Consumer Innovativeness: Are Indonesian Consumers' First Adopters or Risk Seekers?

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Abstract. The speed of new product adoption and of risk tolerance are important features of the consumer innovativeness. This study aims to examine the demographic factors of Indonesian consumers in relation to differences in consumer innovativeness, perceived risk, and innovation adoption as well as the trend towards consumer innovativeness in perceived risk, and the adoption of innovation among Indonesian consumers. This study is a causal comparative research. This study took 1000 samples of Indonesian consumers from various provinces and tribes, which were taken based on online and offline survey. Data were analyzed using MANOVA and Discriminant Analysis. The results showed that in general the demographic factors of Indonesian consumers leaned toward consumer innovativeness and perceived risk because more than eight out of ten demographic aspects distinguished the two variables compared to innovation adoption. This research shows that consumer innovators tend to be men, have the courage to take credit risks, are young, have high income, and are married. The results of this study are useful for marketers to focus more on their target market, especially on the diffusion of innovation and product introduction stages.

Keywords: Innovativeness; consumer; risk; adoption; new product; demographic

1 Introduction

Consumer innovativeness research is a study of individual factors such as socio-demographic characteristics and personality traits [1]. Demographic intervention research is often related to one of three factors, namely consumer innovativeness, adoption of innovation, and perceived risk. Some examples involves difficulties to decide [2] cosmopolitanism [3] attitudes [4] perceptions [5] and willingness to buy [6]. Demographic factors are also related with new product adoption. Innovativeness refers to the tendency of consumers to adopt new products early [7] [8]. For example, innovation adoption is negatively related to existing products and positively related to decision making for high-tech products [9], adoption of electronic payments [10] [11] and luxury goods [12], credit card usage [13] [14] [15], personal loans [16], and capital market [17]. Based on the argument that most research associating demographic factors to one of the three variables of perceived risk, innovation adoption, and consumer innovativeness, this study intends to simultaneously examine the effects of demographic factors on changes in these three variables. This is based on previous empirical research that has shown that innovators are also opinion leaders, risk takers, and innovators [18].

Demographic factors are the key determinants of consumer innovativeness as measured by consumer dislike and use of new products and vary significantly by product type and

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demographic [19]. Consumer innovation is related to the speed of adoption and risk of new product innovation. Uncertainty motivates consumers to manage their risks [20]. Consumer innovativeness is the consumers' willingness to take risks because perceived risk is a function of purchase uncertainty and outcome [21]. Whereas consumers who are the first to adopt an innovation may be called innovators [22] [23]).

Demographic studies and Indonesian consumer innovativeness are mainly related to financial risks especially capital markets [17] [11] [24] [25]. In many studies demographic dimensions distinguish between innovation and perceived risk preferences of innovation-open consumers [19].

Innovative consumers are more willing to accept and use new products. Innovation adoption is related to the innovative ability of consumers which are the determinants of innovation adoption [33]. Innovative consumers are heavy consumers [7] who often adopt and use new products and technologies. Adoption involves rapid adoption and expense. Most international research shows that innovators tend to be early adopters of new products and that late adopters consider many aspects of product characteristics before purchasing a new product [40]. Innovators and new adopters are also characterized by being more willing to take risks [22] [27]. Risk seekers have higher levels of perceived risk and are therefore less willing to make credit purchase decisions.

Ha1 : Demographic factors affect the difference in consumer innovativeness, risk perceived, and adoption of innovation.

Ha2 : Consumer innovativeness affects the preference of perceived risk and adoption of innovation.

2 Methods

The type of research used in this study is a comparative study. The samples were taken from 1000 Indonesian users aged 17 years and above. Samples were taken accidentally from 34 provinces in Indonesia. Respondents who completed the questionnaire came from 27 provinces. A 5-point Likert scale was used as the measuring scale. The variables in this study are consumer innovativeness (CI), perceived risk (PR), and adoption innovation (AI). On the other hand demographic aspects which used in this research are sex/gender, age, marital status, family status/role, education, income, occupation, and social status [8]. Variable indicators are developed by researchers because it have many versions and lack consensus [19].

