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
HLoan	-0.016	-0.029	-0.047	0.040	0.052	-0.008	-0.017	-0.031	0.026	0.031
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.021)	(0.019)	(0.018)	(0.019)	(0.019)
Insurance	-0.010	-0.018	-0.029	0.024	0.032	-0.008	-0.016	-0.030	0.024	0.029
	(0.002)	(0.002)	(0.002)	(0.002)	(0.002)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)

Note. Values in parentheses are p-values.

The influence of the benefits received by customers on their satisfaction with the financial institution is gauged by examining the channels through which they contacted the institution within one year. The results of the overall estimation are consistent with those of the two-year estimates, with staff (*Staff*) and call centers (*CallCenter*) having a significant impact (P < 0.01) in both 2019 and 2020. As anticipated, investment-related products possess intricate content, rendering direct human contact with customers a productive strategy for enhancing customer satisfaction. Furthermore, contact via

the website (*Website*) also had a significant impact on customer satisfaction ($P < 0.01$), as it allows for the communication of complex and large amounts of information to customers via the website, which is also effective in improving satisfaction. Conversely, train ads and direct mail (*Trainads*) are significant in the overall estimate but not for investment-related products. Events and seminars (*Events*) and pop-up ads and TV online ads (*Pop-up*) are significant in the overall estimate, but not for investment-related products. Given the nature of the products, namely investment-related products, social networking and train advertising did not significantly impact customer satisfaction. Another factor that may have influenced the results in 2020 was the difficulty in reaching customers due to the global pandemic caused by the novel coronavirus, COVID-19.

The marginal effect estimates in Table 7 demonstrate that for benefits received by customers, staff (*Staff*), call center (*CallCenter*), and contact via the website (*Website*) in 2019 and 2020, the marginal effects for "satisfied" and "very satisfied" were positive and significant in both years. Furthermore, the marginal effect for "very satisfied" was higher than for "satisfied." The results indicated a positive and significant marginal effect for Train Ads and Direct Mail (*Trainads*) in 2020 about the categories of "satisfied" and "very satisfied."

The marginal effects for the categories "satisfied" and "very satisfied" for events and seminars (*Events*) and pop-up and TV online advertising (*Pop-up*) were not significant in the model estimates for both 2019 and 2020. The marginal effects were insignificant for the model estimates of "satisfied" and "very satisfied." The results of the marginal above impact indicate that customer satisfaction with investment-related products is positively correlated with higher levels of satisfaction when approached directly by regional banks. Regional banks are also more proactive in approaching customers with investment-related products, i.e., those with higher marginal returns per customer, to increase customer satisfaction and loyalty.

Among the socio-demographic variables, only age (*Age*) demonstrated a negative effect, as evidenced by a negative marginal effect on satisfaction and a high level of satisfaction. This effect was statistically significant in the 2019 and 2020 marginal effect estimates. Nevertheless, the effect was relatively modest in magnitude. The variables gender (*Gender*), Occupation (*Occupation*), and assets held (*Assets*) were all found to be insignificant. Financial Literacy exhibited a positive marginal effect for 2019 and 2020 regarding satisfactory and highly satisfactory outcomes. This result suggests that customers with higher levels of financial Literacy are more satisfied with the services provided by regional banks.

Nevertheless, the effect is relatively modest in size. This result contradicts the overall estimate, indicating that for customers with high financial Literacy, the direct approach from the regional bank positively affects satisfaction, albeit modestly. This result implies that although customers are satisfied with the approach from the regional bank, it cannot be ruled out that they may be seeking further quality improvement, namely a higher level of service and more specialized advice.

DISCUSSIONS

The model estimation in this study demonstrated that, in addition to direct salesperson contact, customer satisfaction was influenced by various demographic variables, including age, occupational status, total financial assets, and Financial Literacy. Furthermore, the study revealed that the convenience of web-based contact also influenced customer satisfaction. Conversely, an analysis of total financial assets and the ownership of investment-related products revealed that customers with higher financial assets and those with investment-related products exhibited a more pronounced impact on satisfaction.

In particular, contacts from staff and call centers were a positive indicator, indicating that direct human contact was more practical for increasing customer satisfaction than e-banking, such as social networking. This result is related to the specific context of banking service provision in Japan, where the continued effectiveness of in-person financial advice from physical branches, particularly for customers with limited financial Literacy, is particularly evident in rural areas.

CONCLUSIONS

While we know the importance of e-banking services, this study analyzed customer satisfaction with face-to-face financial services, which are the predominant type of service banks offer to retail customers in Japan. In particular, we examined the quality of banking services, focusing on the importance of human contact, including information provision and personnel involvement. As anticipated, the results demonstrated that e-banking services, human contact, and investment advice significantly impact customer satisfaction.

The Japanese banking system plays a more significant role than direct finance, particularly in the local economy. Nevertheless, the level of customer satisfaction with regional banks' retail services needs to be sufficiently examined. Most previous studies focus on a single bank or employ few respondents. This study contributes to the existing literature by focusing on unique data from a large sample of customers drawn from Japanese regional banks with an extensive branch network in rural and urban areas.

The novel aspect of our research approach is that we consider customer contact as a determinant of customer satisfaction, in contrast to numerous studies that have investigated customer satisfaction through different service quality dimensions. Moreover, our study incorporates several socio-demographic factors into the econometric modeling as determinants of customer satisfaction.

The findings of this study demonstrate the significance of customer satisfaction in the retail financial sector of regional banks. In-person financial advice and services remain a highly valued aspect of the industry despite the growing prominence of e-banking services. Individual customer behavior is in a state of constant flux. As consumers become more informed, financially literate, and more experienced in investing, they will change their investment decisions and risk-taking levels. It will be crucial for banks to enhance their financial marketing techniques, including identifying consumer profiles, providing tailored services, monitoring the factors influencing customer satisfaction with customer service, and implementing AI in addressing customers' financial issues. Improving customer service is an increasingly important aspect of bank management strategy, as it enhances customer satisfaction and profitability.

Although this study contributes to the existing literature, it needs to be more comprehensive in understanding more detailed factors such as convenience, environment, quality, prices, and e-banking. Additionally, there are limitations in understanding information such as customers' income and education. Consequently, a future research direction would be to consider supplementing the data set with a data set of variables that can proxy for these factors. A further direction of this study will be to provide more evidence for these results by using e-banking-specific validation.

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