Table 1. Indicators of variables

Indicators	Source
Consumer Innovativeness: Inside orientation; more liberal, self-value driven; Open to inputs; Less dogmatic; Logical; ease of information and media access; Autonomy, especially in Indonesia concepts: *'Gemi, nastiti, ati-ati*' (frugal, thorough, careful in money management); using internet, acceptance of technology, innovation, modern lifestyle; give advice and proactivity; Positive attitude	[1], [19], [8], [22]
Perceived Risk: Courage to take risks, risk tolerant; Open to credit offers; Openness, enthusiasm and reluctance, lively Thinking and acting conservatively/traditionally; Easily adapts	[1], [19], [22]
Adoption Innovation: Enjoys novelty for either hedonic or social reasons, opinion leadership; Being the first in buying new products; Hedonic (bragging of ownership);	[19]

	variety seeking; Perceived as exciting when buying a new product; Possesses knowledge of product and actively seeks more info)

Source: Authors' own research.

The first hypothesis was tested with Multivariate Analysis of Variance (MANOVA) and Analysis of Variance (ANOVA). The second hypothesis was tested with Discriminant Analysis.

3 Results and Discussions

Instrument validity test was done using Spearman Brown Correlation. Results showed that each item were significant on $\alpha = 0.05$. The reliability test used the Cronbach Alpha and all items were found reliable on $\alpha = 0.05$. Based on descriptive data of demographic, male 44% and female 56%; 58% under 35 years old; married status 58%, husband (29%) and wife (28%). The rest (43%) have children and other statuses. Most of the respondents' education was from high school to undergraduate (72.5%), with income between IDR 2.4 million - 7.2 million (49.4%) and ≤ IDR 2.4 million (32.4%). Based on job classification, 39% are employees and professionals; 31.9% unemployed including housewives. The largest social class group is the lower class (56.8%) and the middle class (40.7%).

3.1 The Result test of Hypothesis 1

Demographic factors are very important and related to the willingness to adopt new technologies. Demographics may influence individual adoption practices. CI differed by age, marital status, family status, income, education, social class, and ethnicity (F sig < 0.05) but no differences by gender and Javanese/non-Javanese ethnicity. PR differed by sex, age, marital status, family status, income, education, occupation, social class, and ethnicity but not between Javanese and non-Javanese (F = 0.213 F sig > 0.05). AI did not differ by gender, age, marital status, family status, and income (sig F > 0.05) but by education, occupation, social class, ethnicity, and Javanese/Non-Javanese classification. Nationality differences and cultural differences lead to differences in the level of consumer innovation [19].

The results of this study show that there is no effect of gender between CI and AI but it can differentiate PR (F = 14.318, Sig = 0.000). Male consumers have higher mean CI and PR than female. These findings are consistent with the findings of study [34] but not with other studies [8]. CI differed significantly by age (F = 7045, sig = 0000) and PR (F = 8313, sig = 0000) but not AI (F = 1598, Sig = 0173). This result is different from this study [8]. A post-hoc Bonferroni test revealed higher levels of CI and PR in subjects aged 26–55 than in adults in early adolescence (17–25). Younger consumer groups are more socially motivated to purchase innovative products than older respondents [51]. Marital status was associated with CI and PR while AI was not different (Sig = 0173, Sig > 005). Family status significantly differentiated CI (F = 7688 Sig = 0000) and PR (F = 16371 Sig = 0000) but not AI (F = 1406 Sig = 0729). This result is different from study [34]. This is based on a study showing that credit benefits increase throughout family life cycle especially those with children [52]. Ethnicity significantly differentiates CI (F = 2.766, Sig = 0.000), PR (F = 2.943), and AI (F = 2.426). However there was no difference between CI and PR in the Java vs Non Java group. This classification significantly differentiates AI (F = 12.034, Sig = 0.000).

Based on the Bonferroni test, it is found that unemployed people including housewives had lower CI than employees and students. The officials, technicians, and unemployed consumers have a higher PR and AI than the types of work of middle managers, teachers, freelancers, office workers, and students. Income distinguishes between CI and PR, but AI does not. Consumers in the high income group (income > IDR 31200001 - 38400000) have higher CI and PR than others. Income influences adoption of new product innovations [8] but this differs from other studies.

3.2 The Result of Hypothesis 2: Are Indonesian Consumers Risk Seekers or First Adopters?

The first discriminant analysis was carried out for the effect of CI on PR. The dependent variable Y is divided into Group 1= risk averse and Group 2: take risks. The second discriminant analysis was carried out on the effect of CI with AI. In AI variable, respondents are grouped into Group 1 = late adopter; Group 2: adopter. The results of the descriptive analysis show that Group 2, has a higher CI than group 1.

Table 2. Wilk's Lambda, F and Chi-square Test

Step	Dependent Variable	Number of Variables	Lambda	df1	df2	df3	F Stat	Sig.	Chi-square	Eigenvalue	Canonical Correlation
1	PR	1	.904	1	1	937	100.059	.000	95.018	.107[a]	.311
	AI	1	.963	1	1	944	36.036	.000	35.347	.038[a]	.192

From the canonical correlation results in equation 1, with the dependent variable PR, the relationship between the PR variable and CI is shown as (CI) = 0.311. The value of the closeness of the relationship is very small (< 0.4). The value of F = 100.059 (Sig = 0.000) which means that the effect of CI on PR is significant. From the results of the canonical correlation equation 2, with the dependent variable adoption of innovation, the relationship between the AI variable and CI results is 0.192. The value of the closeness of the relationship is very small. The value of F is 36.036 (Sig = 0.000), which means that the influence of CI on AI is significant.

In the equation, the effect of CI on PR shows that there is a significant difference between the risk taker and risk averse (Chi-Square = 95.018, Sig = 0.000). The results on the equation of the effect of CI on AI show that there is a significant difference between the adopter and late adopter groups (Chi-Square = 35,347, Sig = 0.000).

The following equation was acquired:

$$Z1 = 0.180 - 9.815\ CI \quad (1)$$

$$Z2 = 0.175 - 9.508\ CI \quad (2)$$

Based on Fisher's linear discrimination, equation 1 show that CI is more influential in group 2 (risk seeker). From the predicted group membership of Indonesian consumers, 65.5% of original grouped cases correctly classified and 34.5% are probably not. In equation 2, CI is more influential in group 2 (adopter). From the results of predicted group membership, 57.6% of original grouped cases are correctly classified and 42.4% are probably not.

Judging from the Pearson correlation, the biggest correlation is between CI and PR (r = 0.652) compared to AI (r = 0.290) and the correlation between AI and PR (r = 0.373). The

equation coefficient 1 is greater than the equation coefficient 2.Thus, the results show that CI in Indonesian consumers is more related to the courage to take risks compared to AI. This result is in line with many researches [22], contrasts with others [18] [7].

4 Conclusion

Based on the results of the study, there is an influence between age, marital status, family role, and income with consumer innovativeness and perceived risk, but it is not significant for innovation adoption. There is no gender relationship with consumer innovativeness and innovation adoption, but there are differences in perceived risk. There is an influence on education, type of work, income, ethnicity, and social class with three variables. There is no effect on consumer innovativeness and perceived risk in the category of Java vs Non Java tribes, but the adoption of innovation is significantly different. The biggest correlation between consumer innovativeness is perceived risk compared to innovation adoption. Indonesian consumers have more to do with the courage to take risks, especially in credit, than with the adoption of innovation.

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References

[1] C. Dobre, A. Dragomir and G. Preda, "Consumer innovativeness: A Marketing approach," *Management & Marketing*, vol. 4, no. 2, pp. 19-34, 2009.

[2] G. Walsh and V. W. Mitchell, "Demographic characteristics of consumers who find it difficult to decide," *Marketing Intelligence and Planning*, vol. 23, no. 3, pp. 281-295, 2005.

[3] M. Cleveland, N. Papadopoulos and M. Laroche, "Identity, demographics, and consumer behaviors: International market segmentation across product categories," *International Marketing Review*, vol. 28, no. 3, pp. 244-266, 2011.

[4] P. Laoviwat, P. Suppapanya and K. Yousapronpaiboon, "A study of demographics influencing on consumer behavior and attitude toward brand equity of optical business ini Thailand," *International Journal of Trade, Economics and Finance,* vol. 5, no. 4, pp. 347-350, 2014.

[5] J. Christia and A. Ard, "The influence of demographic characteristics on service quality perceptions," *Journal of Marketing Management,* vol. 4, no. 2, pp. 57-62, 2016.

[6] S. M. Maina, "Consumer ethnocentrism, demographic characteristics, and willingness to buy commercial banking services in Kenya," *European Scientific Journal*, vol. 12, no. 25, pp. 306-322, 2016.

[7] K. Cowart, G. Fox and A. Wilson, "A structural look at consumer innovativeness and self-congruence in new product purchases," Association for Consumer Research, Duluth, 2007.

[8] S. Savas, "Perceived risk and consumer adoption of service innovations," Florida Atlantic University, Florida, 2017.

[9] G. Wang, W. Dou and N. Zhou, "Consumption attitudes and adoption of new consumer products: A contingency approach," *European Journal of Marketing*, vol. 42, no. 1/2, pp. 238-254, 2008.

[10] T. C. Okeke, "Perceived risk/security and consumer involvement with electronic payments in Nigeria: A discriminant analysis," *IOSR Journal of Business and Management (IOSR-JBM),* vol. 14, no. 6, pp. 57-67, 2013.
[11] I. Firmansyah, "Consumer innovativeness and new product adoption: The case of payment card," 2016.
[12] A. V. Jorgensen, "Consumer credit: Learning your customer's default risk from what (s)he buys," Kellogg School of Management, Northwestern University, 2011.
[13] T. Athiyaman and V.A. Subramaniam, "Association between demographic factors and attitude towards credit card usage, among the households in Karaveddy dividional secretariat in Jaffna District-Srilanka," *International Journal of Research Granthaalayah*, vol. 6, no 6, pp. 16-21, 2018.
[14] W. M. Da Silva, W. T. Nakamura, and D.C. Moraes, "Credit card risk behavior on college campuses: Evidence from Brazil," *Brazilian Administration Review*, vol 9, no 3, pp. 351-373, 2012.
[15] F. K. Kiarie, D. M. Nzuki and A. W. Gichuhi, "Influence of socio-demographic determinants on credit cards default risk in commercial banks in Kenya," *International Journal of Science and Research (IJSR),* vol. 6, no 14, 2013.
[16] J. L. Blanc, A. Porpiglia, F. Teppa, J. Zhu, and M. Ziegelmeyer, "Household saving behavior and credit constraints in the Euro area," Main, Germany: European Central Bank, 2015.
[17] F. Nosita, K. Pirzada, T. Lestari, and R. Cahyono, "Impact demographic factors on risk tolerance," *Journal of Security and Sustainability Issues*, vol. 9, no. 4, pp. 1327-1336, 2020.
[18] W. C. Chih, "Measuring vicarious innovativeness for new consumer electronic product adoption," in Marketing, Tourism & Hospitality (MTC18Taiwan Conference), Taipei-Taiwan, 2018.
[19] G. J. Tellis, E. Yin and S. Bell, "Global consumer innovativeness: Cross-country differences and demographic commonalities," *Journal of International Marketing*, vol. 17, no. 2, pp. 1-22, 2009.
[20] C. Koparal and N. Çalık, "Bank credit card usage behavior of individuals; are credit cards considered as status symbols or are they really threats to consumers´ budgets? A field study from Eskisehir, Turkey," *International Journal of Social Sciences*, vol. III, no. 4, pp. 75-97, 2014.
[21] G. Maciejewski, "The meaning of perceived risk in purchasing decisions of the polish," *Scientific Annals of "The Alexandru Ioan Cuza*" University of Iasi, Economic Sciences, vol. LVIII, pp. 280-304, 2011.
[22] N. Sharma and S. Das, "The role of consumer innovativeness on consumer perceived risk towards online shopping," *IITM Journal of Management and IT*, vol. 7, no. 2, pp. 63-76, 2016.
[23] O. C. Racela, "The relative influence of consumer innovativeness, brand loyalty, and deal proneness on new product adoption: A direct product experience study," *Journal of Marketing Research and Case Studies*, vol. 2015, pp. 1-12, 2015.
[24] Leon, F. M., & Angie. (2019). Factors affecting financial risk tolerance on young investors in Indonesia. *Indonesian Management and Accounting Research*, 18(1), 48-61.
[25] J. L. Hyun, C. Hj, X. Wenwen and A. Fairhurst, "The influence of consumer traits and demographics on intention to use retail self-service checkouts," *Marketing Intelligence & Planning*, vol. 28, no. 1, pp. 46-58, 2010.